Alexander of Aphrodisias on Soul as Form
(de anima 1-26 Br.)

by

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A thesis submitted in conformity with the requirements for the degree of Philosophy Doctor
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In his treatise *de anima* Alexander outlined a theory of soul which does not have an exact analogue in the writings of Aristotle. Particularly unusual is his treatment of the four elements of traditional cosmology (fire, air, water, earth) as substances composed of form and matter and the notion that formal principle in all the natural substances is somehow dependent on the forms of the ingredient elements.

P. Moraux claimed in his doctoral thesis in the early forties that this theory contradicts Aristotle's metaphysics of form-substance. The opinions of scholars about this theory have been divided ever since: those who regard Alexander as a materialist have cited it as an evidence of his materialism, those who treat him as an Aristotelian have tended to explain its unusual tenor by the goals of anti-Platonic polemic.

No attempt has been made to study the main argument of the theory in full and for its own sake, although such a study seems to be indicated by the controversial status of the theory. The present thesis fills this lacuna, offering an analytical exposition of the theory, with a study of the sources. It is shown that the unusual doctrinal points are parts of his system in which he tries to reconcile the internal tensions of Aristotle's ontology.

In the first chapter I review the state of the question. In the second chapter I deal with the problem of Aristotelian sources for Alexander's theory of form. In the third chapter I present the *de anima* theory of soul as form, showing that the concepts that lack 'Aristotelian' history are parts of Alexander's systematic exegesis in the course of which he uses conceptual tools of later schools (especially Stoic). The fourth chapter is devoted to the question, whether Alexander was committed to the Aristotelian notion of form-substance. I answer in the affirmative, showing that the notion of 'enmattered form' presupposes specific criteria of substantiality. In the fifth chapter I analyse Alexander's presentation of the attributes of the soul and his critique of the 'harmony' theory in relation to the problem of 'compatibility' of the two concepts of form (complex form of an elemental mixture and individual form of a living being). I argue that Alexander accounts for compatibility with the help of a version of 'emergentist thesis'.

The *Appendices* contain translations of eight school treatises from the Greek (*mantissa* 1-8) (*App. I*), four treatises from the Arabic (*App. II*) and a study of the use of the terms ἐπιφές and ἐπιστάσις in the extant works of Alexander (*App. III*).
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Finally, I am very grateful to my family back in Russia for their love and support. The dedication is to my grandmother, M.K. Volkova, on her 83rd birthday.

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List of Abbreviations

AGPh: Archiv für Geschichte der Philosophie.
CAG: Commentaria in Aristotelem Graeca.
CPF: Corpus dei Papiri Filosofici Greci e Latini.
CQ: Classical Quarterly.
CR: Classical Review.
DA: Aristotle de anima.
DC: Aristotle de caelo.
DG: Doxographi Graeci.
EH: Entretiens Hardt.
EN: Aristotle Ethica Nicomachea.
GA: Aristotle de generatione animalium.
GC: Aristotle de generatione et corruptione.
JHI: Journal of the history of ideas.
MA: Aristotle, de motu animalium.
Meta.: Aristotle Metaphysics.
Met.: Aristotle Meteorologica.
PA: Aristotle, de partibus animalium.
RE: Real-Encyclopädie der klassischen Altertumswissenschaft (Pauly-Wissowa, Kroll)
REG: Revue des études grecques.
RhM: Rheinisches Museum für Philologie.
RUSCH: Rutgers University Studies in Classical Humanities.
SJP: The Southern journal of philosophy.
SVF: Stoicorum veterum fragmenta.
ZDMG: Zeitschrift der deutschen morgenländischen Gesellschaft.
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Introduction.

P. Moraux, in his 1942 work on Alexander's noetic, claimed that the doctrine presented by Alexander in the beginning of his treatise de anima in fact is not Aristotelian: it is a materialist theory which goes against Aristotle's theory of soul and metaphysics of substance. Alexander's introduction of the first principles of Aristotelian theory of form is indeed not quite typical for what we know of Aristotle. Aristotle in his de anima talks from the beginning about living things. Alexander begins with the elements: fire, air, earth and water. He says that all natural substances are composed of form and matter: the elements are composed of prime matter and elemental qualities, which make up their forms; composite things are composed of elemental mixtures and the complex forms of these mixtures which are made up by the forms of the ingredient elements. The more complex the mixture the more complex its form (for it is made up by the elemental forms), and, accordingly, the higher the type of being to which it belongs. Thus, plants are more perfect beings than rocks, animals more perfect than plants, and man is the most perfect creature of all animals, in accordance with the principle that greater complexity of elemental mixture underlies the more complex activities.

Moraux thought this to be outright materialism having nothing to do with the Aristotelian theory. He called this doctrine 'theory of the origin of the soul' and treated it as an apocryphal writing by someone who was good at a humble job of commenting upon the works of philosophical past masters but totally out of place when he attempted to emulate them. Although later Moraux changed his opinion on many details of Alexander's work and sources, he seems to never have completely recovered from this first impression that he got of Alexander's theory, namely that Alexander somehow falls short of the 'right' Aristotelianism.

Moraux's work was pioneering. Since that time we have learnt more about the works of Alexander and his circle, due to the works by Moraux himself, P.L. Donini, R.W. Sharples, R.B. Todd, P. Accattino and others, and due to the general rise of interest in the post-Aristotelian Peripatetic tradition. The publications of translations of Alexander's short treatises and extant commentaries, as well as of the works of his school, have re-introduced us to Alexander the complex thinker, shrewd logician, well versed both in details of Aristotelian teaching and contemporary school debates, sometimes controversial but never simple-minded or indifferent to the doctrinal points he comments upon.
Considerable work has already been done on Alexander’s *de anima*. We have now two vernacular translations of the treatise (with a new one forthcoming in Prof. Sorabji’s ‘English CAG’ series), two dissertation-length studies of the treatise and a number of high-quality scholarly articles and contributions dealing with the philosophical aspects of his psychology. The first chapter of this thesis contains a review of this work and most recent discussions of the problems of Alexander’s theory of the soul. From this review I conclude that Moraux’s worries were not ungrounded because apparently the text of *de anima* does contain statements not found in Aristotle. On the other hand, it has been noticed that the main principles are formulated by Alexander in a quite orthodox Aristotelian way, so the view of those who regard Alexander as a true Aristotelian apparently gets textual support from the same body of texts. This seems to indicate that in order to determine the type of theory of form that it really supports, Alexander’s argument has to be studied closely, in full and for its own sake. This is the main goal of my thesis, and its prevailing genre is therefore that of analytical exposition.

But since it is the Aristotelian character of Alexander’s teaching that was questioned, it would be useful, prior to attempting an answer, to consider what exactly is the Aristotelian theory of form with which Alexander’s conception is expected to match in order to qualify as Aristotelian. I am dealing with this problem in the second chapter.

I begin by considering the opinions of contemporary scholarship on the problem of form in Aristotle, to discover that there is no consensus about its interpretation. In fact the ongoing debate between the ‘attributivist’ and ‘substantialist’ interpretations of Aristotle’s notion of soul as form is roughly along the same lines along which the discussion of Alexander’s psychology has been shaped by Moraux’s critique. Section 2.1. contains a brief review of literature, in which I draw on a recent study by Prof.H.Granger. I agree with Prof.Granger that the principle of hylomorphism and the theory of form depend on the theory of coming to be. But differently from Prof.Granger, I think that what we find in Aristotle is not a unique theory of generation applicable to all cases, but several different versions of the more basic conception of change, which correspond to different versions of hylomorphism and different notions of form.

The rest of the chapter is devoted to the analysis of the three different conceptions of generation: the theory of change of *Physics* (considered in subsection 2.2.1), the theory of elemental transformations in the treatise *On Generation and Corruption (GC)* (considered in subsection 2.2.2) and the theory of substantial generation found in *Metaphysics* Z 7-9 (considered in 2.2.3).

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1 For the review of scholarship till mid-eighties see Sharples 1987.
In *Physics* we have a general conception of form which by its initial design should suit any categorical qualification, although Aristotle is clearly interested in form as an aspect of natural substances. The central notion of the first book is of the mechanism of change (what has been called in the literature “replacement” scheme). The features of the notion of form that can be derived from the conception of change are the following: (a) form (formal qualification) is a unit of “replacement” mechanism (book I); (b) form is adequate to the substrate of change (book I); (c) formal qualification is likened to an integral property (a property of a collection of objects, books I-II); (d) form may be understood as nature and agency (the inner principle of movements that works through the actualisation of the potentiality inherent in a thing acted upon; books II-III); (e) in case of interaction between substances, there is a transfer of structure from the agent to the patient (book III). These features are inspected in detail in section 2.2.1.

In the following two sections, 2.2.2. and 2.2.3., I show that the *Physics* scheme of change, interpreted as a substantial change, on two different domains, of the elements of *GC* and of the substances of *Metaphysics*, yields two different types of generation to which correspond two different types of substances. The elemental generation in *GC* is reversible, while the substantial generation in *Metaphysics* is not. Accordingly, the general features of formal principle (a)-(e) assumed by the doctrine of *Physics* are present in both cases, but get in each case a different interpretation. In case of the elements, the substantial character is derived from the nature of their constituent primordial qualities (*GC* II 3). In case of the form-substances, substancehood is postulated rather than derived (*Meta.Z* 3), and if there is any methodological reduction to a type of structure, then it is to the teleological structure. Aristotle does not make any attempt to reconcile the two accounts of generation, nor does he clarify the ontological status of the elements, although in *Metaphysics* Z and H he says that elements do not satisfy the concept of substance that heformulates there. In the absence of positive evidence of a uniform system in Aristotle, the principle which is left for sound exegesis is conservation: the systematisations that are advanced should not contradict the attested doctrines. Practically this means for Alexander that both types of generation should be presented in his reconstruction as compatible. We are going to see how he handles this task.

In the third chapter I consider the theory of form criticised by Moraux, developed by Alexander at 2.25-11,13 where the notion of form is introduced as a characteristic of elemental mixture. I begin with a study of Alexander’s expository technique, which he uses in his presentation of the main tenets of the Aristotelian theory in *De anima* (3.1.). I find that in the course of this systematisation some of the doctrinal points get a new emphasis and a new role within the system. The most notable features of this kind are the following:

(i) The doctrine of prime matter. Aristotle does not explicitly develop the notion of prime matter. The evidence for
this interpretation of Aristotle’s “common matter” is debated, so its introduction in the exegesis of Aristotle should not be granted without any qualifications. (ii) That simple matter is not a body but is present as a uniform constitutive aspect in each body, is Alexander’s theoretical development, not Aristotle’s. In Aristotle, the common matter is only a necessary condition of mutual transformation of the elements: it does not by the same token become their constitutive principle. This is not to say that postulating such matter is in disagreement with Aristotle, but it is important to realise that this step is not made by Aristotle. The same pertains to the point (iii) that matter of a natural compound can persist in the absence of the forms of particular kinds (forms of the artefacts). (iv) The explanation of hylomorphic constitution by example of a simple body, which is not to be found in Aristotle. (v) Alexander’s emphasis on the incorporeal nature of the constituents of a body originates from Aristotle’s derivation of the simple bodies from the primordial qualities in GC II 3. But in Alexander’s system the role of this principle is much more conspicuous than in Aristotle’s.

(vi) The use of the notion of differentia without reference to the genus (at 6.25 and in the scala naturae) is slightly unusual, (although it may be a matter of locution), and so is the explanation of perfection as the end of the process of becoming.

(vii) Finally, the thesis “body acts upon body in accordance with the incorporeal [aspects]” can be obtained by inference in Aristotle’s system, but in Alexander’s argument it is much more explicit and gains more weight as a postulate.

The points of difference resulting from systematisation need not amount to doctrinal differences from the Aristotelian teachings, since all of them can be meaningfully traced back to the Aristotelian sources. We are dealing with new formulations of the old problems, which re-shape them or put them into a different perspective. Such is the kind of difference we are most likely to encounter in case of Alexander, as otherwise he was a consciously ‘orthodox’ Aristotelian, i.e. he was trying to preserve as much of a doctrine as possible in a consistent manner.

After this methodological introduction, I consider Alexander’s innovations in detail. Section 3.2. deals with the application of hylomorphic analysis to the elements. The application of hylomorphic principle to the simple bodies is one of the most important adjustments made by Alexander in Aristotle’s doctrine. We have seen that this step requires the postulate of prime matter. The formal part of a hylomorphic structure includes three components: two ‘active’ qualities constitute a body, and a ‘resultant’ or ‘emergent’ quality accounts for the properties of a body which, though dependent on the primordial qualities, are not expressible in terms of such qualities. The primordial qualities directly account for the ‘tangible’ properties, which involve acting and being acted upon, but the ‘resultant’ properties are the ones that cannot be directly regarded as instances of activity or passivity. They have to
do with form of movement, and as we shall see below, it is this structural moment that is used by Alexander to put forward the non-reductivist theory of the soul.

In the following two sections I consider the way in which this minimal structure is worked into the structure of higher-level entities. The first important principle that Alexander formulates is "bodies act upon bodies in accordance with the incorporeals". In section 3.3. I consider its sources and implications for Alexander's systematisation of Aristotle's theory of form. The most significant feature contributed by this principle to the system that Alexander builds is that it allows an interpretation of mixture, taken in its qualitative aspect, as incorporeal. This is important for understanding Alexander's theory of simple and composite forms presented in the next section, 3.4. I consider the mechanism by which forms of the elements contribute to the form of a composite, drawing a parallel between the συντέλειν of Alexander's theory of simple and complex forms and σύνεκφαίνεσθαι of the Stoic theory of mixture and showing the similarity of underlying reasoning in both cases. I consider the problem of relation of this notion of form to the notion of form-substance and discuss Alexander's attempt to bring together the two different accounts of generation in one of the school treatises (quaest. II 20).

That Alexander is committed to the idea of correspondence between the two types of ontology, 'elemental' and 'substantialist', is clear from his theory of natural variety, which is considered in the next section, 3.5. The main idea of his classification of the natural beings is that the variety of natural types may be accounted for by the variety of elemental mixtures underlying each type. The most important claim that he makes in this part of the argument is that in every natural thing there is exact correspondence between the bodily mixture and the set of natural capacities. It is this correspondence, taken in its most rigorous quantitative sense, that makes the ground for the natural hierarchy. Alexander here makes use of his idea of hylomorphic structure which he developed for the elements. The form of each thing is constituted by active qualities which account for a specific and stable incorporeal pattern of 'mixture', and by the qualities which cannot directly interact with other qualities but characterise a specific and stable motional pattern of a given substance. In the case of the elements, this second class includes natural kinetic propensities like weight and lightness, while in case of a living being they can still be understood as kinetic propensities, but such that have much more complex functional structure.

The problem with Alexander's version of the scala naturae is that it is built on two principles of differentiation: by growing complexity of mixture and by specific difference. These principles are different: the differentiation of mixtures works across the species, because matter is the same in all the species, but such is not the case with differentiation by specific differences, which works within the proper genus. Because Alexander does not
distinguish the two principles explicitly, he can be interpreted as reducing natural variety to its material cause.²

So, the elemental theory of form is problematic. The notion of form that it assumes is clearly closer to the notion of formal principle of change of GC than to that of the Metaphysics. For that reason Alexander's commitment to the theory of Metaphysics was questioned by some of his critics.

In chapter four I consider the question whether Alexander has a theory of form-substance which is not dependent on the theory of 'mixture'. My answer is 'yes'. In the first section I consider the dialectical arguments which Alexander uses in order to introduce the Aristotelian definition of the soul, and show that Alexander's dialectical method is 'theory-laden', because in his refutations of the constructed opposing views he uses the elements of Aristotle's hylomorphic theory of substance.

The most significant concept of hylomorphic theory, which Alexander assumes in all his dialectical arguments and which he himself has extracted from the Aristotelian theory, is the concept of enmattered form. In the next two sections (4.2. and 4.3) I consider the elements of theory of enmattered form as developed in Alexander's school treatises.

In the second section I consider the general approach to the problems of subject and substance developed in several school treatises. In this I follow the lines drawn by Prof.Ellis in his recent study of some school treatises. I am considering the implications of Alexander's treatment of the problem of form in the school treatises for his 'mixture' theory of form. I begin with the analysis of the Aristotelian background of the problem of ἰπόκειμενος in the Categories (4.2.1), then I consider Alexander's approach to the problem of the subject in hylomorphic theory (4.2.2), and I conclude with the analysis of the notion of substance (4.2.3).

Alexander gives an ontological interpretation to Aristotle's mostly logical notion of 'not being in a subject', regarding it in the context of the problematic of hylomorphic constitution. Alexander argues that form is not in matter as in a subject because matter has no separate existence when it is a part of hylomorphic compound. He tries to adjust the sense of τῷ ἐν τῷ by postulating that an element in a mixture, when it is 'overridden' by another, loses its proper identity and ceases to be a τῷ ἐν τῷ. The consequence should be that in a mixture all the elements are 'overridden' by a common form of a mixture, which alone can be treated as a τῷ ἐν τῷ. Alexander makes it clear that a thing should be synonymous with its form, so a thing which becomes the matter of another thing should be synonymous with the "overriding" form and ceases to be itself in the way it used to be prior to mixture. This is the most important ontological amendment to the reading of the 'mixture' theory of form, according to which the lower

² Cf. Moraux 1942, p.31.
forms are ‘inherited’ by the higher ones. Apparently, they are ‘inherited’ by being suspended qua forms.

The most important features of Alexander’s solution of the problem of substantiality are: the description of form and matter as ‘completing’ (συνεπηνοούσα) parts of hylomorphic structure and the distinction between the two kinds of ontological concepts referring to a thing: on the one hand, ῥημα/ ῥήματος, which refer to a thing under a qualification of any category other than substance, on the other hand, traditional Aristotelian τούτο ταύτα which refer to a substance under essential and substantial qualification only. I interpret the notion ῥημα/ ῥήματος as referring to the range of non-substantial variations within which a substance does not lose its identity. Alexander shifts the emphasis in his treatment of inseparability of form from matter, arguing that form may require a particular kind of matter for its realisation. All of this should pose a problem for the interpretation of form as a property dependent on the elemental combination of a thing’s material make-up.

In the next section (4.3) I consider Alexander’s theory of ‘enmattered form’ (εὐροις εἴδος). Although this term never occurs in Aristotle in this meaning, it is a keyword of Alexander’s interpretation of Aristotle’s theory of form. First (4.3.1) I consider Alexander’s view of a logical status of enmattered form. He says that the logic of such concepts should be similar to the logic of the concepts “odd” and “even” regarded in their relation to particular numbers. Just as not every number is odd, and not every number is even, while everything which is odd is a number, in the same way it is with matter and form. He explains that not every matter is with a particular form, but every enmattered form is in matter, and just as in that case the notion of number is not done away with by the change from odd to even, while odd and even, in turn, are done away with in the change; in the same way matter does not perish in the change into the forms, though forms do change in turn, when matter turns into them. This has as its implication a kind of a ‘plenitude of forms’, where every form is enmattered and every material thing has some kind of form. ‘Mixture’ theory on this view might have a role of flexible mechanism for the ‘plenitude of forms’.

In the section (4.3.2) I deal with Alexander’s treatment of predication of universal terms in quaeest.I 11. In this treatise Alexander introduces a highly original account of predication of a universal term. I argue that this account is based on hylomorphic theory of form-substance, and that it lays some additional constraints on a straightforward reading of ‘elemental’ theory of form, by assuming a formal principle which is relatively independent of the material circumstances.

In the next section (4.3.3) I deal with the difference between genus and matter. Alexander is working on the
systematisation of Aristotelian doctrine, and his theory in which form corresponds to species and species is
subsumed by the genus clearly has genus on the ‘formal’ side in the hylomorphic analysis. For this reason he draws
several distinctions between matter and genus, showing that they are ontologically different. The distinctive
features of Alexander’s account of genus are: the assumed uniform account of matter and central position of the
principle of enmattered form (as it is through the enmattered form that genus is enmattered). Genera have no
‘outlets’ into matter by any kind of pre-structure beyond the individual substances.

Thus, in this long chapter we have seen that (a) in the dialectical arguments preceding the introduction of the
Aristotelian definition of the soul Alexander exploits some principles of the hylomorphic theory; (b) this
hylomorphic theory has some history in the school treatises; (c) it lays some constraints on the ‘elemental’ theory of
formal constitution.

We can see that some tension between the ‘elemental’ and ‘strong substantialist’ versions of hylomorphic theory
remains. If the stronger version is adopted, then the status of matter other than prime will have to be defined.
Alexander in his ontological theory clearly devotes considerable attention to the technical terminology. Tension is
perceived in the ambiguity of some notions which are used differently in the two versions of the theory (like τόδε
τι). On the other hand, it is clear that the ‘elemental’ theory is needed for the theory of enmattered form to hold
universally.

In chapter 5, I consider Alexander’s notion of soul as ἄναμμα that follows upon the mixture as his attempt to find
a middle ground between the two ontologies underlying his notion of form. In the first section I consider
Alexander’s discussion of the attributes of soul (incorporeality, inseparability, immobility per se), paying special
attention to the kind of theoretical assumptions used in the arguments.

The arguments for incorporeality (5.1.1.) are directed against the Stoic type of position. There are two distinct
sets of arguments: the last group is based mostly on distinct principles of Peripatetic theory of mixture, while the
first three groups comprise two types of refutations: dialectical refutations and theory-specific arguments, based on
differences between the Stoic and Peripatetic systems. Characteristically, dialectical refutations are used where
Alexander interprets the Stoic theory in Peripatetic terms and assumes some shared principles (the problem of
quality); and theory-specific refutation is used where he correctly perceives the difference between the systems (the
problem of generation).

This difference between the two systems may be not conspicuous in the compositional analysis of the ontological

3 He uses the term ἄναμμα only once, in DA I 1: 403a25, talking about passions as ‘enmattered formulae’ (ἀναμμα
structure: a proper quality is similar to an individual form in many respects. But there is a difference in the genetic analysis, where a thing comes to be from another thing: there it is possible to treat ‘nature’ outside the body and ‘soul’ inside as the same thing under different qualifications. Alexander knows about this difference, so his critique is theory-specific.

In his treatment of inseparability of soul from body, Alexander is in agreement with the part of the doxographical tradition that portrays Aristotelians as teaching the soul’s mortality (even though he does not actually use the terms ‘mortality’ and ‘immortality’, speaking about ‘destructibility’), and in disagreement with other reports on Aristotle found in the sources, according to which the soul is immortal.

Alexander exploits Aristotle’s notion of soul’s immobility per se in his systematisation of the theory of soul. (5.1.3) First, dealing with the problem of the subject of movement, he denies that soul can be “moved” per se, but allows that it could be moved incidentally, along with the body, the motion of which it causes. An important point is the conception of form as disposition or power causing the motion of a body. We may notice a certain degree of ‘merger’ between the notions of formal and efficient causation. Formal cause is made responsible for the motional pattern of a body. The notion of form as power or internal disposition is attributed to Andronicus, so it appears that Alexander here relies on the doctrine of his school.

The second problem that he considers is the problem of agency. Two points are of notice here. The first one concerns the shift of emphasis in the explanation of the nature of agent, from intentionality to the ‘full-fledged’ substantiality, as we have seen in the comparison of Alexander’s treatment of the problem of agency with Aristotle’s treatment of the same problem. The second point is just a polemical version of the first: Alexander says that what is not a full-fledged substance (e.g. power or disposition) cannot be an agent. Thus, the demonstration of the third attribute involves some systematic adjustments in Aristotle’s doctrine.

Finally, Alexander comes to deal with the “harmony” theory of the soul (5.2). It is clear from what we have already seen in the two preceding chapters, that Alexander’s attempt to bring to unity Aristotle’s hylomorphic theory led him to accepting two sets of ontological premises, which are not easy to reconcile: first, the assumptions that underlie the “mixture” theory of form (whereby the “common” form of a sensible substance is a combination of forms of the underlying elements constitutive of this substance, and reflects the character and proportion of this “mixture” of forms), and secondly, the strong ontology of form-substance, which is, along with matter, a constitutive part of a composite substance. The difficulty of reconciling these two sets of assumptions has been...
discussed in the previous chapter: in the theory of form-substance there is no place for the 'ancillary' forms of the "combination" theory.

However, we have seen, that both ontologies play a part in the concept of form that Alexander develops in his theory of the attributes of the soul. The 'harmony' theory should present a very clear possibility of accommodating the notion of combination in the concept of soul. In this section I consider the way in which Alexander handles this possibility. I review historical precedents of this theory, which possibly provide a context for Alexander’s discussion (5.2.1), that include Plato, Aristotle himself and some reports on the later Peripatetics. Comparing Alexander’s arguments with Aristotle’s, I notice that Alexander does not mention Aristotle’s argument from the cause of movement, which soul is and harmony is not, and develops three arguments which are rather different from Aristotle’s.

The most important development of this part of his theory is a tripartite distinction of mixture, the form of mixture (which is ‘harmony’) and the form of a composite, which follows upon the mixture. I examine the notion of mixture and conclude that its function in Alexander’s system is to reconcile the theory of elemental forms with the theory of substance-form. This notion is close in its function to the notions ὀπαξίς and ὑπόστασις of the ontological theory.

In the third section I address the notion of ‘following upon’ in the claim that soul follows upon the body. I follow Prof.Caston’s analysis of soul/body relation in Alexander’s theory with the help of the modern concept of supervenience (5.3.1) in order to get a clearer view of the roles of formal and material component within the hylomorphic structure as outlined by Alexander. In this section I introduce the main concepts of this approach and formulate the problem of the terms of supervenience relation in Alexander’s (Aristotelian) hylomorphic model.

In the last section (5.3.2) I consider the way in which the notion of soul as ᾠδωμις introduced by Alexander in the course of his critique of ‘harmony’ theory, may solve the problem of distinction between the two accounts of form. I suggest a reconstruction of the ‘emergentist’ thesis of Alexander’s theory of form, attempting to show that the main function of the thesis within this theory is reconciliation between the two accounts within a single ‘synthetic’ theory of form. Alexander’s emergentist thesis concerning the hylomorphic structure of natural substance can be formulated as follows:

(1) Each natural substance is made up by the mixture of the elements, which are lower-level substances differentiating the prime matter.

(2) The process of mixture provides uniform mechanism for all types of generation; hence, each type of substance corresponds to a particular type of mixture, characterised by its specific material properties (‘harmony’ theory
(3) Each type of substance has certain typical functions which are accounted for by its form. Form, and not elements, is responsible for the functions, because it defines the pattern of the processes undergone by the elements in the bodily mixture, as well as the pattern of activities exercised by a living body. Form, thus understood, supervenes on the elemental matter configured in a particular way.

According to this thesis, matter of a living being can have an ‘elemental’ account in, in addition to the account that it has, which contains a reference to its particular form-substance. This step is a result of Alexander’s systematic approach to Aristotle’s theory of form. The emergentist thesis allows constructing something like a ‘synthetic’ theory of form, which combines Aristotle’s two different accounts in one scheme. The principles of this synthetic theory can be stated as follows:

(1) “Replacement” mechanism of change is satisfied by the elemental forms and forms of mixture. Form-substance ‘supervenes’ on a particular type of material arrangement.

(2) The tension between two opposite senses of ‘adequacy’ is resolved by means of the notion of *symmetria* as tertium quid: the form of the mixture is tempered by the ingredients, but the process of mixture is governed by form-substance.

(3) Form as integral property: mixture is completion (*tēleiosis*) of the process of combination and a resultant material property to which all the ingredients contribute; form-substance is the ‘power’ of mixture, which accounts for the properties other than those describable in terms of mixture.

(4) Causality: form-substance is a directive force of generation (which does not mean that it immediately participates in every stage of generation), but mixture is only directive in the weak sense in which the elements are directive (it can act and be acted upon is a selective way, but it cannot act ‘across the stages’ of the process, while form as ἁύσματι accounts for the whole process of generation, growth, maturation and fading away).

(5) Transfer of structure has a combined account: there is a continuous transfer by ‘prevalence’ at the level of forms of mixture, and there is a complex transfer ‘in stages’ at the level of form-substance.

I conclude that Alexander’s theory of soul as form passes the ‘orthodoxy’ test with respect to Aristotelianism, but this does not mean that such a theory can be attributed to Aristotle: it is based on exegetical construction and involves a number of theoretical clarifications which go beyond the simple exegesis, amounting rather to an authentic innovation within the Aristotelian tradition.
Chapter 1. Alexander on the notion of soul. Status quaestionis.

1.0. The role of Alexander in the history of philosophy has been evaluated from several different perspectives. Traditionally he was regarded as an author of the materialist interpretation of the Aristotelian philosophy, who denied the soul’s immortality and the immanence of active intellect. On the other hand, he was an author of the conception of the transcendent intellect, which can hardly count as materialist, and most likely influenced Plotinus. The most recent studies have emphasised his links with his own time, a line of research that had been somewhat downplayed by traditional scholarship, and that proves to be highly promising. One of the most interesting and controversial theories of Alexander, which has no exact match in the works of Aristotle, is the so-called “theory of the origin of the soul”. It is developed by Alexander in the first twenty-six quarto pages of his treatise de anima, and contains primarily his teaching of the soul as form. This theory was a subject of scholarly discussions in the last two centuries, and has attracted attention recently because of the general interest of the contemporary analytical philosophers in the Aristotelian approach to the mind/body problem. Parts of Alexander’s theory have been used in support of particular interpretations of Aristotle. I think it is important, in the view of this, to try and reconstruct the complete argument as it is presented by Alexander in this fairly self-contained section of his treatise. In this chapter I am reviewing both past discussions of his theory and the most recent studies.

1.1. XIXth century scholarship.

Gercke in his article in RE notes Alexander’s role as an exegete of Aristotle as well as his influence on

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1 This is Alexander’s stereotype in all the Neo-Platonic commentaries on Aristotle’s de anima. It is reflected in the Renaissance image of ‘Alexandrinism’. (See Garin 1965, pp.136-150). In modern time, Zeller repeats this characteristic, Morax 1942 amplifies it, and the subsequent Alexander scholarship is influenced by this view, whether sharing it or not. See also Movia 1968, 9; Donini 1971 (1.3.below); Accatino; most recently, Caston (1.8. and 5.3. below).

2 The evidence of Alexander’s being read in the school of Plotinus is provided by Porphyry, Vita Plot. I 14. Armstrong mentions Alexander as the possible precursor of Plotinus’ theory of intellect. (Armstrong 1940, 40-41; Armstrong 1960, 393-413.) The same point of view is taken by Ph. Merlan in Merlan 1963; cf. also Merlan 1967, 122: “Despite his nominalism, despite the fact that he considers it necessary to prove the divinity of the cosmos
Neoplatonism, pointing out the contrast that Alexander’s sober reasoning makes with the atmosphere of “mysticism” characteristic of his time. Accordingly, he tends to downplay his contacts with contemporary philosophy, regarding him as a commentator only.3 Alexander’s relation to Aristotle is described as follows:

Wohl nahm er eine unauflässliche Einheit der Seelenkräfte an, leugnete die Unsterblichkeit der Seele und die Realität der Zeit u.a.m., aber trotz derartiger Abweichungen im einzelnen wollte er nur dem Schulstifter folgen und seine Lehre verteidigen, nicht aber eigene philosophische Lehrsätze aufstellen: und im ganzen hat er das auch getreulich ausgeführt, selbst in seinen selbständigen Abhandlungen”4.

Here remarkable are the assumed character of Aristotles’s teaching (at least the first “Abweichung” would not be regarded as such today) and the vision of the manner of Alexander’s activity (little contact with his own age, little originality, true follower of Aristotle).

Zeller gives a detailed overview of Alexander’s texts and doctrines5. He confirms his image of “the Exegete” saying that Alexander’s own works do not intend to be more than explanations and justifications of Aristotelian teaching6. He notes some differences with Aristotle and outlines the character of Alexander’s own doctrine as follows. Aristotle’s doctrine of the intellect is unclear on several notable occasions, and his statements on the relation of god to world, and of the human mind to the divine and to the lower faculties of the soul suffer from some “mystischen Unbestimmtheit”7. This Unbestimmtheit is caused by a lack of clarity on the general issue of form and matter, and it cannot be removed without a clear statement on this issue. Alexander, attempting an interpretation of the Aristotelian system that would remove any mystical element, and restore the wholly natural connection of things, cannot escape some departures from the doctrine of the Master. The departures include, according to Zeller, the view of universals as derivative from particulars not only “in Wirklichkeit” but also “in Wahrheit”8. This has its sequel in the theory of the soul, which, being a form, is not separable from the body.

Alexander takes this Aristotelian notion of inseparability of the enmattered form in a stronger sense than it has in

against Plato, despite his rejection of ideas, despite his interpretation of the soul as entelechy, and, therefore, as mortal, in Alexander’s noetic we see Platonism staging its comeback within the Peripatos”.

3 “Überhaupt betrachtete er die zu behandelnden Probleme so gut wie gar nicht durch die Brille seines Zeitalters, und nur selten glaubt man bei ihm den Einfluss hervorragender Zeitgenossen ... zu spüren.” Gercke, col. 1453.

4 ibid.

5 Zeller, 816-831.

6 Zeller, p.819.

7 Zeller, p.822.

8 Zeller, p.823. In Aristotle, the particulars are principles of being, while the universals are principles of truth (knowledge). Alexander claims that the universals are derivative from the particulars even as the principles of truth. Zeller cites in support of his statement Alexander ap.Simplic. in categ. 82,22 K.

As we shall see below, in chapter 4, the derivation of universals from particulars is not straightforward: the universals qua universals are not derived from the particulars but only predicated of them; they are derived in a strict sense from the proper object of predication which is embedded in a particular as a part of its formal structure. So, the ‘principles of truth’ are not really separate from the principles of being.

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Aristotle's conception of the soul: for Alexander, soul’s higher faculties make no exception to the inseparability principle. Another obvious departure from Aristotle is the theory of intellect, according to which divine intellect forms no part of the human intellect, but creates the possibility of intellection for the “acquired” intellect. This breaks the mystic unity between the human and divine reason: man is on one side, and the divinity that acts on him, on the other. The human soul is hence an entirely finite entity. Zeller characterises the main tendency which is manifest in all of Alexander’s work as an effort to reduce all the observable phenomena to their natural causes, removing everything supernatural. The same tendency is present in his treatment of the relation of God to world. Zeller regards Alexander’s position on the whole as close to the Stoic materialism and the worldview of Strato, but does not present him as being in open contradiction to Aristotle, all the “departures” notwithstanding.

1.2. Moraux 1942.

The question of the sources and character of the “theory of the origin of the soul” was first raised by P.Moraux in his groundbreaking work. Many of Moraux’s opinions were revised by the subsequent scholarship, to which he made quite an outstanding contribution, but this work is still indispensable, because in it the problem was for the first time clearly formulated.

Moraux begins with stating the main reasons for which Alexander’s theory “of the origin of the soul” deserves

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9 Zeller, p.826.
10 Zeller, p.827. Zeller relates to this also Alexander’s theory of the seat of the soul.
11 Ibid.
12 Zeller discusses quaest. II 3 ibid., pp. 827-828, which he regards as being in basic agreement with Aristotle, but laying more stress on the natural causes of the cosmic hierarchy: “in jedem der Elemente ist mehr oder weniger seelische Kraft, je nachdem es durch seine höhere oder tiefe Stelle im Weltgebäude und durch seine feinere oder grössere Beschaffenheit dem ersten Träger dieser Kraft, dem Himmel, näher oder ferner steht, und ebenso ist sie an die aus ihnen zusammengesetzten Körper in reichlicherem oder geringerem Masse verteilt, sie haben eine vollkommenere oder unvollkommenere Seele, je nachdem sie aus reineren oder unreineren Stoffen bestehen, und je nachdem ihnen insbesondere mehr oder weniger von dem edelsten Elemente, dem Feuer, beigemischt ist”.
13 Moraux 1942.
14 For the retractions of his early position, see Moraux 1978, note pp.297-299 and note 72 on p.318.
15 Moraux’s main subject is Alexander’s theory of intellect, but he devotes considerable attention to the metaphysical background of his psychology, as well as to sorting out numerous problems with the sources for his psychology. He establishes that the commentary on DA is prior to the treatise. (Moraux 1942, p.27). He examines the “psychological” subset of the quaestiones (ibid., p.23), and the mantissa, and compares the two groups of texts. Moraux mentions three differences between mantissa and quaestiones: the quaestiones contain no hypomnematic treatises; mantissa has more parallels in the other writings of Alexander; on the whole, mantissa is more “Alexandrinst”, and the quaestiones more Aristotelian. Generally Moraux tends to distinguish between the more “Aristotelian” and more “Alexandrinst” texts in Alexander’s corpus, which is, as we shall see, in accordance with his early view of Alexander.
special study: the physical and metaphysical principles of these theories are "deeply materialist". so much so that if Alexander were consistent, his system should have been totally un-aristotelian; and the influence of these principles is perceptible in his noetic.

Having presented Alexander's theory of simple and complex bodies and, respectively, simple and complex forms (2,10-8,25), Moraux claims that "we are now facing a fairly special theory of the generation of the form of the compounds, from the forms of different constitutive elements", such that "nothing can be more foreign to the Aristotelian theory of generation, and in fact to the very principles of the metaphysics of the Stagirite".

Moraux summarises Alexander's theory of the genesis of the soul from the mixture of the forms of the constituent elements, underlining the principal role that the elemental mixture plays in this generation. He concludes that on this view, there is no deep gap between the living and non-living; the former is a direct continuation of the latter, because it comes to be totally from the latter, even in its formal aspect. So there is no need to invoke the theory of the eternity of species, nor transmission of the same, nor the notion of creation. In other words, we are dealing with a materialist system. This materialism develops from the theory of the plurality of forms, which has nothing Aristotelian to it, because if it is true that the substrate elements of the material compound indeed have matter and form before making a part of the compound, the forms of these elements would have disappeared at the moment of generation of the compound, before the form of this latter: according to Aristotle, a form does not come about from a mixture of the antecedent and simpler forms.

Moraux points out that on Alexander's view the role of mixture in the genesis of form is not restricted to that of a necessary condition; rather, it is causal in the full sense: the soul is not just posterior to the organisation of the body, but rather results from it.

Moraux notes that the causal role of mixture is criticised by Alexander himself in the part of the treatise dealing with the harmony theory of the soul. But he says that Alexander's critique is just a tribute to the Aristotelian order

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10 Moraux 1942, p.29
17 Moraux illustrates his point by bringing quaeas. II 3 to a comparison with the beginning of de anima. See below.
18 Moraux 1942, p.31.
19 He quotes de an. 8,22-9,3; 10, 14-19; 24, 3-4; mant. 104, 28-34.
20 Moraux; 1942, p.32. For a reaction to this line of reasoning see below Sharples 1994.
21 This was a typical Dominican objection against the Franciscan theories of soul. Notably, however, a few lines above Moraux credits Alexander with a correct Aristotelian account of the unicity of the soul vs. the plurality of its faculties (p.32).
22Moraux 1942, p.33. Moraux says, ibid., that "this materialism is also a kind of evolutionism which is restricted to the space; it would only take supplying it with a temporal dimension, to get the type of evolutionist monism which is found at the bottom of so many modern scientific and philosophical conceptions". Evolutionist monism, on this view, would allow, presumably, the evolution of one species from another, lower one. I am arguing that
of exposition and does not agree with what Alexander himself says right before repeating this critique. Aristotle's critique of "harmony" theory implies the view of the soul as formal, moving and final cause of the body, while Alexander's treatment of the soul, being essentially materialist, does not really allow it to have any of these roles23.

Moraux discusses *quaest.* II 3, in which Alexander considers the problem of influence of heavenly substance on the sensible substance. This problem is stated in aporetic form: if the divine substance influences already existing natural things, it contributes nothing to their being and is redundant (by the ancient version of the principle of sufficient reason: "nature does nothing in vain"). If, then, it still contributes something to their being, this "something" is not that in virtue of which things are what they are. But this is in contradiction with the assumption of the divine providence.

Moraux assumes that Alexander proposes two solutions of this problem. According to the first one, the elements are not affected by the divine substance, because each of them possesses its own proper form; but the composites which result from mixture of the elements are influenced by the divine substance, each one to the extent to which its elemental constitution enables it to participate in the divine24. Moraux says that according to this solution, the true nature of the elements does not influence the constitution of the material bodies. The soul is generated rather by the "second natures" of the elements, viz., their natural perfection. So, on this view, the elements contain in themselves a potential principle different from their proper form, which can bring about the soul and which gets actualised in the combination of the elements25.

According to the second hypothesis, the divine substance informs the prime matter and supplies the elements with the primary qualities (from the two pairs of opposites) which constitute their form in the proper sense. Moraux notes that even though this theory does not deal with soul specifically, it has similarities with the theory of *de anima.* Moraux suggests understanding the first solution as preparatory for the second one, which alone properly expresses the author's own (materialist) position26.

Moraux indicates that Alexander, working out his own theory, seems to have neglected some principles of

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23 Alexander's system does not admit of such a process (the important texts, to be discussed below, are Alexander *ap.Simpl. in phys.* 311, 1-30 Diels, and *quaest.* II 28: 78, 37-79,14Br.)

24 Moraux 1942, p.34.

25 Moraux 1942, p.35. The proximity of the material compounds to the divine substance is defined by the prevalent element; the elements are assumed to have natural precedence of perfection.

26 Moraux 1942, p.36.

27 For Moraux's reformed view on this important text see Moraux 1967a. Also of relevance are: Fazzo; Sharples' notes in his translation of the *Quaestiones* (Sharples 1992, 93-98); Zeller, *cit.supra.*
Aristotle’s physics and metaphysics. First, for Aristotle, form is not the subject of generation\textsuperscript{27}. Only a compound can be generated. In the natural process of generation the form always proceeds from a homonymous agent which exists in actuality: such is the sense of the formula “man begets man”. This amounts, next, to the principle of the eternity of species, which Alexander also seemingly neglects in his treatise. The conception of transmission of the form, which provides the causal explanation the permanence of the species, is also absent from the account of “generation” in \textit{de anima}. The idea of self-actualisation of matter contradicts the Aristotelian principle of the priority of the actual\textsuperscript{28}.

Moraux notes that the derivation of the permanence of the elements from the permanence of the heavenly movements, though not directly addressed by Aristotle, is not un-aristotelian insofar as the form is given to the potential being which is the prime matter, by another being which possesses this form actually\textsuperscript{29}. But on the other hand, it is un-aristotelian to claim that the psychological principle can arise from the combination of these elements. In Alexander, Moraux thinks, the soul does not exist in any way before its generation from the bodily mixture\textsuperscript{30}. In his account of the generation of the soul Alexander exploits Aristotle’s distinction between simple genesis and mixture. In generation, one form is completely replaced by another, while the substrate remains the same\textsuperscript{31}. In mixture, neither of the ingredients is completely extinguished, but neither is preserved in its original form. Rather, all the ingredients get “tempered” by one another, and the new material substance preserves in the modified form the properties of each of the ingredients. The elemental properties exist potentially in the mixture, insofar as they account for some of the body’s physical properties. Apparently, this reasoning should lead Alexander to suggest that soul is a result of such a mixture that possesses material properties sufficient to account for the behaviour of a living being. This step Moraux infers and claims to be un-aristotelian. Moraux wants to emphasise that the vital operations are not reducible to the elemental motions. With regard to the first solution of the \textit{quaest.} II 3, Moraux notes that it is not Aristotelian, either. His questions to the Exegete are: “How can the astral movements give the elements this potential psychological principle, if they themselves don’t have it? How can this potentiality get actualised solely due to the combination of the elements?”\textsuperscript{32} He concludes this scrutiny by citing \textit{GA} V 1: 778b4 sq, which says that generation is subordinate to form-substance, and form is not a

\textsuperscript{27} Moraux refers to the middle books of \textit{Metaphysics}: Z 8: 1033b5-9; 16-18; 15: 1039b20-27; H 1; H 3; \Lambda 3; \textit{Phys.} B 2; \Gamma 2. Moraux 1942, p.37, nn.1,2; 38, n.1.

\textsuperscript{28} These conclusions have been partly reviewed by the scholars, including Moraux himself.

\textsuperscript{29} In fact, Aristotle does derive the permanent cycle of generation from the heavenly motion in \textit{GC} II 11: 338a19sq, but without explicitly using the notions of actuality and potentiality.

\textsuperscript{30} This interpretation was most vigorously contested (cf. below Donini 1971, Accattino 1993, Sharples 1994).

\textsuperscript{31} Moraux here (p.39) gives his version of the account of generation of \textit{GC} I 10.
consequence of generation\textsuperscript{33}. He says that Aristotle’s critique of the ancient natural scientists at this point is fully applicable to Alexander, and suggests that the natural consequence of Alexander’s materialism would be to make of the soul some sort of an accident, without any causal power over the body from which it is issued. But since this is untenable for the commentator of Aristotle, Alexander, according to Moraux, has to make a leap over the gap which divides this materialist theory and the Aristotelian one, in which the emphasis is laid on the unique and irreducible nature of the organism.

Critique of inconsistencies continues in the section devoted to the definition of the soul. Moraux says that if the soul is a result of mixture, then it is made up mechanically by the reactions of some of the ingredients to the others: this is what happens in the mixture, according to Aristotle. Moraux draws the distinction between the form of a mixture and the form of a living being as follows: in both cases form is not reducible to any of its material constituents, but in case of a living being, it is the form that “commands” the process of genesis, being present in actuality in the parent organism; while in chemical combination there is no actual parent archetype, and the outcome of “tempering” is accidental. Moraux cites \textit{quaest.} II 24\textsuperscript{4}, where Alexander emphasises the role of the formal element in the hylomorphic compound, which he understands to be in its relation to the particular kind of mixture of the elements rather than natural properties of each one of them\textsuperscript{35}. Moraux notes that Alexander fails to distinguish between genesis and mixture, and says that this confusion of the two is of crucial importance.\textsuperscript{36}

The complaint that Alexander’s form is hard to distinguish from quality recurs in contemporary literature\textsuperscript{37}. But this distinction, as we shall see shortly, is not always clear in Aristotle himself.\textsuperscript{38} Moraux thinks that according to Alexander’s own view form is posterior to and derivative from matter in the order of generation\textsuperscript{39}.

Summing up, Moraux says that Alexander’s definition of the soul too closely follows the Aristotelian to be consistent with the rest of his theory. Moraux explains this contradiction (in the way which has since also gained some currency), saying that Alexander is a good exegete, but a bad philosopher on his own\textsuperscript{40}.

\textsuperscript{32}Moraux 1942, p.42.
\textsuperscript{33} This challenge is met by several modern scholars, see 1.8. below.
\textsuperscript{34} It is a comment on Aristotle’s \textit{DA} II 1: 412a6 sq.
\textsuperscript{35} We shall see, in chapter 5, how this could be result of his polemic within his own (Peripatetic) school.
\textsuperscript{36} “Si l’on assimile la génération à la mixtion, on sera inévitablement amené à confondre le changement formel intégral qui se produit dans la génération, avec la génération de la ποιήσεως qui se produit dans la mixtion (ceci explique comment Alexandre a pu dire que l’âme sortait \textit{ἐκ τῆς ποιήσεως κόσμου}” (Moraux, op.cit., p.45)
\textsuperscript{37}See section 1.8 below.
\textsuperscript{38} See chapter 2.
\textsuperscript{39} He bases this conclusion on the temporal interpretation of the prepositions \textit{ἐκ} and \textit{ἀπό} used in the description of the relation between form and material mixture in \textit{quaest.} II 24 (Moraux 1942, p. 45).
\textsuperscript{40} “Alexandre est un bon commentateur: là où le texte d’Aristote est suffisamment clair, il a su exposer fidèlement la pensée du Maître, sans se laisser aller à toutes les extravagances de certains de ses successeurs; souvent même, il
Such is a somewhat “Manichean” picture of a thinker that Moraux gives us in his early work. The tensions of this view have been taken up by the subsequent critique, as we shall see shortly. But probably we should also recognise some merits of Moraux’s thesis: although written from the perspective of the Aristotelian tradition ‘broadly construed’, objectively and in the long term it contributed to calling into question the very concept of this tradition, by showing the historical distance between Aristotle and the first ‘big’ commentator.


Donini’s article is an important step towards the sources of the “less familiar” lines of reasoning in Alexander’s theory of the soul. He explores Alexander’s notion of soul as ἀναμνήσθη, because of which Alexander’s theory of the soul was proclaimed “materialist” and “naturalist”. He examines, in particular, the claim that Alexander was under the influence of the materialist tendencies of the post-Aristotelian Peripatos. He reviews the theory of the origin of the soul as well.

Donini notes, against Moraux, that Alexander does not simply claim in his treatise the origin of the soul from a mixture of the elements, but arrives at it as a result of rather complex and elaborate argumentation. He says that the way in which Alexander outlines his programme of study in the beginning of his treatise (psychology is a branch of physics; the soul is in strict relation to the body) is in fairly good agreement with the Aristotelian programme of psychology.

The only difference that Donini notes is that Alexander is not prepared to make any exceptions for the intellect, while in Aristotle there are exceptions. But he says that Alexander does not neglect the problem of the intellect and the fact that he separates the notion of thinking as the human faculty from the notion of the transcendent intellect is a sign of his awareness of the complexity of the problem, and also an indication of the determinate character of his own approach to the interpretation of Aristotle’s theory on this point.

Donini seems to think that Alexander’s major departure from Aristotle is not so much in the principles, as in the

\[\text{a donné une interprétation satisfaisante de tel passage obscur de l’œuvre du Stagirite; mais il n’a pas le puissant esprit de synthèse d’Aristote; il n’est pas un véritable métaphysicien: c’est pourquoi il n’a pas été frappé par la monstrueuse alliance réalisée dans son de anima entre un matérialisme grossier et la théorie hylémorphique d’Aristote.} \] (Moraux, op.cit., p.48)

\[\text{41 Probably I need to make a special disclaimer, at the risk of running into the “personal identity” problem, that hardly anything of this section can pertain to the “real” late Prof.P. Moraux.} \]

\[\text{42 “Due motivi prevalenti, entrambi aristotelici, si colgono in questi linee: lo studio dell’anima appartiene all’ambito della filosofia naturale; esiste uno stretto rapporto fra l’anima ed il corpo”. (Donini 1971, p.65)} \]

\[\text{43 Cf. Zeller above.} \]
scope of their application. Donini's conclusion upon the examination of Alexander's introduction of the notion of form is that the apparent naturalism of Alexander's position is a result of his rigorously systematic approach to the exposition of Aristotelian physical doctrines, "from bottom up". On the other hand, Donini notes that there is the difference between this kind of hylomorphism, in which form and matter are exactly on a par as the constituents of a living body, and Aristotle's own position, which in some significant cases (in case of the living beings, most notably) assumes the priority of form in the study of natural objects, while Alexander does not seem to allow any asymmetry of this kind.

Turning from the methodology to the doctrine, Donini notes that Alexander moves away from Aristotle as his argument progresses, and is at the farthest in his conclusions. Alexander wants to establish the continuity between the elemental bodies, the inorganic complex bodies and the organic complex bodies, giving no account of the difference of the latter from the two former classes. But there is a clear statement of this difference by Aristotle, which Alexander certainly knew and accepted. Donini cites Aristotle's discussion of the difference between the homoioemerous and anhomoioemerous bodies in the fourth book of the Meteorology, which I cite in the English translation:

"Heat and cold and the motions set up by them are, therefore, since solidification is due to heat and cold, sufficient to produce all parts of this sort, that is to say, all homoioemerous parts, like flesh, bone, hair, sinew and the like: for these are distinguished by the differentiae we have already described (tension, ductility, fragmentability, hardness, softness and the rest) which are produced by heat and cold and the combinations of their motions. But no one would suppose that this was the case with the anhomoioemerous bodies which they in turn compose (for example, head, hand or foot), for though cold and heat and their motion will account for production of bronze and silver, they will not account for the production of a saw or a cup or a box. Here human craftsmanship is the cause, while in other cases it is nature or some other cause.

Knowing, therefore, into which class each of the homoioemerous bodies fall, we should proceed to describe each of them, giving the definition of blood, flesh, semen and all the rest. For we know the cause and nature of

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44 "... Il fatto da segnalare è allora questo, che quel che segue in Alessandro (e dovrebbe essere, per l'appunto, l'esecuzione del programma), non corrisponde se non parzialmente alle premesse. Alessandro studierà si in certo modo, il corpo, ma non al punto di vista che ci attenderemmo dopo la dichiarazione di 2,20-22 (struttura, costituzione delle parti interne, organi esterni. accordo di questi con quelle). Quel che segue nel suo trattato è, infatti, né più né meno che un ristretto di fisica e chimica aristotelica." (Donini, op.cit., p.68)

45 "Dal punto di vista metodico, il compendio di fisica e chimica che Alessandro fa precedere all'enunciazione della dottrina dell'anima come forma, si rivela davvero essere nient'altra che l'intransigente e sistematica applicazione di un principio aristotelico: il fisico, definendo un corpo naturale, definisce la tal forma nella tal materia. L'anima essendo forma di un corpo natural, il suo studio appartiene alla fisica... una definizione completa dell'anima renderà dunque conto anche della materia, cui essa, come forma è legata." (Donini, op.cit., p.77)

46 Donini, op.cit., p.77: "Non si incontrano, in Alessandro, simili dichiarazioni, e si ha l'impressione che egli tenda a mettere sullo stesso piano i due fattori, la materia e la forma: il metodo aristotelico, applicato con rigore intransigente, sembra portare a una certa forzatura in senso naturalistico." Donini quotes PA 640b29-31 for the priority of form in the constitution of the living beings. It must be noticed, however, that Alexander makes similar remarks: in fact his whole design of the argument for the soul as form indicates the priority of form. The difference would need an explicit statement.

47 "Alessandro è in massimo grado lontano da Aristotele nelle conclusioni del suo compendio di fisica e chimica: che egli non dice semplicemente: tal forma in tal materia, ma giunge a dire: tal forma dalla tal materia. È questa affermazione non è aristotelica, specialmente se la forma è l'anima." (Ibid., p.78)
Aristotle here says that while tissues and stuffs are formed by the principle of combination, the organs of the body require something in addition to this; and Alexander, as Donini says, understands this distinction very well citing Aristotle’s main example of substantial generation: “man generates man, and horse, horse”, to illustrate the principle that needs to be supplied in case of the “organic” bodies. He must understand then that the principle of combination has a very narrow scope of application. So it is all the more surprising, that in the treatise on the soul he seems to disregard the problem itself as well as Aristotle’s sketch of a solution. Alexander’s theory of the form of elemental mixture makes no theoretical distinction between the cases of inorganic and organic constituents of a living body.

But Donini thinks that there is one particular discussion in Aristotle’s *de anima* which might have led Alexander in this direction: the discussion of the “harmony” theory. According to Donini, some of the positions of Aristotle’s critique of this theory might not be as clearly put, and Alexander misunderstood his view to be that the soul is not harmony, but is an emergent property that supervenes on bodily harmony. In particular, Donini cites Aristotle’s statement of the difficulties involved by the flat denial of the soul’s connection with the bodily mixture, and he believes that Alexander’s notion of Aristotle’s position with respect to harmony theory might have been based on his misunderstanding of the gist of Aristotle’s refutation of Empedocles in *de anima*. This refutation is a reduction of the Empedoclean reasoning to the irrational view of “several co-existing souls”, each corresponding to a particular type of a bodily mixture, which Alexander might have mistaken for Aristotle’s respect of the notion of “unique” bodily mixture equally comprised by the sortally different notions of tissues and organs.

Summarising his analysis of Alexander’s doctrine, Donini says that it is naturalist, with two important

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49 Alexander, *in meteor.* IV 12: 226, 16-23 H. It may be noted that our contemporary meaning of ‘organic’ somewhat differs from that in which the terms was used by Aristotle and Alexander. On our view, organic is what pertains to the organism, so flesh and marrow would be ‘organic’ parts, but for Alexander, they are organic only as material constituents of particular organs; as such, they are inorganic, because the principle of their generation is just the principle of mixture, the same as the one that is at work in case of ‘our’ inorganic homeiories (‘gold, silver and iron’: *ibid.*, 226, 16-17). I am grateful to Prof. Sharplees for raising the question.
50 Donini, *op.cit.*, p.81. Cf. p.82: “Egli non ha poi seguito questa linea d’indagine, che possiamo definire fisico-chimica, per cui l’anima viene si legata al corpo, ma questo è considerato eminentemente come un composto di corpi elementari che agiscono e reagiscono fra loro”.
51 See chapter five.
52 Donini, *op.cit.*, p.84.
qualifications. The first one has to do with the provenance of this naturalism: Alexander, unlike Aristotle, is not a natural scientist. Donini notes the highly abstract manner in which the naturalist doctrine is presented by Alexander, and says that his naturalism always develops on the logical and speculative terrain. The second point that Donini makes, also against Moraux, is that Alexander does not neglect metaphysics. And here it is his turn to cite Alexander’s discussion of the problem of mind in his support. Indeed, Alexander’s separation of the problem of mind as a purely ontological, rather than as a psychological problem, indicates that he certainly had metaphysical interest. Donini mentions that Alexander might have been aware of the full metaphysical scope of the notion of form, beyond the sensible substances.

With regard to the problem of the sources of Alexander’s theory, Donini critically re-examines Moraux’s association of this doctrine with the materialist teachings of the later Peripatos, particularly, with Strato. He reasonably remarks that the link between Alexander and Strato has not been demonstrated, and that the similarity of “materialist” inclinations in both writers is not a sufficient ground to claim influence, or even the doctrinal affinity (materialist theories can be very different). On the other hand, he says, that while the later Peripatos may be too remote from Alexander, there are closer sources that contain views similar to his.

Donini cites Michael of Ephesus’ commentary on Parva Naturalia, which says that “the most learned Galen, in the book, in which he demonstrates that the powers of the soul follow upon the mixtures of the body, expounds the same doctrine as Alexander’s”. Donini indicates that this Galenic treatise has many affinities with the text of Alexander. Apparently Galen knows the views of the contemporary Peripatetics, as is shown by his statement of the problem (which I cite in English, again):

Now, this common substance (as we have shown) is comprised of two principles, matter and form. Matter is itself conceptually lacking in quality, but contains within it a mixture of four qualities: heat, cold, dryness, and wetness; and these qualities give rise to bronze, iron, gold; and also to flesh, sinew, fat, gristle, and all such entities - those which Plato calls ‘first-born’ and Aristotle ‘homogeneous’. When, therefore, Aristotle defines the soul as the ‘form’ of the body, we must ask him - or his followers - whether ‘form’, in this usage, is to be taken as synonymous with shape, as in the ‘shape’ of the organic bodies, or in the sense of the other principle which constructs the very body

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53 On the unicity of mixture see below, chapter 5.
54 He objects to Moraux’s view according to which “Alexandre ne se place pas au même point de vue qu’Aristote: il aime à étudier le développement des choses, alors que dans bien des cas, Aristote s’est contenté d’une description statique d’êtres parvenues à leur plein épanouissement” (Moraux, op.cit., pp.48-49).
55 Donini, op.cit., p.95: “non si danno solo forme unite alla materia, ma esiste anche una forma completamente immateriale, etc.”
56 Moraux says: “Le trait le plus frappant des deux siècles et demi de peripatétisme …est, en psychologie, l’abandon de la théorie hylémorphique d’Aristote. La définition de l’âme comme forme d’un corps organisé est complètement perdue .” (Moraux 1942, p.9) Moraux identifies two major currents which replace hylomorphism in the Peripatetic theories: the stoicising materialism of Critolaus and the “harmony” theory- style treatment of soul as disposition, which Moraux traces back to Philolaus.
57 Donini, op.cit., p.97.
58 135, 22-30 W.
of physical bodies. This latter is the homogeneous and simple kind, which is devoid of any organic composition. And the Aristotelian response must surely be that it is this other kind of principle of physical bodies, if it is primarily to these that activities belong.

Now, if these bodies are composed of matter and form, and Aristotle himself agrees that the physical body comes through the presence of the four qualities in matter, we must take Aristotle’s ‘form’ as meaning the mixture of these qualities. And thus the substance of the soul, too, must be some mixture of these four qualities, heat, cold, dryness, and wetness - or, if one prefers, bodies: the hot, the cold, the wet, and the dry.\(^5\)

Donini distinguishes three parts in this theory that make it almost identical to Alexander’s: the view that every thing is composed of form and matter (36, 21-37,5); the clarification of the Aristotelian definition of the soul as form (37, 5-15); and the acknowledgement of fundamental character of the elements in the constitution of form. The difference is in the conclusion: where Galen says that the form is mixture, Alexander will claim that the form is a power that comes from the mixture. Donini notes that from Galen’s report it follows that the usual exposition and the justification of the theory of form-mixture was given by means of the systematic treatment of the principles of the Aristotelian physics. This method of interpretation of Aristotle is indeed very close to that of Alexander.

Donini thinks that the notion of \(\delta\nuαμ\iota\) is used differently by Galen and Alexander. Another remarkable difference that Donini notes is the absence of any trace of “harmony” theory in Galen’s treatise.


Fotinis’ work is the first English translation of the treatise “On the soul”\(^6\); it also contains a commentary that follows the argument of Alexander’s treatise, of which I shall review the first part that pertains most directly to the topic of my study. Fotinis sets out to

“show that ...Alexander undertakes to extend and modify Aristotle’s explanation of the nature of the soul, to explore its union with the body and to clarify...its definition” (Fotinis, op.cit., p.160)

Fotinis observes that Alexander bases his theory on the Aristotelian hylomorphic principle, and argues against the materialist theories of the soul which are attributed to the Stoics. He notes that Alexander agrees with Aristotle on the following: soul is related to body as form to matter; all or most of soul’s activities involve bodily change; “the soul’s movements are adapted to the natural exigencies of the body”; soul is the principle of life. He notes some

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\(^5\) 36, 21-37, 24 M.; transl. P.N. Singer.

\(^6\) On this see below, chapter 5.

\(^61\) Fotinis 1979, review in Preus 1982.

\(^62\) It is not complete: 33,10-38,11, 46,20-55,14 are not translated; and there are some other omissions in the text, on which see Preus’ review, p.427 bot.

\(^63\) For the general evaluation of the translation and the commentary see Preus 1982.

\(^64\) Fotinis, op.cit., p.161.
differences:

(i) Alexander’s notion of the soul’s relation to the body may have materialistic implications, since it makes soul something “of” a body; (ii) “the soul’s movements are adapted to the body” suggests that the soul rules over the body; (iii) the rigid distinction between soul and body suggests Platonic substance-dualism.65

Fotinis interprets Alexander’s theory of the complex forms as that of the “plurality of substantial forms”66, and identifies as its consequence “the difference with Aristotelian doctrine, according to which matter in the primary sense does not exist, since existence comes through form rather than matter”67. The difference is not well stated (the statement too strongly depends on a particular, Neo-Thomist, interpretation of Aristotle’s theory of matter), but there is indeed some friction between Aristotle’s and Alexander’s concepts of matter, as we shall see below.

Fotinis correctly notices the problem of the sources of Alexander’s reports on the Stoic doctrines68. His discussion of Plotinus’ treatment of the problem is interesting and deserves some development; especially promising is the comparison to Plotinus’ critique of “harmony” theory69. Fotinis introduces his own rubrics for the exposition of Alexander’s argument: he first considers the thesis that the soul is form; then the way in which the soul and body are united; and finally the problem of the Aristotelian definition of the soul. Fotinis notes that Alexander’s theory of the soul extends beyond the scope of arguments offered by Aristotle himself.

He finds Alexander’s claim that the soul somehow belongs to a body, materialistic, but decides that such sense is precluded by the general Aristotelian character of the doctrine, and treats it as a misleading expression. He registers the dualist tendency in Alexander’s system, insofar as it includes both the substantialist treatment of matter and the notion of separable forms in the theory of intellect.70

Fotinis argues that “in the de anima 2, 26-3, 2 and 8, 17-19 Alexander’s interpretation of the union of matter and form implies a plurality of forms”71. He observes that “a notion of ‘common form’ as a higher and more perfect

65 My paraphrase of Fotinis, op.cit., p. 162.
66 Ibid., p.162.
67 This is probably not well-stated, but registers a tension which exists, even in Aristotle’s system, between the use of ‘formal’ and ‘material’ causal explanation. Fotinis’ claim that the Stoics rejected Aristotle’s view of the soul may be too strong and in any case needs evidence which could, e.g. withstand Sandbach’s claim that the Stoics generally neglected Aristotle (Sandbach 1985).
68 Ibid., p.168.
69 P.174, bot.
70 Ibid., p.181: “Alexander’s assertion that ‘soul remains soul and body, body’, in the de anima 15,8, may point to a dualism, similar to that found in Plato’s Phaedo. This distinction of the soul from the body is seen in Alexander’s notion of forms as being independent of matter which as separate entities are known only by the active intellect.” But the identification of the enmattered form with the separable intelligible form seems to me problematic.
71 Ibid., p.189. Further he raises the objection that “the plurality of forms implies that in the composition of the individual thing there is more than one form. This, however, implies a union of matter with more than one form, and therefore the individual things have more than one substantial form for their substantial perfection”: (Ibid., p.192) That this objection applies to Alexander would need an argument. Fotinis thinks, plausibly, that Alexander’s
form among the lower forms of complex bodies never occurs in Aristotle’s theory of form”72. Fotinis notices that
the doctrine of the “diversity of forms” at 8, 13 is unusual73, but does not discuss it. His analysis of the hylomorphic
structure of the elements implies a distinction between the notions of “form” and “dynamic capacities”, which is
not explicitly present in Alexander, and so needs an argument74. On the issue of the soul’s movement, he omits
Alexander’s “positive” doctrinal point: that ensouled things are moved by the objects of appetite75. With respect to
the problem of definition of the soul, Fotinis establishes general agreement of Alexander with Aristotle, and
indicates the difference on the issue of the “analogical” nature of this definition76.

Generally, Fotinis regards Alexander’s psychology as the same in tenor as Aristotle’s, but different in the
stronger accentuation: the theory of matter is “more materialist”, and the theory of form includes the positive
doctrine of the transcendent intelligible form.


P.Thillet in his article addresses the problem of Alexander’s materialism “holistically”, considering the theory of
the “origin of the soul”, and the theory of the intellect as two parts of one system strongly dependent on one
another. He admits that the theory of the “origin” of the soul in bodily mixtures presented in the beginning of the de
anima may produce the impression of “materialism”. But he says that the materialist reading that is usually given to
Alexander’s theory of the emergence of form from the “mechanical” mixture of the elemental qualities, is not the
one that Alexander himself would give his theory. Thillet argues77 that Alexander draws a fine distinction between

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72 Fotinis, op. cit., p.190. But his argument to the effect that “this “common form” seems to have no matter of its
own” (ibid., bot.), and is therefore inconsistent with the Aristotelian doctrine, seems to be based on
misunderstanding of Aristotle’s notion of “proximate matter” of form as substance (Aristotle does not mean that
form of a composite must have some matter in addition to the elemental constituents into which the thing dissolves:
73 Fotinis, op. cit., p.191.
74 Fotinis, op. cit., p.191, bot.: “not only in forms, but in dynamic capacities, composite bodies exhibit variation; for
example, fire, air, water and earth derive from the contrary powers, dry-moist and hot-cold”. There seems to be
confusion between the notions “compound” (= “composite substance”, introduced in man.1) and “composite body”
(introduced in de anima): the elements are composite substances (composed of form and matter), but they are
simple bodies, because their matter is simple.
75 His analysis of the “pilot” problem is based on Bruns’ reading of 21,1. See below, ch.5.
76 He ignores Aristotle’s discussion of definition in DA. II 2; 413a11 and 3; 414b20-415a13. ἀπλούστερος at 17,6 can
hardly be translated as “oversimplification”.
77 On the basis of his interpretation of the sentence 9, 11-12: καὶ ἐστι τὸ τοιοῦτον εἶδος ἡδῆ καὶ ἡ τοιαύτη τελείωτης ἡ
πρώτη δύναμις ψυχῆς.
the "being" of the soul and its "first power".

Thillet suggests that Alexander distinguishes two points of view concerning the soul, the one κατ’ οὐσίαν and the other κατ’ ἐνεργείαν, and this distinction allows him to avoid the contradiction between the "materialism" of his theory of generation of the soul and his claim of the substantiality of the soul. He says that Alexander thereby relies on two Aristotelian principles, without explicitly citing them: first, the elemental forms combine not in virtue of material dispositions, but because of their immanent finality; and secondly, the ἰδιόμετρα in Aristotle are sometimes understood in the active way.

Thillet cites the text of <i>De Anima</i> I in support of his view that according to Alexander, the substance of the soul does not depend on the bodily mixture, but its activities, which are the activities of a living body, do so depend. Thillet thinks, differently from Moraux, that Alexander's ascription of formal and final causality to the soul should be taken seriously, not as mere concessions added to the mechanistic theory of the generation of the soul. He argues that Alexander does not regard the soul as the result of a mixture of the elements, citing as his evidence Alexander's discussion of the nature of the intellect in <i>De Anima</i> 91, 24-92, 11. He concludes that Alexander is not really a materialist when he invokes the "generation of the soul". In fact he treats of the "generation of a living being", of which he distinguishes the two aspects, form and matter.

With regard to the noetic, Thillet notes that Alexander's description of intellect as "material" has as its source Aristotle's postulate that the intellect should be deprived of all its formal determinations. Thillet notes the difference between Aristotle's and Alexander's formulations of the principle of impassivity of the intellect: Aristotle compares the mind to the slate on which nothing has been written, while Alexander taking over the image.

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78 "Le produit du mélange des formes élémentaires n'est pas l'être de l'âme, mais sa capacité, sa puissance première. Dans le corps complexe, le rôle fondamental de l'association des éléments est d'être cause de la variété des fonctions (ἰδιόμετρα) de l'âme." (Thillet, <i>op. cit.</i> p.10)

70 <i>Ibid.</i>, n.22: "Alexandre nous invite par conséquent à distinguer le point de vue κατ’ ἐνεργείαν, selon lequel l'âme est envisagée dans ses fonctions (voir 24, 23: ἀν τιμέε φιλοσοφία ἐναμείνη), et le point de vue κατ’ οὐσίαν, où l’âme est forme substantielle, et comme telle ingénérable".

80 Thillet infers these principles as "self-evident". (Thillet, <i>op. cit.</i>, pp.10-11: "Mais pourquoi les citerait-il? Ce sont pour lui des évidences.")

81 Thillet, <i>op. cit.</i>, p.12, before citing <i>De Anima</i> 104, 34-105,2: "La suite permet de préciser le type de rapport que peut avoir l'âme entelleée avec le corps dont elle est l'âme. Sa dépendence n'est pas celle d'une essence (οὐσία) vis-à-vis de sa cause: ce sont les modalités de l'exercice de ses puissances qui dépendent du tout que l'âme constitue avec son substrat, le corps".

82 Moraux 1942, pp.47-48, cf.above.

83 "L'âme, dans son essence, ne peut être le résultat du mélange des éléments, ou des certains des éléments, parce qu'alors elle n'aurait, par rapport aux réalités corporelles, aucune différence; ou, elle doit avoir une ou des différences si elle doit être toutes choses sans se confondre avec aucune d'entre elles. Autrement dit, dans son essence, οὐσία, l'âme ne peut être le résultat d'une combinaison matérielle des éléments, des corps élémentaires. Cette combinaison, en revanche, conditionne son activité, parce que l'âme est forme du corps, et que le corps, du même coup, est son instrument ou organe." (Thillet, <i>op. cit.</i>, p.13)
removes from it all the references to the concrete, so as to make it like “the not-being-written” of the slate rather than the slate itself. So, material intellect is not in fact material.

Thillet says that it was the denial of personal immortality that brought Alexander the reputation of a “materialist”, particularly in the Middle Ages and after. He notes that in de anima Alexander mentions the possibility of the persistence of the intellect without suggesting that it is the “acquired” intellect that persists, as Averroes believed. He notes, that if, as Moraux suggests, the immortality is not a necessary consequence of the ontological structure of the noetic act, then it is not connected to every case of intellectual cognition, but only to the cases where the object of thought is an intelligible that is “naturally” separate from matter. Thillet compares Alexander’s thought to Aristotle’s treatment of happiness in the EN where the means towards it are described with the terms μάθησις and ἀοιδής (which are found in the corresponding text of Alexander), and the state itself with the predicate “divine”. He notes though that there is no notion of immortality connected with the perfect state in Aristotle; and in Alexander, on the other hand, there is no ethical sense to the intellectual effort as the divine state of mind is not thought of as “reward”.

So he turns to the examination of the process of intellectual cognition. Following Moraux 1942, he notices that there is an inconsistency between the description of the human mind as “receptive” of forms and making it “active” in the process of abstraction of forms from the matter in which they were enmattered. Alexander emphasises that this intellect constitutes itself as a true being. In that case it is possible to ask about the role of the agent intellect. Thillet suggests that Alexander’s answer should be that though the agent intellect is not a part of a human cognitive faculty, it still has its role in the system, outside this faculty, and it is in this role that it is identified by Alexander with the νοέσ θεόθεν of GA. If I understand him correctly, Thillet argues that in Alexander the agent intellect, unlike Aristotle’s νοέσ which is ἡ νόησις νοηεσις νοηεσις, is not the only subject of its contemplation: it can also be contemplated by the human intellect, which then becomes incorruptible. The agent intellect is needed because of the material intellect: the agent intellect is the cause of the habitus of the material intellect: it causes the cognition

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84 Dea III 4: 429b31-430a2; Alexander, de anima: 81, 24; 84, 21-22; mant.106, 20-23.
85 de anima, 82, 1-2: ὁ νοεσ ἐπίκτητος.
86 He refers (without citing at this point) to the passage of de anima 90,1-91,6.
87 Thillet, op.cit., p.19.
88 “Le paradoxe ... consiste dans cette autonomie d’un être en puissance dont l’actualisation s’effectue sans moteur - à l’encontre d’un principe aristotélicien bien connu.” (Thillet, op.cit., p.20)
89 GA II 3: 736b27-29; Thillet, op.cit., p.20.
90 Mta.A 9: 1074b34
91 90, 13-14: ἄθραστος. Thillet, op.cit., p21, n.64, notes that Alexander does not use the term ἄθραστος. The neuter gender can be noticed, too.
92 Thillet, op.cit., p.21.
of emmattered forms by the “material” intellect. Hence, says Thillet, it has a function similar to that of Avicenna’s
dator formarum, except that in Alexander it provides not the forms but their intelligibility93.

With regard to the question of the type of causality exercised by the agent intellect on the material intellect in the
process of abstractive cognition94, Thillet suggests understanding Alexander as posing the “imitation” by the
material intellect of the agent intellect, which serves as the “exemplar” cause for the former95. Thillet’s conclusion
is that in his theory of intellect Alexander is not a materialist, either.

This “synthetic” approach has many merits, among them the possibility of comparing the “commensurable”
aspects of different doctrines, of seeing the consistencies and inconsistencies of different theoretical commitments in
the fullest scope of the work. This possibility was exploited by Thillet, though aptly, not quite fully; arguably, his
approach allowed him to raise the question about the relation between the constituent forms of things in the
beginning of the treatise and the intelligible forms, in the parts on the intellect, and see if there is a plausible
common account.


Papadis’ work is his Habilitationsschrift accepted by the Philosophy Department at the University of Würzburg in
1987. The author’s goal is, as he himself says in the introduction,
die Untersuchung der Seelenlehre des Alexander von Aphrodisias unter einem systematischen Aspekt - in erster Linie - auf Grund seiner Schrift: De anima cum maniessa und zwar in ständiger Auseinandersetzung mit der gleichnamigen Schrift von Aristoteles <...>.(Papadis, op.cit., S.11)

He is interested in reconstructing the core concepts of Aristotelian tradition in psychology, broadly construed: it
includes Aristotle, Alexander, Themistius, the Neo-Platonic commentators and occasionally St.Thomas Aquinas.
The order of exposition closely follows that of Alexander’s treatise: Papadis begins with the presentation of the
soul-body problem, then goes to the doctrine of sense perception, and finally, to the theory of the intellect. (I only
go through the parts that are immediately relevant for my thesis). He announces his position in the beginning: with
respect to the contemporary mind-body problem, he finds Aristotelian theory most useful96; and with regard to
Alexander’s psychology, he thinks that

93 Thillet, op.cit.,pp.21-22.
94 Thillet tends to regard the action in question (which is mentioned by Alexander only in the maniessa, but not in
the de anima account of the intellect: 107, 34) as the common doctrinal point for both treatises.
95 Thillet, op.cit., p.24, refers to the verb μετάτηθαι used in the de intellectu: 108, 21.
96 Ibid., p.13.
man wohl sagen könnte, dass Alexander Aristoteles nicht nur richtig versteht und interpretiert, sondern er hebt auch in diesem Zusammenhang die aristotelische Lehre schärfer hervor. Er versucht über bestimmte Unklarheiten und Zweideutigkeiten des Aristoteles hinweg zu einer kohärenten Lehre zu gelangen. (Ibid., p.14)

(1) In the beginning of his exposition, Papadis tries to establish the ontological balance between matter and form in the definition of the hylomorphic compound, on the basis of Alexander’s text. He explains the notion of matter in terms of the theory of prime matter, which he considers common for both Alexander and Aristotle.97 Trying to avoid the description of matter as incorporeal, Papadis draws a distinction between “being a body” (Körper-Sein) and “corporeality” (Körperlichkeit), understanding by the latter “die Tendenz von etwas Unkörperlichem oder noch nicht Körperlichem zum Körperlichen”98. He argues that the fact that matter needs form for its corporeal realisation, does not mean that matter and form as structural principles are equally neutral with respect to corporeality: matter accounts for the “corporeal” tendencies of a thing.99

(2) Papadis distinguishes between the “logico-ontological” sense of εἶδος as universal, and its “strong ontological” sense (particular form): “Eidos als καθόλου” vs. “Eidos als εξέχεια und εντελέχεια der Hyle einer τώς τῇ Substanz” (ibid., p.51, n.96, last paragraph)100. Interestingly, he argues that the first meaning of the term corresponds to Aristotle’s second category, i.e. quality101. He does not use Alexander’s quaest. I 11 at this point, where this distinction is drawn but not as categorial.102

(3) Papadis distinguishes between the two senses of δύναμις: “capacity” (Vermögen) and “possibility” (Möglichkeit)103. He argues that the prime matter has the character of “ontological possibility”, while the matter that has already been informed, is already pre-formed and in some sense pre-determined (“vor-bestimmte”) matter or possibility,

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98 Papadis, op.cit., p.39.
99 At this point he could discuss Alexander’s statement in de anima 4.21 to the effect that form is ‘less independent’ than matter in its subsistence, but he does not.
100 Papadis, op.cit., pp.50-51.
101 Papadis, op.cit., p.52.
102 On this see below, chapter 4.3.
103 “Vermögen ist gerade das, was aus sich heraus zu dem übergehen kann, was es “vermag”” while the prime matter is “bloß eine Möglichkeit, eine ontologische allerdings, die nicht aus sich heraus in die Wirklichkeit eines Elements, dessen sie als unerlässliche Materie-Substrat eine Möglichkeit ist, übergehen kann, sondern sie bedarf zur Verwirklichung bzw. Aktualisierung dieser Übergangs-Möglichkeit, d.h. zu ihrer Selbstverwirklichung, des Eidos, welches an ihr wirkend ihr das evereîs - Sein verleiht und somit den übergang vollzieht (Papadis, op.cit., p.54)
which involves independent subsistence. He warns that this distinction is not meant to deny the real character of matter, but only to distinguish between the reality of a thing and an aspect. Papadis discusses Alexander’s solution of the problem of quaest. II 7, “what matter will be if it derives its being without shape from privation and its being qualified and shaped from form”, and suggests an ontological interpretation for his solution:

Die Hyle als ontologische Möglichkeit, etwas aufnehmen zu können, bedeutet nach Alexander eine Zwischenstufe zwischen dem, was als - de facto - Noch-nicht-Sein aufzunehmen ist, und seiner privatio (=negative Vorbestimmtheit des Noch-nicht-Seins), obwohl eigentlich das, dem das Aufnehmenkönnen eigen ist, niemals ohne das, welches aufzunehmen ist... existiert. (Ibid., p.69)

Papadis emphasises that the prime matter has only conceptual and not real existence per se. The interpretation of the prime matter as “Seinsprinzip” vs. “Substanzialität” seems to assume the ontological hierarchy of the Neoplatonist style. It could have been that such was the influence of Alexander on the Neoplatonic readers, but in his own writing we don’t find quite such a kind of ontology. (The hierarchy that there is is based on the strictly physical principles, as will be seen in chapter three).

(4) Papadis registers full doctrinal agreement between Alexander and Aristotle in what pertains to the concept and definition of the soul. Unlike most scholars, he is quite sanguine about the parallel between the soul and the principle of natural movement in the elements. He imaginatively interprets the “simple movement” as “Entstehungsbewegung”, the property of the form which ensures its connection with the prime matter. This is certainly an interesting conceptual turn, but not easy to justify textually since in both Aristotle and Alexander ἀναλητή κίνησις seems to mean the same, i.e. natural movement, which is not related to the process of generation.

(5) Papadis distinguishes several senses of “form” in Aristotle’s system dictated by different contexts. The first is “formal cause”, which he defines, rather surprisingly, as “auf die die äußere Form des Menschen als Gestalt zurückzuführen ist”; the Gestalt is probably to be understood as “form of the whole” of Gestalt-psychology rather than in the first meaning of “shape”. The second is the inner principle of life, which acts as final, efficient, and

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104 Papadis, op. cit., p.55. Papadis ascribes the teleological character to every process of generation. (Op. cit., p.56, n.122: “Das Werden und Entstehen geht also normalerweise einen teleologischen, festumrissenen Weg (Prozeß)”, apparently, including the elemental generation as the “minimal” case of “Naturordnung”. We shall return to it in chapter 3.

105 Papadis, op. cit., p.65: “konstitutives Moment, Seinsmoment, Seinsprinzip” vs. “Substanzialität”. Papadis ascribes the “active” character to Aristotle’s matter insofar as it assumes only the definite class of forms (Papadis, op. cit., p.63 and notes).

106 Papadis, op. cit., p.71.

107 Papadis, op. cit., p.78, and note 223. Cf. Aristotle, GC II 2: 329b20, where the properties associated with natural movement are excluded from those that contribute to generation. Of course, there is a possibility to interpret Aristotle’s doctrine as stating the necessary presence of “connatural movement” for every substance, (especially since Alexander invokes the diversity of motions when talking about the living beings in de anima 9, 2-3) but this interpretation would require an argument.

108 Papadis, op. cit., p.83.
formal cause. The third item in this list is χωριστάς νοέως. He says that

auf jeden Fall ist diese Form die Form des Menschen par excellence, da sie ihren Träger zu dem macht, was er seinem eigentlichen Wesen nach wirklich ist und ihn als ganzen (spezifisch) prägt. (Ibid., p.86)

But he does not discuss the way in which the composite form of the human body is to the intellect as the principal form of a human being, taking the relation as theoretically unproblematic.

(6) Papadis distinguishes, now presumably, within the "ontological" scope as defined above in (2), two senses of the term ἐδοξ in Alexander:

1. seine eigene Substanzialität (So-sein), in der sich seine Verschiedenheit von der Materie (bzw.dem Körper) gründet; 2. seine Funktion als 'formales' Individuationsprinzip, da die Materie ursprünglich ein undifferenziertes und unbestimmtes Prinzip darstellt, der erst durch die Formen bzw. Überformungen entsprechend zu den verschiedenen Arten des zusammengesetzten Seins differenziert wird. (Ibid., p.92)

Along these lines he draws a distinction between the Neoplatonic writers who regarded form in the first sense, and the Aristotelians (like Alexander and Themistius) who took over the second sense. The former allowed for the separate existence of form, the latter did not. This distinction is legitimate as an analytical tool, but in case of Alexander it is inapplicable, as for him the same form is substantial and immaterial.

Papadis aptly observes that "die Seele an und für sich ist also ἐντελεχεία, aber nicht ἐντελεχεία", and explains the importance of the concept of "natural organic body" in Aristotle’s definition of the soul. On the other hand, his statement that the soul as the metaphysical principle is the transcendent as well as immanent, and as such imparts "life" (Belebung) to the matter of the body, seems to be an ontological generalisation.

(8) Explaining the notion of "complex form" of a hylomorphic compound, Papadis claims that the forms of the constituents of the compound are in teleological relation to the form of the whole. He outlines a continuity of hylomorphic constitution:

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109 Papadis, op. cit., p.84.
110 de anima 19, 24 Br. refers to the notional distinction between form and matter. Also of course citing Ps.-Alexander's commentary on Metaphysics to illustrate Alexander's position, as Papadis does, is rather rash. (Ibid., p.92 and note 288; also p.93, n.295; p.46, n.69, and passim)
111 But his application of the description "the second entelechy" to the soul seems to me an extension of Aristotle's and Alexander's position, which requires an explanation. (Papadis, op. cit., p.94).
112 The wording of his explanations might raise some questions, e.g. he calls life "das notwendige Epiphanomen und das Zeichen des organischen Körpers, der soviel wie 'lebendiger Körper' bedeutet" (p.97) No specific explanation of the term "epiphomenon" is offered, and the intended meaning seems to be just the "inseparability" of the soul from the body.
113 "Ein Prinzip, das innerer Grund und Bedingung der Lebendigkeit und aller Lebenserscheinungen biologischer wie auch geistiger Art, ohne selbst an und für sich physisch erfassbar zu sein und als solches autonom existieren zu können. Es handelt sich also um ein transzendentes Prinzip, das nur von seinen Akten und Wirkungen her erschlossen und vorausgesetzt werden darf. Auch die durch dieses immanente Prinzip der Belebung der Materie, bzw. des Körpers gekennzeichnete Essenz ist letzten Endes nur 'metaphysisch' zu verstehen, da eben dieses Prinzip keine in sich geschlossene Einheit (Substanz), die eine wieder in sich geschlossene tote Materie (Körper) belebt,
But the fact that "die Stufen" in our case are made up by different levels of chemical combination, is de-emphasised.

Papadis characterises the relation between the "partial" and the "integral" forms of the complex substance, (and the one that obtains between 'lower' partial forms and their respective subjects) as "dialectical": the form of the whole is final, efficient and formal cause of a thing's constitution, whereas partial forms serve as its material causes. In this way he interprets the ἀναλογία between substrate and form. The relation of the elements to mixture is "teleological"; and the elements of a living body are always in the process of circulation. To support the latter point, the case of elemental generation is cited. Papadis devotes special attention to the case of growth, where the persistent component of the generation model is form rather than matter, and concludes that even in this case, we deal with the transformation of the whole compound, so that the principle of hylomorphic unity ("Zwei-Einheit") works at every level of the continuous scale of being. The only question left unanswered by his dialectical approach is: why does formal perfection have to involve material complexity? It may be clear why complexity would need perfection in the "dialectical" theory of substance; but it is unclear why the hierarchy of perfection should be organised in the order of increasing material complexity (particularly given that by the ultimate standards the most perfect being is also the most simple). And if there is nothing compelling the direction from complexity to perfection, then the symmetry of the "dialectical relation" between the material compound and its τέλος can be questioned.

(9) Papadis regards Alexander's analysis as conceptual tool for the interpretation of Aristotle's doctrine of unity of soul vs. multiplicity of its faculties. He considers three questions: (1) is it possible to distinguish several parts in the

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ist". P.97-98. The explanation of Ps.-Simplicius (de an. 87, 3-5) cited by Papadis (op.cit.,p.97, n.316) is clearly Neo-Platonic.


15 The statement "im übrigen kommen die Elemente nie rein an und für sich, sondern immer als chemische Verbindungen (Mischungen) vor, wobei die herrschende Elementarqualität das ganze bestimmt und ihm seine Namensbezeichnung gibt" (ibid., p.106, n.351) is based on misunderstanding of the opening sentence of the mant.7: 125, 6-9. The clause quoted by Papadis in this note as expressing the opinion of Alexander is actually the view of his (Stoic or stoicising) opponents which he refutes in this treatise. (See Appendix I).

16 The thesis itself is derived by interpretation of the general principle of correspondence between the heavenly revolutions and the circulation of the sublunary elements. (GC II 11). The circulation of the bodily elements is however a more specific point.
soul, and if yes, in what sense? (2) what is the relation of the soul to its parts, viz., “faculties”? (3) what is the relation of the faculties to one another? For the first question, he cites Alexander’s “catholic” answer, according to which the soul is one, but its faculties are several in number; and draws on some general evidence for “physical” and “teleological” grounds of this view in Alexander and Aristotle. The second section of his chapter provides an outline of the answer to the third question: the soul is a unity insofar as it is substance, and its faculties are arranged in a natural hierarchy. Papadis’ discussion of the problem of soul’s faculties in connection with the problem of divisibility depends mostly on Philoponus, whose position is thus presumed to be close to Alexander’s. Explaining the divisibility of the soul in its lowest (nutritive) faculty and indivisibility in its higher faculties, Papadis says:


But arguably the Entmaterialisierung does not follow from the continuity of hylomorphic constitution all the way up from the bottom, which he discusses in the preceding chapter, and would involve some additional tenets of the sort Alexander presents in quaest. II 3, which Papadis does not use at this point. Papadis’ question whether the soul is simple or complex substance must be assuming some new meaning of “simple substance”, because with regard to the only meaning that has occurred so far, only the elements would be simple substances.

Papadis concludes that unity of the soul is dialectical: soul is substantially one, but it has many different aspects. Papadis uses St.Thomas’ explanation of the “first entelechy” as the substantial form, and the “second entelechy” as the accidental form. Thus, the reconstructed ‘dialectical’ conception of the soul appears to be generic Aristotelian

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117 Papadis, op. cit., p.115.
118 Papadis, op. cit., p.116-117.
119 Papadis op. cit., p.123. Papadis cites Aristotle’s definition of substance as ἑιδος ἐν in Meta. Z 11: 1037a28-20. His use of expressions καθ' ὑποκειμένου (= bloße Bestimmung) and ἐν ὑποκειμένῳ (als dessen zugehörige und eigentliche Erfüllung) is not the standard Aristotelian (of the Categ.). The expression ὑποκειμένων ἐν ὑποκειμένῳ (ibid., and note 447) is a result of misunderstanding of Aristotle’s sentence at Phys. I I : 192b34.
120 Papadis, op. cit., p.125. This misleads him into relating the perceptive powers of the soul to the brain (which is the principal part of the soul according to Philoponus) instead of the heart (which is the seat of cognition for Aristotle and Alexander, as Papadis knows very well, see p. 136, n.495)
121 Papadis, op. cit., p.129. From the discussion on p.130 it appears that this notion is taken “without warning” from Philoponus’ treatment in de an., 198, 4-6. Ibid., note 474.
122 It is unfortunate that Papadis distances himself from the problem of the sources. Sometimes the historical considerations might be of help in clarifying the conceptual grounds of the theories under study. Alexander’s comparison of the soul with the apple that Papadis quotes (p.129), occurs also in the Stoic sources, thus inviting a comparison of the two positions.
rather than Aristotle’s or Alexander’s or St. Thomas’s.  

The second part of Papadis' study deals with the "soul-body" relation. Under the title "Der Körper als Organ der Seele", he explains the Aristotelian thesis that soul is formal, efficient and final cause of the body. Again, he underscores the generic features of Alexander’s approach leaving without explanation the fact that Alexander at one point criticises the notion that soul uses body as its organ.

Alexander’s position with regard to soul’s impassivity is also construed as ‘generic’, closer to that of the Neoplatonic commentators than is warranted. The point of his interpretation of Aristotle’s notion of ἀμαθία as the characteristic of the soul seems to be primarily that soul is not an agent, but the ensouled body is. The point of the Neoplatonic discussions of the same issue is that the soul is the agent of a different type than a body: impassivity is just another proof of its substantiality. The treatment of passions in Ps.-Simplicius and Philoponus depends on the Platonic notion of many-tiered soul. Passions are ascribed to the tier closest to the body. The soul in its proper mode, separate from body, is supposed to be impactive. Papadis’ following Ps.-Simplicius in his derivation of the notion of ‘force’ of the soul from Aristotle’s ethical teaching is controversial. Papadis raises the ‘generic’ problem quite correctly, and his approach allows him to notice different possibilities harboured by the Aristotelian theory, but because of concentration on the generic unity he tends to disregard specific differences which may be quite crucial.

Papadis’ generic approach works well for the problem of form-substance: he correctly notices that Alexander develops this theory along the Aristotelian lines in mant. 5 and in the school treatises. He thinks that Alexander’s notion of the soul’s being ἐπιγνώμην on the bodily mixture does not have any materialist sense, such a sense being precluded by his treatment of form and matter as two ontologically irreducible principles. He regards his critique of the Stoic materialist theories as further evidence for that. Papadis reproduces Alexander’s arguments against

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123 The quoted evidence for Alexander’s view in this section includes also several passages from the Neo-Platonic Ps.-Alexander’s commentary on Metaphysics (n.513, p.141; n.535, p.144, n.545, p.147).
124 de anima 23,24 Br. See below, chapter 5.
125 The separate intellect has the impassivity of substance, but it is not a part of the soul. (De an. 89, 12-15; ap.Phirop. in de an. 164, 2-5; quoted by Papadis, p.199, n.245).
126 Papadis, p.183.
127 Papadis considers the sense in which the soul is not in the body as in a subject, which is the topic of mant. 5, and then analyses the quaest. I 8, in which Alexander reserves the sense of “in” for the unmattered forms, in which they can be said to be “in” the body. Papadis, op.cit., pp.153-160. See below chapter 4.
128 Papadis, op.cit., p.163.
129 So Papadis, p.164 and passim. The problem of Alexander’s sources and of the “historical” targets of his arguments has still to be studied on the basis of the sources. (See below, ch.4,5). Stoics certainly shared most of the doctrinal points Alexander objects to. When Papadis talks about the contents of the Stoic teachings, he mostly has in mind the doctrinal points that Alexander addresses in his critique. (E.g. ibid., p.165: “Die Seele entsteht also
the materiality of the soul. From his exposition it is clear that the arguments against the corporeality of the soul depend on the notion of incorporeality of the qualities. So it should follow that the soul is not corporeal by the same logic by which the qualities are not. This suggests the question of the category to which the form should belong, but Papadis does not discuss it 130.

With regard to the problem of the soul’s “supervenience” on the bodily mixtures, Papadis thinks that the version of hylomorphism proposed by Alexander in the beginning of his treatise is balanced enough to preclude the materialist interpretation of this relation. He points out that soul is neither the same as mixture, nor is it a product of mixture 131. Papadis argues for this on the metaphysical grounds: since the proper matter of the soul is something potential, but not necessary.

die Seele ist nicht das notwendige Ergebnis welches bloss durch die Mischung der (einfachen) Körper in irgendeinem der (möglichen) Verhältnisse entsteht, ... sondern die Kraft (das Vermögen), die wohl ihrem Dasein und ihrem Tätigen nach durch einen entsprechenden Körper bedingt ist, die aber ihr Wesen nicht dem Körper oder einem bestimmten Mischungsverhältnis desselben verdankt..., da die Seele selbst nicht etwas Materielles ist, wie die Mischung, sondern eben etwas Geistiges (ibid., p. 218).

Papadis follows Alexander in distinguishing between the condition, which is in this case the body of a particular structure, and that which is conditioned, i.e. soul. Papadis says that Alexander has in mind

bestimmt nicht eine materialistische Zurückführung der Seele, in allen möglichen verschiedenen Arten, auf entsprechende Beschaffenheit bzw. Mischung des zugehörigen Körpers, sondern die sehr enge und innere Bezogenheit zwischen Körper und Seele, d.h. dass die Seele in ihrer Besonderheit (Sosein) einen entsprechend so und so beschaffen Körper als ‘Subjekt’ unbedingt voraussetzt und umgekehrt: ein so und so beschaffener Körper bietet sich als eine bestimmte Möglichkeit, in einem doppelten Sinne, oder als die zugehörige Materie...und ‘Subjekt’ eine entsprechende Seele (Eidos) aufzunehmen, ohne dass diese Aufnehmen-Können zugleich eine wirkliche (ontologische) Trennung bedeutete <...> . (ibid., p. 227) 132

We can see that the ‘generic’ approach that Papadis uses has several attractive features, but also some drawbacks. The attractive features include the assumption that traditional difficult places in Alexander, which have no direct analogies in Aristotle, can be soundly interpreted in terms of the ‘core’ doctrines. This allows us to appreciate

nach den Stoikern durch die Zufügung der Qualität zu dem Geist: Pneuma”). The description of the Stoic matter: "Es handelt sich hier, wie bei Aristoteles, um eine Schöpfung Gottes von Ewigkeit", op. cit., p. 167,

130 Papadis at this point seems to ascribe the identification of form with quality to Aristotle, too: “Das Zusammenhaltende - das ist ein Grundsatz für Aristoteles und Alexander - muss unbedingt ein qualitatives und unkörperliches Prinzip sein”, and he cites mant. 4: 115, 3-4 which says that τὸ ...σωμάτων ἐστὶν ἡ ποιήσις καὶ ἡ δύναμις ἀσωματικός ὄσσα. (op. cit., p. 172).

131 Papadis, op. cit., p. 217.

132 But there remains a problem: if the dependence is strictly symmetrical as it is claimed, then it has to be explained why Alexander uses the adversative in the sentence from mant. 1: 104, 30-31 quoted by Papadis, op. cit., n. 361 (ὦ γὰρ ὑμῖν διαπλάσσοντα τὰς μορφὰς, ἀλλ᾽ ἐπὶ τῇ τοῦτον ποιήσιν αὐτοῖς ἐπικαλοῦθησαν αἱ διάφορα µορφαί). If the relation between the two principles is symmetrical, the notion that the souls shape the structures should be as legitimate as that of the ἐπικαλούθησα. Papadis’ explanation that Alexander means here the “proximate” matter as the condition of genesis does not change much: the form is also a condition of genesis, and can be said to “form” the proximate matter in a particular way.
Alexander’s contributions to Aristotelianism (such as the analogy between soul and natural propensity of the simple bodies; treatment of ‘harmony’ theory; treatment of the problem of subject). Another nice feature of ‘generic’ approach is its ‘scholastic’ tendency to conceptual distinctions, in search of a plausible interpretation.

But there are some drawbacks and limitations, too. Both mentioned features, ‘core’ interpretation and conceptual distinctions, have to be substantiated by textual evidence, which is in many cases missing in Papadis’ study. Also, the ‘core interpretation’ is usually a product of the late stage in the tradition, a result of a ‘collective effort’. So its application to the earlier stages is in risk of anachronism. One of the outcomes of anachronism is granting the ‘later’ solutions to the problems within the ‘earlier’ systems, as Papadis seems to do reconciling the doctrine of agent intellect with the theory of enmattered form-substance; elemental complexity with perfection, on ‘later’ grounds, without attending to the difficulties which these problems produce in Alexander’s system properly taken. So, Papadis’ study is conceptually rich and promising attempt to locate Alexander’s work within the Aristotelian tradition broadly construed, but lack of precision leads him to some conceptual confusions (the worst being non-distinction between the Platonist and the Aristotelian components of the broad tradition).

1.7. Accattino-Donini 1996[133].

The work of Accattino and Donini, (henceforth, AD) is the first full translation of the de anima into a modern language. AD put Alexander’s proximate sources in the focus of their Quellenforschung.[134] In this they follow the general tendency of Aristotelian scholarship of roughly the past three decades.

AD discuss the relation between the treatise and the commentary on de anima[135]. They note that even though the treatise is mostly built on commentary, there are at least two important departures from the Aristotelian order of exposition: the theory of soul as form in the beginning and the discussion of the problem of the seat of the soul toward the end. AD discuss the relation between the beginning of Alexander’s treatise and the first book of Aristotle’s de anima: seemingly there is no relation, but in fact it is possible to show how the theory of the soul as a power generated from the elemental mixture can be a result of a particular interpretation of Aristotle’s first book, so

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[134] They devote significant attention to Galen; Alexander’s teachers Herminus, Sosigenes and Aristotle of Mytilene AD, pp.V-VI.
[135] For the chronology of the treatise and the commentary see Donini 1994, p.5045-56.
the first part of Alexander's treatise can still be derivative from his commentary\textsuperscript{136}. 

AD raise the question of the character of Alexander's Aristotelianism with respect to the first part of the treatise\textsuperscript{137}. They note that Alexander's idea that form plays the same role in the elemental bodies that the soul plays in the living bodies is an innovation. They note that "indubbiamente Alessandro elabora una teoria delle forme dei corpi semplici con l'occhio rivolto alle forme dei viventi"\textsuperscript{138}. They note also that the theory of the complex form, as stated in the beginning of the treatise, (the dependence of a complex form on the simple forms, the principle of 'correspondence' between the elemental diversity and the "formal complexity", the thesis which refers the diversity of forms of the compound bodies to the different possible combinations of the simple) is peculiar for Alexander's version of Aristotelianism, and is not found in Aristotle. Less clear, according to them, is the fact that with these theses Alexander goes against Aristotle, upholding the theory of generation of form from matter, and in particular of generation of the soul from the mixture of the simple bodies\textsuperscript{139}. AD mark other contributions that Alexander has made to the theory of form: the conception of hylomorphic structure of a simple body, a parallel between the structural and functional complexity of the natural bodies (simple body - simple movement: complex body - complex movement)\textsuperscript{140}. This theme of diversification of the species in proportion to the complexity of structure is notably not extended by Alexander to the human beings; but the human soul belongs to the same order of being as the other enmattered forms, not transcending the limits of its definition as the first entelechy of a natural organism. All the "uncertain" places of Aristotle's \textit{de anima} dealing with the possibility of a "separate" power or modality of the soul, are suppressed by Alexander, at any rate, in the part of his treatise where he deals with general principles\textsuperscript{141}. AD note that Alexander's discussion of inseparability of the soul may reflect his polemic against the platonising tendencies among the contemporary Peripatetics\textsuperscript{142}. AD note several other points, where Alexander goes

\textsuperscript{136} AD, p.X. AD cite as evidence for this: Alexander's use of the Aristotelian theory of substance as a foundation of his own conception of the soul; his critique of the Stoics, Epicureans and Platonists might also stem from the discussions in the commentary; his discussions of the "pilot" simile and the topic of immobility of the soul can be have their origin in the commentary. They suggest that he omits polemic with the pre-Socratics because it could not be interesting for the reading public to whose demand, they think, the treatise is adjusted. (AD, p.X).

\textsuperscript{137} The theory of intellect is more clearly a departure; but the case of the "origin of the soul" is not so clear.

\textsuperscript{138} AD, p.XIII (the traditional charge against Alexander being that he modeled the soul as the form of the living body on the forms of the elements and their mixtures). But of course, AD mean that the hylomorphic structure is "taken from" a living being. Aristotle's theory of the elements underwent some adjustments in Alexander (below chh.2,3)

\textsuperscript{139} AD, p.XIII.

\textsuperscript{140} AD, p.XIV.

\textsuperscript{141} The "incorruptibility" that he suggests for the intellect at 89, 16 does not seem to be grounded on the ontology of hylomorphism developed here. AD note that the fragment of Alexander's commentary on Aristotle's \textit{DA} I 4: 408b29, where the intellect that is considered as a candidate for separability is interpreted by Alexander as divine rather than human, is perfectly in line with his theory of transcendent intellect developed in the end of his treatise.

\textsuperscript{142} AD, p.XV, and see below, ch.5.
beyond the Aristotelian treatment of the problems, emphasising that each time the departure is in fact an attempt to solve the problem or clarify the ambiguity of Aristotle's text\textsuperscript{143}.

Of particular interest are the methodological considerations that AD put together in the last section of their introduction: Alexander's main relation to the Aristotelianism was that of an exegete of the texts; commentaries his main literary genre. The treatise \textit{de anima} depends on the commentary on Aristotle. Even the treatises which are not exegetic, \textit{de fato} and \textit{de mixtione}, display the influence of his exegetic style. In his exegesis Alexander follows certain principles, of which the most fundamental is that of the systematic character of the Aristotelian philosophy\textsuperscript{144}. This implies, in practical terms, that in his exegesis of any given proposition of the doctrine Alexander keeps in mind all the other related propositions or theories that occur in the corpus, so that his interpretation of the first proposition should render it compatible with all the others, sacrificing as little as possible of what was said by Aristotle in other works or on other occasions\textsuperscript{145}. Of course, his criteria of “compatibility” may seem arbitrary to us: the \textit{de intellectu} with its combination of \textit{DA}, \textit{Metaphysics} and \textit{GA} is one example of this. But Alexander's exegesis is certainly characterised by his enormous knowledge of the corpus and facility with which he moves among almost all the texts, even those on which he probably did not write commentaries, e.g. the biological treatises\textsuperscript{146}.

Of course, the perfect agreement of all Aristotelian texts is impossible. Even Alexander sometimes had to face the problem of apparent contradiction, when Aristotle at different places gives different treatments of the same problem. The exegete in such cases had three possible courses to take, and evidence of all three is present in his works. First, he could attempt to justify all the Aristotelian statements by somehow mediating among them. If this did not work, he could espouse one of the theses of Aristotle, rejecting or just ignoring those that seem to contradict; or, finally, he could let the conflicting claims stand next to each other, also in his interpretation (in such cases it might be that he did not see any contradiction between the texts of the Master). The example of the first strategy is the doctrine of the intellect, and probably even more precisely, Alexander's position on the problem of

\textsuperscript{143} The most conspicuous examples are: Alexander's treatment of sensation (the common sense and the particular senses; the related problem of the organ of touch: \textit{AD}, p.XVII; bearing on the problem of simultaneity of different perceptions (\textit{AD.}, p.XVIII-XIX)), different analysis of imagination (\textit{AD}, pp.XIX-XXIV), theory of the intellect (pp.XXIV-XXX).

\textsuperscript{144} "La filosofia di Aristotele gli si presentava come un edificio governato da logica, coerenza e simmetria e l'interpretazione di qualsiasi proposizione del maestro doveva di conseguenza armonicamente inserirsi nella costruzione conservando (o più spesso riconstruendo) la coerenza con tutte le altre proposizioni della filosofia aristotelica, prime di tuttquelle che riguardavano argomenti affini." (\textit{AD}, p.XXXI).

\textsuperscript{145} \textit{AD}, p.XXXI.

\textsuperscript{146} \textit{Ibid.}
the organ of touch; the second one was adopted, e.g. in the solution of the problem of the soul’s immobility; the third one can be illustrated by his position in the question of unicity or plurality of the heavenly movers.\(^{147}\)

AD note that Alexander’s exegetic principle: understand the author by himself, i.e. by the data (linguistic, stylistic, conceptual, factual) provided by him in the relevant context, - was taken over by Porphyry and used also by the later Aristotelian, Platonic and Hippocratic commentators\(^{148}\). AD think that though Alexander in some cases might have been presenting the theories of post-Aristotelian Peripatos, normally he starts with Aristotle, and interprets Peripatetic theories using Aristotelian texts. AD then state their own principle: “For that reason it will be wise for us to assume always that behind each of his expositions, even those that seem most remote from Aristotle, there is some Aristotelian text which Alexander is in fact interpreting.”\(^{149}\) However, not infrequently Alexander makes departures from the Aristotelian text, e.g. in his presentation of the doctrine of the agent intellect. These departures can be explained in part by the presupposition of a system; but partly they are the product of the method of commentary which involved essentially editing the text commented upon\(^{150}\). One should not think that thereby Alexander gives up his method of understanding Aristotle from Aristotle. In fact he learned from Aristotle himself that it is possible to solve the exegetic problems by simply changing the punctuation (and with it the syntactic links within the sentence);\(^{151}\) his own commentaries show how often he used that method. The liberty to change syntactic links by the transposition of some words might be regarded as a simple extension of the same method, and so not arbitrary.\(^{152}\) In this way might come about the causality of the agent intellect with respect to the human intellect.

This methodological introduction entails the following practical imperative for the exegesis. Alexander’s sources have two components: Aristotelian corpus and some other literature (including the works of his predecessors in his own school, the work of other schools, ‘past masters’ like Plato, doxography). The first of these sources can be

\(^{147}\) Op. cit., p.XXXII and notes 90-92. AD note that even if these methods were not given a formulation by Alexander himself, they were stated quite explicitly by Porphyry, and used by the later Aristotelian, Platonic and Hippocratic commentators.

\(^{148}\) Ibid., notes 93,94.

\(^{149}\) AD, p.XXXIII, further : “Il de anima documenta abbondantemente questa situazione: anche la dottrina dell’origine dell’anima come forma o potenza conseguente alla mescolanza dei corpi presupone innanzitutto l’interpretazione - non importa poi che essa sia forzata - di un testo dello scritto psicologico di Aristotele (i.e. \(D\) 4 4: 408a24-28). La seconda spiegazione dell’eco, che può a prima vista sembrare una trovata originale di Alessandro, presuppone in realtà un testo dei Problemi. E il curioso accenno all’anima degli dei che si legge a 28,27...ha il suo ottimo fondamento testuale in particolari minimi del linguaggio aristotelico che Alessandro non si è lasciato sfuggire. Nei limiti del possibile, dunque, Alessandro interpretava tutto quel che c’era nei testi di Aristotele e si fondava sempre su testi del maestro”.

\(^{150}\) AD, p.XXXIV. This is why the commentaries sometimes can be used as independent witnesses of the original text.

\(^{151}\) Ibid., n.100, AD cite Poet. 25: 1461a24; Rhet. III 5: 1407b13seqq.; Soph. elench. 4: 166a35-38.

\(^{152}\) Ibid., n.101, AD suggest that Alexander might have read the text of \(D\) III 5: 430a14-15 ordering the words as follows: καὶ ἐστὶν ὁ μὲν τοιοῦτος νοῦς τῷ πάντα γίνονθαι ὡς ὁξις τῆς, ὃ δὲ τῷ πάντα ποιεῖν οἶνον τὸ φῶς.
regarded as largely known, while the second is largely unknown. The way in which these sources were used was defined of course by his own scholarly and polemical context. Therefore the exegesis should begin with reconstructing the structure of Alexander's argument first, so as to see what kind of source is likely to be in use in each case.

1.8. Some recent discussions.

Alexander's grounding of psychology in physics has been getting more attention recently in connection with the discussions of Aristotle's concept of the soul. The main problem however relates to the question raised by Moraux: is his conception of the soul a correct interpretation of the Aristotelian theory? I only review the articles that have conclusive statements related to the general problem, leaving aside many more specific studies of the sources whose bearing on the discussion in the long run should arguably be greater than it may seem.


H.M. Robinson in his article\textsuperscript{153} deals with Alexander's theory of form because he thinks that it corroborates the view that "the form of a body cannot be in any part immaterial"\textsuperscript{154}, shared by many Aristotle scholars today. Robinson thinks that this "reductive conception of form", which "in the ancient world ... is paradigmatically found in Alexander of Aphrodisias" agrees well with the doctrine of strict separation of the agent intellect from the human faculty, and argues for the alternative, "more metaphysical", interpretation of Aristotle's form\textsuperscript{155}. Robinson explains that "the anti-metaphysical view of form is that a form is just an aspect or property of an individual substance", adding that "Aristotle, of course, would never talk of a substantial form as if it were a property of an individual substance"\textsuperscript{156}. He then suggests that Alexander does not really think that form and matter are strictly to be called

\textsuperscript{153}H. Robinson, 1991.
\textsuperscript{154} Robinson, op.cit., p.208. Probably Robinson implies that Alexander is responsible for this notion of form.
\textsuperscript{155} Ibid., p.210: "Right from the beginning of the \textit{de anima} Aristotle affirms that the soul is the form of the body and that it remains to be discovered whether all faculties of the soul are embodied. It never seems to cross Aristotle's mind that the doctrine of the soul as form of the body strictly requires that the soul is embodied in all its parts. It follows that either Aristotle was very obtuse about the basic features of his own concept of form, or that this concept is fundamentally different from that attributed to him by those who deny that any part of the bodily form could be non-bodily. Suppression of the doctrine of the immateriality of the intellect would merely serve to conceal this difference in interpretation of the concept of form".
\textsuperscript{156} Robinson, op.cit., p.214.
substances\textsuperscript{157}. Further Robinson analyses Alexander’s notion of a complex form and concludes that “form is just a particular dynamic set of properties of its proximate matter, and that the proximate matter should have these dynamic properties is pretty completely explained by its composition”\textsuperscript{158}. Robinson thinks that this reductionist view should commit Alexander to some version of a “harmony” theory, and finds his arguments against this theory “not convincing” and his position “ambiguous”\textsuperscript{159}. He thinks that Alexander tries to draw a distinction between “structural organisation and dispositional properties”, and says that the crucial question is “whether the dispositions flow from the structural properties or are somehow brought from outside”. On the basis of Alexander’s examples\textsuperscript{160} he concludes that he is not decided on this issue. He sums up Alexander’s position in two theses: form is the logical aspect of substance (the latter understood as the primary substance of the \textit{Categories}); the properties of compounds are explicable from the properties of their parts\textsuperscript{161}. “This leaves no scope for the form of a body having a disembodied part”\textsuperscript{162}. Robinson’s defence of the “metaphysical” conception of form is based, at least in part, on a particular view of Aristotle’s evolution from the \textit{Categories} to the middle books of the \textit{Metaphysics}. The cause of this evolution is the necessity of explaining the application of the “universal” secondary substances of the \textit{Categories} to the individual primary substances. Aristotle’s solution of the problem is the theory of the immanent form. Alexander’s position is “to deny that there is any need or possibility of an \textit{in re} explanation of the applicability of the universals”, so that “the concept of individual could remain basic”\textsuperscript{163}. To illustrate the difference between Alexander and Aristotle with respect to the reductionism, Robinson cites the passage from \textit{Met. IV} that was quoted by Donini 1971\textsuperscript{164}, and Balme’s excerpts from the \textit{GA}\textsuperscript{165}, where Aristotle’s explanation is “emphatically ‘top-down’”\textsuperscript{166}. After arguing against the two reductive tendencies in the interpretation of Aristotle’s notion of form, Robinson turns to the defence of the two respective positive claims: “(1) individualised forms are

\textsuperscript{157} Robinson, \textit{op. cit.}, p.215. But in this Robinson relies on Fottini’s translation that renders the first \og ωςια\fg at 6,4 as “substantial principle”, which, as Sharples 1993, p.88, rightly points out, should be just “substance”. So, his conclusion “Alexander is saying that, strictly speaking, the composite is the true individual substance, and form and matter are fundamental conceptual aspects of it” (\textit{op. cit.}, p.215) still needs an argument.

\textsuperscript{158} \textit{Ibid.}

\textsuperscript{159} Robinson, \textit{op. cit.}, p.216.

\textsuperscript{160} Of the lyre at 25,1 and of the medicine at 26,1.\textit{Br.}

\textsuperscript{161} \textit{Ibid.}, p.217.

\textsuperscript{162} Robinson, \textit{op. cit.}, p.218.

\textsuperscript{163} Robinson, \textit{op. cit.}, p.220. This is Robinson’s description of Quine’s position, and he adds that “Alexandrian interpretation of the relation of form and individual is not Aristotle’s” (\textit{Ibid.})

\textsuperscript{164} See above, 1.3., p.25, n.48.

\textsuperscript{165} “Heat and cold may make things hard, soft, tough, brittle, with all the other affections that belong to living things, but cannot go so far as to grant them the definition in virtue of which one is now flesh and the other bone” (734b31-34) “Nature uses both heat and cold, which have power by necessity to do this and that but in things that come to be the cooling and heating take place for an end... they make flesh soft partly by necessity and partly not by necessity but for some end” (743a36-b4).
ineliminable objects of reference; (2) individualised forms are ineliminable components in explanation." The first argument is not strictly relevant for the present discussion. The second one states that things are organised in a particular way in virtue of forms, rather than forms being due to a particular organisation. The important point of Aristotle’s doctrine that, according to Robinson, precludes the symmetry of the relation of dependence is that “no matter at all is required for the operation of the purely intellectual, and hence of any form or part of a form which is purely intellectual.” Robinson reviews Aristotle’s scheme of generation and states that all the faculties, including the “immaterial” ones, are contained within the semen, so that “the fact that it is human semen is enough to guarantee that, other things being equal, another member of that species, with all its faculties, will result.”

R.W. Sharples in his review of the volume notes that though Alexander speaks of simpler forms as contributing to more complex ones, “it is not clear that he himself sees forms as reduced to something like a property which things have in virtue of their material constitution.” He seems to think that the tenor of Alexander’s discussion is suggested by the context: “Alexander is arguing against the Stoics that matter and form are not two distinct bodies. He himself insists that it is the form of each thing that determines its nature (7, 4-8 Br.); and when he likens form to a boundary or limit (17, 12-14 ibid.) the limit may be intended as defining that which it encloses, not as just ‘an aspect’ of it (R., 223)” Sharples emphasises that even though Alexander explains the differences between the natural kinds by different material composition, “this is after the general notion of form has been introduced” and the thesis that different forms require different matter is commonly regarded as Aristotelian. Sharples formulates the problem in the following way:

The real issue (cf. R., pp.222-3) is whether material composition or structure is not only a necessary but also a sufficient condition for the differences between those forms that require matter, and whether the view that it is constitutes the main obstacle to supposing that there can be a form part of which requires matter and part of which does not.


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108 H.Robinson, *op.cit.*, p.223: “...Rather than thinking of form as an aspect of a body, we should think of a body as what exists when a form is individualised in matter made from the elements”.
109 *Ibid.* Cf. further: “Unless the matter contributes to the operation of the form, there is no sense in which it is the matter of that form”.
111 Sharples 1993.
112 Sharples 1993, p.87.
Sharples in his article\textsuperscript{175} issues a methodological warning: not to take the shifts of familiar accents to be departures from Aristotle\textsuperscript{176}. This is of course quite plausible: the corpus is vast and the methods of exegesis are many (after all what is familiar to us might historically turn out to be a departure). Sharples draws on some evidence of Alexander's "orthodox" views on the problem of the form\textsuperscript{177}. Sharples analyses Alexander's account of generation as preserved by Simplicius\textsuperscript{178}, which was discussed by Accattino, who concluded that Alexander's view of generation was materialistic because he put more weight on the form as the "output" of generation than on it as the input of the same\textsuperscript{179}. Sharples points out that nothing in Simplicius' report is in conflict with the Aristotelian notion of generation as transmission of form by the father. He notes that Simplicius at that point contrasts Alexander's view against the Platonic one, which "tends if anything to enhance Alexander's Aristotelian credentials"\textsuperscript{180}, and that explanation of a process from the result rather than from the beginning is a feature of Aristotle's teleological approach\textsuperscript{181}.

1.8.3. Accattino 1995.

P.Accattino\textsuperscript{182} suggests an interpretation of an initial section of the treatise, to the details of which I shall return later, and argues against P.Moraux's (1942) claim that the theory that Alexander presents is that of generation of the soul. Accattino regards the part of the treatise 2, 10-11, 13 as a single argument intended as a response to the "difficulty" stated at 2, 15-25, which he considers to be a challenge addressed by Platonists to the Peripatetics\textsuperscript{183}. Alexander tries to meet the challenge and formulates the theory that would show explicitly how the material constitution of a living body could be adequate for its possession of the functions beyond the strictly material level. Accattino thinks that in formulating this theory Alexander is generally in agreement with the main points of

\textsuperscript{174} Ibid.
\textsuperscript{175} Sharples 1994.
\textsuperscript{176} "It is one thing to recognise that Alexander's emphasis is different from Aristotle's, and another to suggest that his views are actually inconsistent with Aristotle's." (Op.cit., p.164).
\textsuperscript{177} "Even while developing this analysis, Alexander insists that it is the form of each thing that determines its nature and argues that form (and matter) are substances in their own right, not just because they are parts of the composite substance. ...A number of texts attributed to Alexander argue that soul is not in body 'as in a substrate', that is in the way in which one thing can be in the other separately existing thing; for the organic body of which th soul is the form cannot exist as such in the first place without soul". (Op.cit., p.164 and notes 4-8).
\textsuperscript{178} in phys. 310, 25-311, 19.
\textsuperscript{179} Accattino 1988.
\textsuperscript{180} Sharples 1994, p.168.
\textsuperscript{181} Sharples, op.cit., p.169.
\textsuperscript{182} Accattino 1995.
Aristotle’s theory, even though many of the points he makes are in fact innovations. In the end of his paper Accattino takes the issue of the generation of form in Aristotle, and shows that Aristotle himself uses the verbs γίγνεσθαι and ἐπιγίγνεσθαι to describe the relation of form to its constituent matter\(^{184}\). Accattino argues that the same pertains to the expressions γενέσθαι, used by Alexander not to refer to the process of generation, but rather as a tool for the distinction between the being that is derived and being that is irreducible\(^{185}\); and κοινόν εἴδος (7, 21 sq.), that does not signify the "generation of common form" (Moraux 1942, p.131), but rather indicates that the forms of the components contribute to the form of the whole compound.

Accattino concludes by suggesting that Moraux has mistaken the theory of the initial part of de anima for an exposition of the process of generation, based on the principles of Aristotle’s physics, starting from the simple bodies and their aggregation into the composites, all the way up to the soul. He claims that the first eleven pages of the de anima are not an exposition of a dynamic process, in which the matter “se donne à elle-même un principe vital” (Moraux 1942: 34), but the static picture, which presents an internal bipartition.

Da una parte stanno i corpi semplici, dall’altra i corpi composti - ma in ultima analisi soltanto i viventi. Tra le due sezioni del quadro Alessandro ricostruisce una precisa rete di corrispondenze in modo da far ritrovare tra le forme dei primi proprietà analoghe a quelle dei secondi. Il tutto è finalizzato a mostrare che la forma, e quindi anche l’anima, non è né più né meno che la δόμαμες di quel particolare tipo di corpo - semplice oppure più o meno complesso - di cui è forma (ibid.,p.201).

Apparently, Accattino thinks that this theory is a scholastic innovation which is not in conflict with any aspect of Aristotle’s theory of the soul.


The most recent article, by V.Caston, gives a new turn to the whole discussion that may be consequential for Alexander-studies\(^{186}\). Caston develops the typology of epiphenomenalism, by distinguishing the positions taken by different epiphenomenalist theories to the two main “generic” claims of epiphenomenalism: supervenience of the

\(^{183}\) On this below, ch.3.

\(^{184}\) Accattino, op.cit., p.198. As a further evidence of Alexander’s awareness of the problem, Accattino cites Alexander ap.Simpl. in de cael. 578, 20, where he says that there is no generation either of matter or of form, but the generation is of the whole thing, and that is what comes into being and passes away. (Accattino, op.cit., p.199).

\(^{185}\) Accattino, op.cit., p.200.

\(^{186}\) Caston 1997. I am grateful to Prof.Caston for allowing me to use this article before it was out.
mental and "mental causality". He characterises Aristotle's theory of the nature of the soul as tending toward the emergentist solution, without an explicit commitment to the supervenience thesis, argues that the tendency of the post-aristotelian Peripatos (Dicaearchus and Aristozenus) was to reject the mental causation, and describes Alexander's position as a "return to the orthodoxy". Alexander, according to him, is giving clearer expression to Aristotle's main tendency by claiming his commitment to the supervenience thesis.

1.9. Conclusions.

The diversity of critical views on the beginning of de anima indicates that the "signal fire" made by Moraux in 1942 was probably not a false alarm. Moreover, his theory of form turns out to be of great interest for current discussions of Aristotelian doctrine of the soul. For that reason it is important to have a clear conception of this theory. The goal of this thesis is to clarify the premisses and the background of Alexander's argument, by means of analytic exposition. It has been noticed, in the review of AD, that there are two kinds of sources underlying Alexander's work, of which the exegetes should be aware. AD have also told us about the ways in which Alexander dealt with the exegetic problems. At this point two more methodological qualifications are in order that have to do with the character of Alexander's literary production. The first one is a matter of philosophical style: Alexander is a 'schoolman', a head of philosophical school, and the main form in which his thoughts are expressed, is an argument. An argument then should become the main unit of analysis, whereby the use of the sources will be derivative. Thus the goal of this work is largely the detailed statement of the argument that Alexander develops for his theory of soul as form.

The second qualification has to do with exegetic orientation of Alexander's teaching: his goal is to give a consistent exposition of the main concepts of Aristotle even if they show tensions. We have seen in the review of the AD that Alexander developed several strategies of dealing with the exegetic problems. In order to understand a

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187 The classical epiphenomenalism, according to this scheme, would hold both the supervenience and the causality theses in their strong forms (token-supervenience, and token-causality); the "contemporary epiphenomenalism" would keep the "supervenience" thesis, but claim the inefficacy of the mental. Then there is the counterpart of the contemporary epiphenomenalism that accepts the supervenience and accepts partial efficacy; and finally, the emergentism, which involves, according to Caston, the stronger version of the second claim, which he calls "downward causation": some of the effects of mental causes "lack a complete physical cause".

188 See chapter five.
189 Cf. Sharples 1997, p. 295: "Alexander... is in the centre of the contemporary debate about the correct interpretation of Aristotle".

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solution it is good to have some idea of a problem. So, in the next chapter I outline the exegetical problem that Alexander was challenged with in the Aristotelian theory of form.
Chapter 2. Aristotelian sources of Alexander’s theory of form.

The discussion of Alexander’s *de anima* in the literature has been mostly centred on the question of how true it is to Aristotle’s hylomorphic theory. But what exactly is Aristotle’s hylomorphic theory, is still open to debate in the contemporary literature. For that reason, prior to evaluating Alexander’s overall relation to Aristotelianism, it will be useful to look at the evaluation standards in the light of the contemporary discussion, which turns out to be one of the liveliest in the field. Accordingly, in the first section I attempt to identify the points of consensus and the nature of the problems that modern interpreters of Aristotle’s notion of soul as form are trying to solve. It seems to be a common assumption that the notion of soul as form should satisfy the two principal theories developed by Aristotle: ontology of form-substance of the central books of *Metaphysics* and physics of change as developed in the *Physics* and, in part, in the cosmological treatises. The debate itself has to do more with the best strategy of reconciling the differences between the two theoretical approaches.

Following the suggestion of Prof. Granger, according to which the notion of form in Aristotle’s system should be regarded in close relation to the conception of generation, I consider, in the rest of the chapter, the notions of form and matter underlying three different models of generation: the “replacement” scheme of change of the first book of *Physics*, the ‘elemental transformations’ of the *GC II*, and the ‘substantial’ generation of *Meta. Z* 7-9.

2.1. Contemporary interpretations of Aristotle’s concept of form.

Prof. Granger in his excellent study of the problem gives a synopsis of contemporary views on Aristotle’s notion of soul as form. The major problem is that form seems to have no clear categorial affiliation, occupying an intermediary position somewhere between “property” and “substance”. Contemporary interpretations of Aristotle’s theory of the soul tend to be polarised, in accordance with this ambiguity, into the “attributivist” and “substantialist”, with vast “grey areas” between the poles that may be occasionally shared by the representatives of each tendency.

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1 Granger 1997.
Attributivist interpretation, which holds that soul is defined by Aristotle as a property, or disposition, of a body, is on the whole more widespread in the literature. \(^2\) Granger thinks that the best case for this interpretation is provided by Aristotle's hylomorphic theory of a sensible substance. The doctrinal points most frequently used as the evidence for "attributivism" are:

1. Aristotle's treatment of matter as "subject" and form as "predicate", whereby properties and kinds serve as paradigmatic examples of predicates.\(^1\)

2. Universal character of form (predicated of many).\(^4\) This evidence is not sufficient by itself, as there also are passages in which form is said to be particular, e.g., most obviously, *Metaph.* Z 13. The theoretical adjustment that attributivists have to make involves a non-standard explanation of a particular attribute as a "trope".\(^5\)

3. The definition of the soul in *de anima* II 1 in relation to the body is read as making soul dependent on body. In *de anima* II 2 Aristotle says that soul is form of the body, which makes the attributivist interpretation of the form seem appropriate. The body is regarded as "subject" and "something", while the soul is "something of a body". Aristotle's illustration of the notion of the "first entelechy" with the example of someone who has knowledge but is not using it at some given time, is interpreted as "attributivist" understanding of the soul as a "disposition" of a body. The description of the soul as δούλος and ἄρχη (of plants) amounts to the same construal of the soul as a property and disposition.

4. Aristotle's critique of the Pythagorean notion of soul as thing in *de anima* I 3 (407b13-26) can also count as an evidence that Aristotle himself holds the opposite view and regards the soul as a property of thing rather than as a thing.\(^6\)

5. The "Rylean" passage of *DA* I 3: 408b1-18', where Aristotle denies that soul is an agent. This is regarded as the best evidence for soul's being less than a thing, hence a property.

A difficult case for attributivism is Aristotle's critique of the "harmony" theory of the soul, which seems to imply

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\(^1\) Most frequently cited passages: *Cat.* Ia20-29, lb25-2a4, 3a22-24, *de int.* 17a39-b1. Form as the predicate of matter: *Phys.* 190a31-b5; *Meta.* 1049a27-36; 1038b4-6; 1043a5f; 995b35, 999a33, *DA* 412a17-19. For the discussion of the evidence see Granger p.15 and note 2.

\(^2\) Even though this is an estimate mostly of its critics: Granger, *op. cit.*, p.8.

\(^3\) Armstrong 1989, p.16. For the overview of positions in the debate of particularity/universality of form with regard to Z 13 see Granger, p.9, n.16.

\(^4\) *de int.* 17a39, *Meta.* 1038b35-1039a2; 1039a14-16: contrast between τάδε τι and ταίνωδε.

\(^5\) Granger, *op. cit.*, p.18, notes that *Metaph.* Z 17: 1041b11-fin. can be regarded as an argument for the "categorical asymmetry" between thing and property, which may be taken as corroborating the attributivist interpretation of the psychology. Granger, *op. cit.*, p.18.

\(^6\) Named so by Barnes 1972, p.103 (repr. 1979, 33).
that soul is more than just a property of a collection of objects.8

The attributivist interpretation of Aristotle goes some way back in the tradition. Granger ascribes it to R.D.Hicks and W.D.Ross who adopted it in their commentaries on de anima; more recently it has been explicitly suggested by Barnes9.

Granger develops a "taxonomy" of attributivist teachings, dividing all the "attributivist" theories into the realist and rationalist10: the former includes all the functionalist interpretations of Aristotle's psychology, i.e. those that treat of the psychic capacities as functional states of the matter of a living body11. The latter includes the "dispositionalism", free from the assumption of a "categorical basis" of dispositions12.

"Substantialism maintains that the mind (or soul) is a thing or a 'substance', and something possesses a mind because of its relationship to the 'thing' that counts as mind"13. Substantialists are much fewer in number, but their case also relies on credible evidence, and moreover, their influence is growing. The most common evidence for substantialism includes:

(1) Aristotle's notion of form-substance14. *Meta.Z*, particularly, Z 17 provides a strong case for a substantialist interpretation of the notion of soul as form. The fact that it is the ontological significance of the form that makes it a substance allows this case to stand, despite all the other evidence for attributivism15.

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8 Granger cites Lawson-Tancred 1986; Charlton 1985. See chapter 5 below.
9 Hicks 1907; Ross (1961:212 ff.); Barnes, op.cit., p.113 (41): "Aristotle thus emerges as a fairly consistent upholder of an attribute theory of mind; and that, I suggest, is his greatest contribution to mental philosophy".
10 This division follows from a more general classification of the views on the nature of dispositions, which includes "realism", by which term Armstrong 1968 (85-88) designates the theories that hold that dispositions must have as a basis for their existence the non-dispositional, 'categorical' properties (the dispositional property of solubility of sugar in water has as its categorical basis "the molecular structure of the sugar" (Granger, p.29)); "phenomenalism", the position of G.Ryle, according to which the dispositions do not need a categorical basis; on this view two objects with identical categorical properties may differ in dispositional properties, and the latter may not have any causal role in the explanation of their own manifestation (Ryle 1949: 43, 45, 117-125); "rationalism", the term of J.L.Mackie (1973: 142-145), referring to the theories which regard dispositional properties as causally significant, but do not require the categorical basis for the dispositions. "Realism" and "rationalism" are represented in the interpretations of Aristotle's theory of the soul. The former comprises all the functionalist interpretations; the latter the non-functionalist attributivist interpretations. For the detailed rosters of both sects see Granger, 29-56.
11 Granger lists E.Hartman, M.Nussbaum, K.Wilkes, S.M.Cohen and M.Wedin; but see p.31 and notes for the qualifications. He remarks also that some of the "substantialists" support take the "functionalist" view: ibid., p.32, n.17.
12 These are the critics of functionalism: M.Burnyeat, A.Code; also M.Frede, D.Charles, D.Modrak. See Granger 1997, pp. 44-56.
13 Granger, op.cit., p.12. Granger explains that thing is to be understood as "the type of entity that makes up the reference of a sortal or count-noun expression, the kind of expression that divides its reference among discrete, countable particulars. Things are the types of entities that provide the subjects of first-order properties or typically provide the values of the variables of the first-order predicate logic" (Granger, op.cit., p.57).
14 Shields in OSAP 1988: difference between form as substance and form as attribute. Granger (ibid.): substancehood does not imply thinghood as defined above.
(2) Active mind mentioned in DA and in GA as possibly separable entity\textsuperscript{16}.

(3) Particularity: Aristotle speaks about the soul or form as of a particular object\textsuperscript{17}. The centrepiece of this evidence is *Metaph.* Z 13 (1038b9sq.)\textsuperscript{18}

(4) Identity of the form with its object. *Metaph.* H 6 (1045b18): "the ultimate matter and the form (μορφή) are one and the same"\textsuperscript{19}.

(5) Subjecthood\textsuperscript{20}. The ontological import of the notion of subject is first explored in the *Categories*, where Aristotle distinguished between the two types of substances, primary and secondary (2a11-19). The criterion of subjecthood is applied within the hylomorphic approach to the substance analysed as a compound of form and matter, in *Meta.Z* 3\textsuperscript{21}.

Granger cites also *Meta.H* 1 (1042a26-31) as a more important evidence for the subjecthood of form\textsuperscript{22}.

Granger's taxonomy for the substantialism includes the following positions:

1. The "kind dualism" of Sellars (1957; 1959): form and matter are "thing-kinds" (Russell's 0-type objects); but they are token-identical.

2. The "constitutionalism" of D. Wiggins (1967)\textsuperscript{23}: the relation between the soul and the body is explained not as that of identity but as that of constitution. Body "is" soul, but not in the same way in which soul "is" body.

3. The position that combines some principles of the previous two: form and matter, resp. soul and body, are token-identical, but different in kind, and matter constitutes form. T. Irwin (1988) upholds the theory of "two bodies": the 'organic' or 'proximate' body, which is identical with the soul in the strongest sense; and the 'remote', or 'non-organic' body, that constitutes the proximate body\textsuperscript{24}.

4. The supervenient dualism of C. Shields who denies the claim that body constitutes the soul. Shields explains supervenience in terms of property-supervenience, and regards the soul as "supervenient substance".

\textsuperscript{16} DA III 5:430a10sq.; GA II 3: 736b28.

\textsuperscript{17} Albritton 1957 (response to Sellars 1957 who thinks that there is no particularity of forms); Frede 1985 and Frede-Patzig 1988; A.C.Lloyd 1981.


\textsuperscript{19} A.C.Lloyd 1981, pp. 31-35, infers from this that substantial forms are particulars. T. Irwin (1988: 217sq.) argues for thinghood of form on the basis of its particularity. (Metaph. Z 4: 1030a10; Z 6 1032a5). Granger notes that the nature of this identity is far from clear (p.63). In *Meta.H* 6 it is qualified identity. Granger calls attention to the expression "somehow one" in the identity statement at (1045b21). Granger: *DA* 2.1. (412a27) suggests that "identity" can be put in terms of the instantiation of a property.

\textsuperscript{20} Shields 1995, Granger 1995.

\textsuperscript{21} A summary of controversy over the notion of subject in Z 3 in Granger p.66.

\textsuperscript{22} Ibid.

\textsuperscript{23} See Ackrill 1972 for the summary and objections.

\textsuperscript{24} Granger, *op.cit.*, p.95. On the history of the “two-body” view see Granger, *op.cit.*, p.94, n.16.
Having analysed the two described tendencies, Granger suggests his own view of the problem of soul. He states that the notion of form in Aristotle's writings is genuinely ambiguous. His verdict on this concept is quite hard:

"...Soul or form gives the impression of being a hybrid sort of entity, or a confused combination of thing and property, as if it were a kind of "property-thing" or "power-thing" - for want of better descriptions - which shares essential features with both the nature of a property and of a thing. There is, however, no great mystery about the soul as 'property-thing', and it is just what it appears to be. It is not some helpful conceptual innovation, hitherto undiscerned by us, or something to be credited to some alien conceptual scheme we are hopelessly prohibited from appreciating. The 'property-thing' is simply an incoherent idea, an illegitimate blend of categorically distinct features, a mere 'category-mistake'." 25

Still, he thinks, each of the two parts of the "centaur"-concept taken separately is based on a coherent set of theoretical assumptions worth tracking down.

"A diagnosis of the 'property-thing' can be accomplished by tracing its attributivist side to one influence upon Aristotle's conception of form, his hylomorphic doctrine, and by tracing the substantialist side of the 'property-thing' to another influence upon his conception of form, his idea of efficient causality as a kind of causal agency". (Ibid., p.134)

Granger wants to de-emphasise the "subjecthood" criterion for the substantialist view of form26, and shifts the accent to the role of form as an efficient cause. He considers several texts in which the "efficacy" of form seems to be emphasised by Aristotle. Considering the text of Meta. Z 17, where a distinction is drawn between the material components and the form, he (rightly, I believe,) concludes that the notion of property does not have sufficient strength to account for the substantial unity, but wants to formulate this result in terms of the efficient causality, instead of formal, and arrives at the claim: "properties are not efficient causes in the modern sense in which a causal event is an efficient cause"27. Here two cases seem to be run together: in the modern sense, properties may be efficient causes, if they are regarded as generalisations over causal events. But in Aristotle properties per se cannot be efficient causes, because they are incomplete entities, while efficient cause has to be instantiated in a real agent. Properties may have causal efficacy as aspects of the agents, but it is the agents possessed with properties that should be referred to as causes.28

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25 Granger, op. cit., p.134. I return to this charge in the next section.
26 On this see the last section of this chapter.
27 Granger, op. cit., p.119. This does not sound convincing, even disregarding the anachronism of applying "our" concept of efficient cause to Aristotle. In contemporary scientific explanation an event is defined as causal with respect to a particular frame of reference, so there is a way to regard it as a realised property of a system. In Aristotle, the essence of a substance can be regarded as setting sui generis frame of reference (derivation of properties in the syllogistic is based on the correct definitions, i.e. essences, of the terms). For 'events as property exemplifications' cf. also Kim 1993, 33-52.
28 Cf. the 'Rylean' passage of DA I. Granger's interpretation of Aristotle's example of nutritive soul as an agent in which all the three types of immaterial causes are brought together (PA 652b7-16; Granger, op. cit., p.123), seems to downplay the formal causality. The GC II 9 is about efficient causality, but does not reduce formal causality to efficient, as it might be concluded from Granger's discussion. Movement of the ecliptic is presented by Aristotle as efficient cause, without mentioning formal causality.
Granger's diagnosis for attributivism is more promising, not so much because it relates attributivism to hylomorphism, but, more importantly, because it relates the hylomorphic view itself to the doctrine of generation. Granger argues that Aristotle's hylomorphism, based on his theory of generation, supports the "attributivist" interpretation of the soul as a dispositional property. The brief account of change in the *Categories* concerns the process that a substance undergoes when it changes its properties. Granger argues that the hylomorphic analysis of a sensible substance in the theory of generation in the *Physics* is based on the same kind of "property-replacement" model, in which form is more like a property, and thus hylomorphism taken on its own would yield simply attributivist conception of form. But since Aristotle meant to give a theory of generation applicable even to the substantial generation, he enhanced the notion of form by stressing its role in the efficient causation. Granger seems to regard this as a result of Aristotle's inability to conceive of an event rather than thing as the source of change. An additional factor that facilitates the adoption of the concept of "thing-property" is the traditional notion of elements as "quality-things" that has been preserved by Aristotle with some modifications. Granger concludes his review of evidence with the notion of soul as substance in the *Eudemus* and *Protrepticus*. He also suggests that the language of substantiality might have been a leftover of the early "substantialist" ontology of the *Categories*. Granger's conclusion is that Aristotle's conception of the soul as 'property-thing' does not translate simply into either substantialism or attributivism, and we must have recourse to the ontological categories of both these views, of thinghood and of attributivity, in order to render the basic features of his idea of the soul. (P.156)

The same kind of correction applies to Granger's discussion of the passages from *GA* (*ibid.*, p.127): the whole animal has to be present in order for nature to work. The same pertains to the discussion of locomotion in the *MA*. As for the instrumentality (*ibid.*, p. 128), the passage from *DA* I 3 can be understood as the critique of substance-dualism rather than a complicated inference of substantiality from causality. In the passage from *DA* II 4 415b15-20, ἰδιωτικὰ σώματα may refer to the "homoiomerous" (or at any rate, "constituent") bodies, and so to the aspects of a whole living being rather than to itself as a full-fledged agent.

30 Granger, *op.cit.*, p.139, bot.
31 Granger, *op.cit.*, pp.143-156, gives the analysis of texts which indicate that Aristotle means efficient causality to be essential to the form. The texts he discusses are: *Phys.* II 3 and 7, where the main stress is laid on Aristotle's definition of efficiency in connection with agency rather than event (pp.143-145) (on this argument see above); *Meta.* A.3-10, particularly 984a19-25; a 2: 994a5-8; *GC* II 9; *Meta.* H 4: 1044a35; b11. 14: for all these cases he stresses the objects and not the events as referents of the "efficient cause". This is followed by a group of texts in which the soul is spoken of as an agent. (p.147). On the basis of this Granger goes on talking about "the agency of form" in Aristotle (p.148, bot.), though in fact he had only demonstrated the "agent" nature of the source of motion.
32 Granger, *op.cit.*, p.148. This despite the discussion in *GC* II 9, where it is a particular movement that is the efficient cause of genesis.
33 p.149, ff. Cf.p.151: "Aristotle finds himself called upon, then, by the various demands of his chemistry to endow his primary contraries with a substantial-like character through his endowing them with the causal efficacy to act upon one another and also to be acted upon in turn". Granger, interestingly, suggests that analogy with these elemental qualities might have led Aristotle to thinking about the soul as thing-quality (*ibid.*, p.152, last paragraph), which can be compared with Alexander's theory, see below, chapter 3.
The conceptual difficulty is correctly outlined by Granger, but there are some points which need clarification. First, as has been argued, the notion of causal efficacy is never applied by Aristotle to the formal aspect of a thing, taken separately, but always to the whole thing, i.e. the material compound. That the form of the compound is ontologically more important, does not entitle us to reduce efficient causality to formal. So, if we, despite this, still consider the case of substantialism to be good, we have to produce some other grounds for it. Secondly, even from Granger’s account it is clear that Aristotle’s picture of generation is not as uniformly “attributivist”: his analysis of the elemental generation leads him to thinking of the elemental qualities as of “half-way substances”. as it were.

Granger makes several important claims, to which I am going to react in the following analysis, adopting some and rejecting some. (a) Aristotle’s treatment of form is attributivist as regards its dominant logic, but (b) for the special case of the soul it is enhanced with special causal properties, which make it look substantialist in several significant contexts. (c) Attributivist logic stems from hylomorphism, which itself (d) is a result of the “replacement” model of change used by Aristotle in his account of generation.

I adopt Granger’s thesis that hylomorphism and theory of coming to be are closely related in Aristotle’s system; but I shall try to show in the following that the relation never got a satisfactory theoretical statement in a uniform way. In fact, there are three different accounts of generation, all of them incorporating different aspects of hylomorphic view.

2.2. Hylomorphic problem in Aristotle’ accounts of generation.

By hylomorphism I shall mean, as it is standard, the view of a living being as a compound of matter and form, soul being form, and body being matter. The exact content of the “body” understood as matter, as well as the detailed interpretation of the doctrine, has been the subject of an ongoing debate. One might regard as the two extreme positions that of H. M. Robinson, discussed above, which assumes that hylomorphism should tolerate the notion of form that is in part immaterial; and, on the other hand, the view of B. Williams, according to which the notion of the soul is not required by the logic of the principle of hylomorphism as stated above, and is actually redundant.

35 The best testimony to the effect is Aristotle’s distinction between υόμορς and πόημας cited above.
37 B. Williams 1986. Williams argues that the term “soul” is used adjectivally, referring to a property of a living body, and is for that reason dispensable as a nominal expression. Going back to Aristotle’s claim that the dead body
However everyone agrees that Aristotle endorsed this kind of analysis and that it is an important part of the doctrine.

In the following three sections I shall consider the meaning of the term “form” in three different accounts of generation found in the Aristotelian corpus. The goal of this discussion will be to lay out the different ways in which Aristotle uses the notion of form in all the three, with a view to the difference between “form as substance” and “form as property”, which is the major tension and challenge for the systematic interpretation of Aristotle’s psychology. In most cases we are lucky to have the evidence of Alexander’s interpretation of these doctrines of Aristotle, so it is possible to talk about his sources in the full sense and not just hypothetically.

It is possible to distinguish three different theoretical models of generation which assume different notions of “hylomorphic” compound: the general account of generation and change, as given in the first books of the *Physics*; the theory of organic generation, developed in the biological treatises and founded on the theory of sensible substance of the middle books of the *Metaphysics*; and the special case of the elements as described in the cosmographic treatises. All the three accounts to some extent overlap, and share some general principles, while differing in scope.38 I am not dealing here with the problem of compatibility of all three in Aristotle, but only considering different meanings of the word “form” in different accounts of generation that Aristotle gives, trying to formulate the exegetical problems that Alexander might encounter.39

2.2.1. *Genesis I* (the nature of change).

The first group of texts to be considered is the parts of the *Physics* dealing with the general theory of generation. The notion of generation is introduced in the first book of the *Physics* as a rightful ontological counterpart to the

is called “body” homonymously, Williams suggests that a good theoretical notion of a living body (body with an in-built notion of living, which he terms ‘Body’) should do the full job of the concept of the soul. Williams compares the claims one could make about body-aspect of the soul-body compound and those which are true of a “Body”, and concludes that they are mostly the same. So, soul is dispensable. Still it seems that there remains a problem of the source of theoretical upgrading of the concept of body to the status of Body, since ‘body’ does not seem to provide the necessary descriptions. “It is perhaps not clear that hylomorphism needs, or has a place for, the idea of a soul. Perhaps hylomorphism might be better explained by saying that there was no such thing as the soul at all” (p.190).

38 Perhaps the clearest demarcation line is the one drawn between the elements and the substances in *Meta. Z*. But in the *Physics* itself the elements are considered as a somewhat special case (Cf. *Phys*.VIII 4, where they are said to be “quasi”-natural things, which do not have the principle of movement and rest in themselves (255a7sq.)).

39 Still less am I prepared to deal here with chronology of different theories of the *corpus* in general, and with any version of “evolutionary approach” to Aristotle’s philosophy in particular. This latter approach, while certainly interesting in other respects, is not directly relevant to the case of reception of Aristotle’s theory by the ancient commentators who clearly treated the corpus as representative of the single “catholic” teaching.
Pannenidean notion of being, at the level of the sensible things. The concepts of form and matter here depend on this general theory of generation. The hylomorphic compounds is regarded, particularly in book I, primarily as a generable structure.

In this section I show that the account of the Physics combines the “replacement” model of change with the features of the substantialist treatment of form.

2.2.1.1. The principles of change. (Phys. I)

In Physics I genesis is regarded in the most general sense, as “change”. Aristotle’s goal is to show that the characteristics of generable structure are not in contradiction with the logic of being per se, discovered by Parmenides (by which being can only be predicated of being, while of non-being one can only assert that it is not). This goal involves two important doctrinal developments. First, Aristotle “officially” expands the class of well-formed sentences by allowing a sensible thing to take the place of a subject in sentences where the predicate contains “being”. This logical step entails the reform of physics, such that would justify the logical status of the generable structure, giving it the same logical strength as the notion of being has in Parmenides’ theory. This leads to the second important development, which can briefly be described as the “replacement” model of generation.

It is possible to preserve the unity of concept in a case of the generable things, taking the factor of continuity separately from the factor of its structural unity (its “whatness”). In this way we don’t have to assume that a real thing perishes or comes into being if its description is changed, and on the other hand if the thing is gone or has not yet arrived, we can still sensibly refer to it in one of the unreal modes provided by the grammar, without running into the absurdity of predicating being of what is not. These two aspects, when taken together, provide the notion of coming to be (and accordingly of the things that come to be) with the ontological strength of Parmenidean being. The law of contradiction is not upset on the domain of sensible objects, which constitute the subject of study for the science of nature.

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41Aristotle’s analysis of the problem in Parmenides in Phys.I 3: 186a22-33 states, in particular, that Parmenides’ concept of being still leads to a problem of predicating.

42Solmsen suggests that Aristotle in fact applied his already discovered scheme of change to the analysis of generation. (Solmsen, 1960, p.82).
The central concept that allows carrying out this plan is adopted by Aristotle from his predecessors: it is the concept of antithesis. Everything comes to be from what it was not. The two extreme points of the process are some positive determination and its privation. These are the two principles of change. The third is "that which underlies", a thing which first is characterised with privation, and then changes it for positive determination.

This is what is often described in the literature as the "replacement" model of change, or generation. The final point of the process is taken to correspond to "form", and its initial point, in so far as it is related to its final point, with the term "privation". "Privation" is relative to "form", so it is form that really defines the antithesis. Form provides the kind of unity that was felicitously called by the scholars "vertical" unity: namely, it sets the direction of becoming. These aspects are complementary (separable only conceptually), and both are constitutive of the process of generation as a whole. The third principle that would ensure the continuity within the generable structure is the substrate that persists in the change, i.e. matter. It is a logical "buffer" between the two opposites, connecting them in one structure but at the same time preventing them from annihilation by supplying the kind of subject of which the two opposites can be regarded as aspects, without a contradiction. Think of a house under construction as a process between the formless bricks and the brickless form. "Form" stands for the form of the house, "bricks" for matter, and the grammatical suffix "-less" shows well the role that Aristotle reserves for privation.

Now, by the logic of the "replacement", "form", being a 'unit' of replacement, should be very much the same as "property". But there are several features of this account that show that things may be more complex.

First, it is to be noted that the term "form" first appears at a rather late stage of the argument, when Aristotle gives a summarising statement of the first principles of any generation. Before that the terms are referred to by means of "prepositional" technique and paradigms: τὸ γενόμενον (λευκὸν), τὸ ἐξ ὅλου, τὰ ὑποκείμενα. It is also notable that privation, in this discussion, is counted not as a counterpart of form in qualifying matter but rather as an accident of matter, as a necessary condition of the acquisition of form. It is not matter that is opposed to form and privation, as would be expected on the basis of the "replacement" scheme, but form that is opposed to matter under

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44 For which he uses sometimes εἶδος and sometimes μορφή.
45 The term of T.Maudlin, aptly used by M.L.Gill. (Gill 1989, passim)
47 This cannot be the case with the usual logical subject: the two opposites predicated of it, would yield a contradiction. In this case there is no contradiction, because predication of both being A and not being A about a certain substrate, asserts one thing only about it: that the law of its generation is that of a certain class A, and this is where it belongs.
48 Phys.I 7: 190b21: μορφή
a particular privative qualification. Thus the symmetry between positive qualification and privation, that was unquestionable in chapters 5 and 6, both at the level of simple properties and general principles, seems to be avoided when the term “form” is introduced. In the beginning of chapter 7 Aristotle draws a distinction between the analysis of the process of generation in simple and complex terms, which might suggest that “complex” analysis is obtained just by adding the “substrate” to the pair of opposites. But following upon this distinction of accounts are Aristotle’s efforts to define the meaning of substrate for different cases, which show that the ‘substrate’, rather than being an unqualified constituent that first gets qualified in the process of change, has to be understood as having a particular qualification even prior to the process of change. This might suggest that the form which is obtained by “replacement” of the privation is more than a simple (incidental) property, because it has to satisfy the condition of structural adequacy to the substrate.

That Aristotle often uses “a thing with properties” as an example of the subject of genesis need not mean that his chief concern in the theory of generation is the acquisition of properties. But the logic of change should work for the case of properties, and property replacement can provide a good model for this logic whereby the variable nature of aspects does not affect the “core” being; and, on the other hand, different series of generation are compatible and do not depend on one another, but all depend on the “core” being. A cultured man may become pale: this will be an ‘aspectual’ (colour), not “core” generation; and it will not be defined, nor restricted, by another aspect (education). So, it is the ‘logical’ nature of the project that makes Aristotle put substantial and non-substantial generations in one class. From the logical point of view the commonality of their structure presents greater interest than mutual differences, and the terms of this analysis of generation should be applicable to all the categories.

Aristotle says that genesis is spoken of in two senses: in the sense of becoming so-and-so, when the subject of genesis obtains a qualification, while preserving its own identity; and in the sense of coming to be, when the whole thing comes to be. Aristotle notes that there always is some pre-existent substrate, even in the second case, when it

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40 Phys. 1 7: 189b33:
Aristotle says that the substrate (τὸ ὑποκείμενον) is numerically one, but double as regards the form (εἴδη): it has an aspect of being and the aspect of deficiency. 190b24-191a6. It may be that the distinction between being and deficiency in the substrate does not exactly coincide with the distinction between form and privation in the model of change. We shall see this more clearly on the example of growth in the next part of this chapter.

51 188a33.
Aristotle makes the same point in all the other general accounts of generation that he gives, despite the theoretical differences between the accounts. Met. Z 7 init., GC I 3.
comes to the generation of the “whole things”: “like the sperm of a plant or an animal”\textsuperscript{53}.

The distinction between genesis taken broadly and genesis proper is made technical in book V, where Aristotle adds some “material” constraints on the common principles of change. He lists all the possible types of generation, according to the assertoric value of the predication and the direction of change\textsuperscript{64}:

(1) $A \rightarrow B$ (RED $\rightarrow$ WHITE: the only case of proper movement $= \kappaινηγοις$)
(2) $A \rightarrow \sim A$ (RED $\rightarrow$ NON-RED: proper change ($\muετα\betaλοη\muη\); but not proper movement).
(3) $\sim A \rightarrow A$ (NON-RED $\rightarrow$ RED: proper change, but not movement)
(4) $\sim A \rightarrow \sim B$ (NON-RED $\rightarrow$ NON-WHITE: not even proper change).

Aristotle explains that in the last case, there is no indication of a real nature of change: there is no proper class of generations which would correspond to this scheme. In the second and the third cases, the nature of change is clearer, but still this kind of transformation cannot be described by movement, because movement requires continuity in the substrate, which is not present in this case. The only generation that presents the proper case of movement is the first one, where both terms of a transformation are well-defined qualities of a substrate. Thus, the class of changes best suited for being described by “replacement” scheme is restricted to the case where the terms of change are contraries.

Another point important for Aristotle’s treatment of generation and form is his classification of methods by which “whole things” are brought into being:

“the processes by which things ‘come into existence’ in this absolute sense may be divided into (1) change of shape, as with the statue made of bronze, or (2) additions, as in things that grow, or (3) subtractions, as when a block of marble is chipped into a Hermes, or (4) combination, as in building a house, or (5) such modifications as affect the properties of the material itself. Clearly then, all the processes that result in anything ‘coming to exist’ in this absolute sense start with some subject that is already there to undergo the process”. (190b5-10, Wicksteed-Cornford transl.)

“Property acquisition” proper takes up only one-fifth of the list. The four other cases involve integral properties of mereological and organic wholes. It is not totally impossible, of course, to regard all of them as the complex cases of the same “simple property” model, but that would be artificial\textsuperscript{15}. Aristotle clearly wants to construe a simple property as a particular case of the integral property, and not the other way around. But integral properties are not quite parallel to simple properties: the continuity of their subject is more difficult to express. Again, Aristotle’s

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\textsuperscript{53} 190b4-5. As Prof. Sharples points out to me, this treatment of the seed differs from the theory of the GA II 3: 737a12 f., where the role of the seed in the animal generation is not regarded as that of matter. Either the GA theory has not yet been worked out at this point, or the $\iota\piοκειμενον$ has to be understood in a sense somehow different from ‘matter’ of hylomorphic theory.

\textsuperscript{64}Phys. V 1: 225a13 sq. The examples are mine.

\textsuperscript{15}And in some cases still incorrect: the process of house building is not a property-acquisition.
form has as its model something different from property conceived simply as an accident.

Alexander's treatment of form emphasises the ontological dimension, making his attributivism depend more on the main principles of the system than on the "replacement" model of generation. The relevant texts are *quaest.* I 16 and its slightly different Arabic version, and the fragments of his commentary on *Physics* preserved by Simplicius. The question that he addresses in *quaest.* I 16 is how to reconcile the two statements made by Aristotle in *Phys.* I 5: one saying that the primary opposites do not come from one another, and the other that they do come from one another. The difficulty that Alexander raises seems to concern the ontological status of the primary opposites, namely form and privation. He asks: how can they turn into one another, given that they are primary opposites? And they need to turn into one another in order for generation to be possible (otherwise, if they are always separate, things will be coming from them by juxtaposition and combination, but not by genesis and transformation). His answer to this question is:

...the reason that he says that the opposites do not come to be from one another is that they cannot come to be from one another in the way that [things come to be] from the things that admit of one another (for neither of the opposites does admit of the other), while it seems that everything that comes to be does come to be from something that admits of it. (28, 25-28, Sharples transl., slightly modified)

The primary opposites cannot underlie each other. But Alexander says that there is another way for them to come to be:

if they...come to be by change into each of them in turn of what underlies, nothing will prevent the primary opposites, too, changing into one another in this way and coming to be causes of coming-to-be for the things after them. (28,30-29,2. Sharples transl.)

This could strike one as a "Pickwickian" sense of generation, but it might result as a consequence from close reading of Aristotle's distinction between the simple and the complex accounts of generation.

Then there is a question, how the primary opposites are different from all the derivative opposites which also fit the "simple" account of generation. Alexander's reply is that the primary opposites differ from those that are not primary first by the fact that it is from them that all things that

54 *quaest.* I 16: Sharples 1992, pp.61-64; the translation of the Arabic version in the Appendix.
55 *Phys.* I 5: 188a27: ̂δη γάρ τὰς ἄρχους μὴτε ἐξ ἄλληλων εἶναι μὴτε ἐξ ἄλλων, καὶ ἑκ τῶν πάντα.
56 This, reasons Alexander, is what Aristotle's next argument amounts to. (*Phys.* I 5: 188a33-b8 and 188b23: ἐὰν τῶν τούτων ἐστὶν ἄλληλος, ἀπὸ ὁν ἔχειν τὸ γιγαντεῖν καὶ ἄμβλωτο τῷ ὑβερέμενῳ ἢ ἐξ ἐναντίων ἢ ἐκ ἐναντίων καὶ τὰ τούτων μεταβεῖ.)
57 The Arabic is different: 48,11 Bad.: "But he means with this saying, "the opposites do not come into being from one another", that an opposite is not at all like its opposite, as our saying has it: indeed the form is not like its privation, e.g. the heat does not come to be cold, nor does the cold come to be heat; and the moist does not become dryness, nor the dryness moist".
58 Aristotle distinguishes the two ways of accounting for this process: in simple and complex terms. The "simple" account involves just the analysis of the 'morphological' constituent of the process of generation, without a specific reference to the substrate of this process, while the 'complex' account assumes full analysis, covering also transformation of the substrate (189b32-190a5).
come to be so. For it is from some form and some privation that come to be in turn in the matter that all things have their coming to be and passing away, but not also from white and black and sweet and bitter or some opposites similar to these.” (29, 5-9, Sharples transl.)

The primary opposites provide a foundation for the transformations of the secondary opposites, but by that very token it is possible to speak about the genesis of the first principles as such. Alexander is obviously struggling with the characteristic difficulty of Aristotle’s system: even though the first principles do not exist apart from the things that come to be, they are primary and even are said to be eternal. Alexander here comes rather near to the realist interpretation of the first principles, setting them out as distinct from their instantiations.

The last problem that he addresses is related to the topic of his digression in the Physics commentary: how can the primary opposites be eternal? His treatment of this issue is interesting because in the course of it he outlines the full Aristotelian system of principles as he sees it. His systematic treatment of form in de anima should be understood in the light of this system.

The end of the Arabic version of quaest.1 16 differs from the Greek in its treatment of eternity. Alexander says, explaining the eternity of the primary opposites:

“Indeed, and we say: indeed, eternity is said in two ways: one of them, as something which does not cease to be in one state, having neither beginning nor end, [which is] impassive, does not change from one state to another, being the primary agent; and the other one, as something that does not come to be from something else, prior to it, but from which all the things come to be by way of its passivity and change, because [it is] not produced and not transitory.”

The eternity of the primary opposites is of the latter kind. This addition must come from an Alexandrist source rather than from the translator, because Alexander gives a similar treatment of principles in his commentary on Physics 1 6.

In the beginning of this chapter Aristotle discusses the optimal number of principles to be adopted:

“They cannot be one, since opposites are not one and the same; and they cannot be unlimited, since if they were, what is would be unknowable, since there is one opposition in any one kind of thing, and reality (οὐσία) is one such kind, and since we can get on with the limited number, and it is better to use a limited, like Empedocles, than an unlimited. Empedocles claims to do everything Anaxagoras can do with his unlimited plurality. Further, some pairs of opposites are prior to others, and some, like sweet and bitter, pale and dark, arise from others, whereas principles ought to be constant”. (Charlton transl.).

61 49, 16-22 Bad. For translation, see Appendix II.
62 189a11. Alexander, characteristically, interprets this text as saying that there is one genus of substance which comprises the sensible substance, the form and the matter; and that οὐσία signifies the substance as a hylomorphic compound. Simplicius, followed by Wicksteed and Cornford, gives a less speculative interpretation suggesting that ἐν is used by Aristotle here in the enumerative sense; and οὐσία denotes just a material substance underlying the changes of attributes. (Simpl. in phys., 191, 18 sqq.) On the part of Alexander we can see again the familiar tendency to supply the explanation in the strong systematic sense.
Alexander gives a strong systematic interpretation of the last clause. Simplicius tells us that

"Alexander says that the principles are eternal. For if they were coming to be (everything coming to be passes away), the principles would have been subject to passing away, and so also the things that are from the principles (τὰ ἐκ τῶν ἀρχῶν). But in this way the very generation will fail to go on some time, when nothing is left, from which something could come into being. But since this is absurd, the principles must be always.

And after that he adds Plato's proof concerning the principles. "But the principles, he says, are of two kinds, as will be shown: on the one hand, the antecedent (προϊόντακατωτα) and ungenerated and eternal numerically, as the agent (τὸ ποιεῖν) and the matter, and on the other hand, those according to which there are coming to be and passing away, and these are the opposites, which are neither ungenerated, nor numerically eternal. Again, since the opposites include the universal and the particular, the particular ones, that do come into being, are also subject to passing away; but the universal opposites, by which are all the opposites, which are also the most principal (γενικώτατα), namely privation and form, do not pass away. For the universals are incorruptible (ἄββαρτα)." (197, 23-198,1 Diels)

This treatment of universal principles is to be compared with Alexander's treatment of universals, according to which universals possess incorruptibility in virtue of the eternity of species.44 The universals, thus, reflect a certain invariable structure of the world. In case of the universal principle of opposition of form and privation, there also might be a corresponding invariable aspect of the universe: as we shall see, the primordial forms, according to Alexander, are the primary elemental qualities (hot, cold, dry, moist); and in quaest. II 3 he makes a point even more suggestive of structural correspondence between the elemental qualities and the principles of form and privation, saying that only the qualities hot and dry may be regarded as strictly formal and produced in matter by contiguity with the divine power, while the cold and moist should be treated as their privations.45 There is a terminological difference between this account of the opposites and that of the quaest.I 16: there Alexander uses the term ἄνθισε46, but here he is more precise, saying that the opposites are not numerically eternal, but just incorruptible (ἄββαρτα).

In the first book of the Physics we find the notion of form in a broad acceptance: in the theory of change form is regarded as a unit of "replacement" which comes about in a substrate. But the substrate does not get a unique interpretation, either physical or logical. Its relation to the positive qualification is defined by the condition of adequacy of form to substrate, which is posited by the tripartite structure of the "replacement" model: form (positive qualification) replaces privation, which is substrate-specific. Form, thus understood, may be instantiated not only by means of a simple property, but also by means of a variety of integral properties. At this point only the structural features of form have been described. We do not yet know how it is related to the direction of change and causality. This is the subject of the next two books.

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44 quaest. I 3, I 11. Discussed below, 4.3.2.
45This pertains also to the exemplar of the Arabic version, as the two types of ἄνθισε are rendered there with one term dawam: 49, 12 Bad.)
2.2.1.2. Form-nature. (Phys.II)

A further step in development of the conception of form is made by Aristotle in the important second book. The central concept in the background of the first three chapters is that of a natural thing.

Natural thing is the one that has its principle of motion in itself. Conversely, “nature” is this internal principle of motion from which a thing cannot be separated without ceasing to be. A thing is not nature, but nature is that by which a thing exists. Nature is more and less than a thing in Aristotle’s ontology: it is less, because it is not separate, and does not operate apart from the things; it is more, because it applies to a certain variety of things as a law and a norm.67

Aristotle attempts to locate this law in the compositional structure of individual things. His reasoning can be paraphrased as follows. Some think, with a view to artefacts, that the nature of a thing is its material, just as of bed the nature is wood, of which it is made, and of the wood, in turn, earth, water and fire, and ultimately, of these, the hot, the dry and the cold. This is one way of looking at things. But it is somewhat counterintuitive; after all no one has ever seen a generation of wood, say, an oak-tree, from the hot and the dry and the moist, but everyone is familiar with the processes of planting and growing which involve the whole complex structure of the oak tree stored up in an acorn, that falls off from a grown up oak-tree. These processes involve also the soil, and the winds, and the clouds and the rain, and the sun, and all the ongoing revolutions of the rest of the cosmos, which we can also describe in common terms as “natural”. But acorn is crucial: without it all the rest of the cosmos, however “materially” rich and powerful, will be unable to come up with an oak-tree. So Aristotle leaves aside the material account of nature68 and moves on to the “formal” one, revising his definition thus:

“Nature is the distinctive form or quality (μορφή) of such things as have within themselves a principle of motion, such form or characteristic property not being separable from the things themselves, save conceptually”. (193b1-4. Wicksteed-Cornford transl.)

Form-nature is manifest in certain qualities of a thing and is best expressed by them in their actuality69. It can also be regarded as a particular pattern of generation which consists in the reproduction of an identical structure. This is,

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67 On nature as principle of change see S.Broadie 1982, pp.1-47.
68 193a28: ἐνα μὲν οὖν τούτων οὕτως ἡ φύσις λέγεται, ἡ πρῶτη ἐκάστης ὑποκειμένη ὑπὸ τῶν ἐχόντων ἐν αὐτῶς ἀρχήν κινήσεως καὶ μεταβολῆς ἄλλων δὲ τούτων ἡ μορφή καὶ τὸ εἶδος τὸ κατὰ τῶν λόγων.
69 Wicksteed renders μορφή as quality, where one would perhaps put “structure”, to emphasise the connection of form with its actual expressions in the properties, i.e. qualities, of a thing, which Aristotle himself discusses just
then, not a common, but a particular nature: there are as many natures as there are types of these focal entities that have the identifiable structure, the principle of movement in themselves and are generated by a particular set of conditions. This nature-form is an ‘autonomous principle of generation’.70 The path of reproduction, ‘way into the nature’71, may be regarded as causally closed with respect to a particular kind, (the product of causation belongs to the same kind as its causes.) Aristotle invokes the antithetic scheme of change at this point, saying that “form” is spoken of in two ways, as the privation is also in some sense a form. But immediately after this he makes a reservation for the case of simple generation, saying that it is still to be considered whether privation and opposition are there in those cases72. Alexander explains this remark, saying that

"perhaps there is no opposite to the form in the sense of substance. For the privation, from which form has its coming to be is not its principal opposite. Otherwise, if each of the opposites were a privation, privation would be an opposite also [in this case]"73.

The methodological discussion of the question of the subject of physics as distinct from that of mathematics and metaphysics74, has several points of significance for Aristotle’s notion of form. The comparison of mathematical and physical sciences implies that the notion of form of natural things is related to the abstract forms of mathematical sciences and the ideal forms of Plato’s first philosophy. There is an equivalent notion of order and structure for the natural things (so, form is not the same as just shape). But the way to think about it should be different from both of the former. The difference between the abstract objects and Platonic forms, on the one hand, and the enmattered forms, on the other, has to do with change: the ideal entities are “unchanging (without movement)”, as is not the case with the things like “flesh, bone and man” (194a6). The logic of these concepts is like that of the “snub nose”, and the enquiry about nature is like that about the snubness: can it, or can it not, be defined without the matter in which it is found as a property.

Aristotle’s parallel between the science of nature and the two kinds of arts, productive and ‘architectonic’, may illustrate the way in which the viewpoint of formal structure can be derived from the distinction within the teleological structure. Aristotle says that as the end (τὸ ὁ ὤνομα) has a double sense, ‘for the benefit of whom’ and

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70 Cf. Broadie 1982, p. ...
72 What kind of simple generation is meant here, is of course open to conjecture.
73 ap.Simpl, in phys., 282, 3-5 Diels.
74194a16sq.: the problem of the subject of physics as compared to mathematics: the form or the matter or the compound of both?
‘for the sake of what result’, 75 accordingly, the arts are of two types: the architectonic (that includes the ‘art’ of user, like a steersman) and productive (carpenter). Both steersman and carpenter have knowledge of a ship, but the former knows more about its ‘form’ (function), while the latter more about its ‘matter’, which includes actual material and the carrying structure. The end of a carpenter is distinct from the end of a steersman, although there is a mutual dependence. But in things natural the dependence between the two kinds of ends, productive and functional, is so close that it is impossible to separate one from another except verbally. The end of a steersman could be accomplished with any kind of ship (generic matter), but in case of natural things, generic matter will not work: there is, so to speak, just one kind of ship that can satisfy a particular natural form. 76 In this sense Aristotle says that matter is in the category of ‘relation’: it is different with different forms. (194b9-10)

We get more on the form as a special kind of property in the third chapter, where Aristotle discusses the formal cause. This discussion is of particular interest because we have, from Simplicius, an extensive record of Alexander’s exegesis.

In the first enumeration of causes ( Phys.II 3: 194b24) Aristotle describes the formal cause as  τὸ ἐλάχιστον καὶ τὸ παράδειγμα, explaining that this includes the account of the essence, particular and generic. 77

Alexander begins his comment with the rejection of the possible anthropomorphic interpretations of παράδειγμα. He says that the difference of nature from other teleological systems in production and conduct (arts, free choice, ratiocination) is that in it there is no “knower” of the paradigm.

“Rather when the principle is sown into the matter, which is receptive of the principle and the things that are to come to be from it, this thing, that was itself the first sown, itself does produce the part of which it itself is productive, and that which comes to be from it produces another part; for each of them is productive and efficient with respect to the things that are after them, if nothing impedes. And so on, until a certain limit and natural form, the principle of which was sown into the matter in the beginning, as in the things moved by pulling the strings, when the master communicates the principle of motion to the first thing, it moves the one after it, and that the next, until the movement goes through all of them, unless something impedes, the forward ones moving the ones that are after, without any reasoning or choice taking place in them. In the same way, too, the nature and power that is set within the seed, when it comes to its proper nature, of which it is moving, begins moving in the way in which the seed is used to move and matter be moved. And the power which comes forth in the first movement produces, in turn, another movement, and has this ability, until it produces the like of that by which it was laid down, identical to it either in species or in genus, as is the case with those born from different animals, like the mules. For they are the same in genus with those who made them. And this succession happens according to certain numbers and order until the generated thing reaches its perfection in form, if nothing impedes.

But this is not by some kind of reasoning or deliberation in the moving and productive [parts], as has been said. But it is not the case that since [reasoning and deliberation] are not involved, it acts by chance and not for the sake

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75 This is only alluded to in the text, but cf. Meta. 1072b2 and DA 415b2 cited by Wicksteed-Cornford.
76 Aristotle mentions several times that arts “produce” matter: either in the unqualified sense of production (presumably, the arts that produce the inorganic compounds - metals etc.), or in the sense of preparing for the particular function (ἐπεργέω). (Phys.II 2: 194a33; cf. 194b7).
77 As Wicksteed’s paraphrase has it: “the definition of the thing we say it is, whether specifically or generically. Thus, the interval between the two notes is not an octave unless the notes are in the ratio of 2:1; nor do they stand at a musical interval at all unless they conform to one or other of the recognised ratios”. (Wicksteed-Cornford, p.129)
of something. For “for the sake of” is not the name for coming to be in virtue of reasoning and deliberation, but rather everything that comes to be does so in virtue of certain order and for the sake of something else. And it is similar whether it happens by reasoning and choice, or without reasoning, as we say about the nature. For even though natural things may be, because of the material necessities, accompanied with something that has no use for anything (as they say about the hair in the arm-pits, unless it too has some utility), still one should not on that account regard nature as not acting for a purpose.

So, the form is a paradigm, because nature has inclined, not by choice but rather as the things pulled by the strings”. (ap.Simpl. in phys. 311, 1-30 Diels)

Alexander is cited by Simplicius mostly because of his interpretation of the method of transmission of form. This scheme accommodates the complex forms of the living things with the help of this theory of efficient causation derived from Aristotle’s descriptions of the embryonic processes78.

In his second summary of causes Aristotle puts form and matter even closer, giving one set of examples for both and explaining form even more explicitly in terms of its role in the whole made up of parts. Aristotle’s examples include letters in a syllable, material of the artefacts, fire etc. as the principles of the physical bodies, parts of the whole, and the premisses of the conclusion79. These are very different types of wholes, as Alexander also notes in his commentary80, but the function of form is supposed to be similar in all of them. Alexander explains the different ways in which form is received by different described types of material compounds:

“For matter takes up form due to the alteration, while the letters and the parts by composition (for the syllable also comes to be from the letters by composition), however, the first and simple bodies, which are also called the elements of the composite bodies, like earth water air fire produce the bodies that come out of them both by composition and change. But all of those become the cause to that which is made of them by being inherent in it. But the premisses are not inherent in the conclusion, but rather produce it, rather being inherent in the whole syllogism, of which they are accounted for as matter and conclusion as form. (ap.Simpl. in phys.320, 1-10)

The following explanation of the formal cause is close to Alexander’s view in de anima:

It is those that he [Aristotle] juxtaposed with the material causes, and the whole, not together with its parts, but supervening on the parts. Such is also the composition. For it, too, being different from the things composed, supervenes on them as a form, as in the language, the syllable on the letters, and in the physical bodies, the form by composition (τὸ κατὰ τῶν σύνθεσιν εἴδος), like a man or a fig. (Ibid., 12-18)

Here form seems to be treated as a special integral characteristic of a composite whole that provides it with unity.

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78 This passage is discussed in Accattino 1988, where he claims that the treatment of reproduction by Alexander here is mechanical, particularly that “Alessandro si rifiuta di porre l’ eidos all’inizio del processo” (ibid., p.87) Sharples (1994) argues that this is because in Aristotelian accounts of generation the role of the “result” tends to be emphasised. And, it can be added, at the beginning of the process there certainly is the seed that is the carrier of the form. So, this treatment of generation is not anomalous in terms of the “orthodox” Aristotelian theory. It will generate some problems with regard to Alexander’s own theory of the complexity of forms, but this is not an issue of the commentary of Physics.

79 Phys.II 3: 195a15-21· ἀπαντᾷ δὲ τὰ τῶν εἰσιμένα αὕτη εἰς τέταρτας τρόπους πίπτει τοὺς φαινομένους. Τὰ μὲν γὰρ στοιχεῖα τῶν συλλαβῶν καὶ ἡ ὦν τῶν εἴκασε τινά καὶ τὰ των καὶ τὰ τοιαῦτα τῶν σωμάτων καὶ τὰ μέρη τοῦ ἄλλο καὶ αἱ ὑπόθεσις τοῦ συμπεράσματος ὡς τὸ ἐξ ἐν αὕτη ἐστίν· τοιῶν δὲ τὰ μὲν ὡς τὸ ὑποκείμενον (οἷον τὰ μέρη), τὰ δὲ ὡς τὸ τι τῷ εἶναι· τὸ τε τοῦ καὶ ἡ συνθέσεις καὶ τὸ εἴδος.

80 ap.Simpl. in phys. 320, 1-12 Diels.
In the second book we get the notion of form as a directive factor of a change, intrinsically related to matter, which may be instantiated in an integral property that is a source of unity for a collection of objects.

2.2.1.3. The mechanism of change. (*Phys. III* 1-3)

(0) In the third book a new dimension is added by Aristotle to the analysis of change, by the introduction of the theory of potentiality and actuality that brings in some new connotations of the notion of form as a principle of change as described in book I, and continues the line of amendments to the view of form as property taken in book II. Aristotle’s theory of potentiality/actuality often overlaps with his hylomorphic approach and sometimes directly parallels it (e.g. in the definition of the soul in *DA* II 2). In this part of the *Physics* we are given a chance to see a source of Aristotle’s hylomorphism which is independent of the mind/body problem.

(1) The new set of concepts gives a new interpretation to the formalism of book I. What there was matter and privation, is here described as potentially matter and the positive determination (form), so that the nature of continuity between the privative initial state and the positive end-state of the process of genesis is defined in terms of some specific kind of identity. This rids the *Physics* scheme of the contradictory privations that are meaningless, e.g. when “black” can be counted a privation of “sweet”, because it is not sweet. But even more importantly, the introduction of a “dynamic” viewpoint can save the meaningful privations that do not quite fit in the “replacement” scheme, because of the complexity of the related concepts. Thus, by the logic of simple antithetic, if animal is a generable thing, it should come to be from its privation, a “non-animal”, but there is no such thing: the “replacement” scheme does not work. The new pair of concepts allows us to say that man comes to be actually from some potential being.\(^\text{81}\) So, the concepts of potential and actual being provide an instrument for capturing the properties which are not in a direct relation of contrariety with the end-state of the process of generation.

(2) Defining “change” or “movement” in the broad sense, Aristotle clearly builds on the “antithetic” framework of book I\(^\text{82}\). Movement is “the entelechy of that which exists potentially, in so far as it is such”\(^\text{83}\). Aristotle

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\(^{81}\) Aristotle uses here the example “man begets man” in order to illustrate how in any kind of *motion* the mover bestows its form on the moved. (*Phys. III* 2: 202a10)

\(^{82}\) *Phys. III* 1: 201a4: in each of the four cases of change (in the four major categories), the antithetic structure is present: in substantial generation, it is the structure (*μορφή*) and the privation, in the alteration it is the contrary
distinguishes between two types of potentiality:

200b25: “Now, some potentialities never exist apart, but always reveal themselves as actualised; others, while they are something actually, are capable of becoming something else than they are, that is to say, have potentialities not realised at the moment; and these potentialities may concern their substantive being (what they are) or their quantity or their qualities; and so on with the other categories of existence”. (200b25, Wicksteed-Cornford transl.).

We are dealing with the second class of potentialities. A characteristic feature of this class is that every action produced by one of its members on another is reciprocal: the agent is somehow affected by acting upon the patient. This is the common pattern of efficient causation in the class of natural things. This account of causation agrees with the dominant role of “form”: Aristotle describes the process of generation as “imparting” by the agent some “form” to the subject of change. This form is said to be the principle and cause in the process of change.

(3) Particularly important for understanding Aristotle’s conception of matter is his discussion of the continuity of the underlying substrate as presented in this new account. Aristotle gives his definition of change with respect to the thing that undergoes change.

“reverting, therefore, to the universal distinction already established between ‘being at the goal’ in actuality and being in potentiality ‘such-as-is-capable-of-attaining-the goal’, we can now define motion or change as the progress of the realising of a potentiality qua potentiality, e.g. the actual progress of qualitative modification in any modificable thing qua modificable; the actual growing or shrinking (for we have no single word to include them both) of anything capable of expanding or contracting; the process of coming into existence or passing out of it of that which is capable of so coming and passing; the actual moving of the physical body capable of changing its place”. (201a10, trans. Wicksteed-Cornford).

qualities; in the quantitative change it is completeness and incompleteness; and accordingly, in the local movement it is the up and down, or the light and the heavy.

\[\text{Phys. III I: 201a11-12.}\] Alexander used this definition to distinguish between the state and the process. He says that “even though Aristotle called movement the entelechy of something that exists potentially, it is said to be entelechy in so far as the perfection (τελειότης) of the potential is the activity (ἐνέργεια) of it as such (καθ’ αὐτόν), just as with the states (ἐν τού τελειώματι) the perfection of a state is its the actuality (ἐνέργεια) of it as such (κατ’ αὐτήν). But in case of the states, the actuality (ἐνέργεια) does not destroy the state, while the actvity of potential qua potential bringing the potential into the actuality by the same token destroys it.” (414, 29-35 Diels)

201a20: “Since in certain cases the same thing may have both an actuality and a potentiality (not indeed at the same time or not in the same respect, but potentially hot, for instance, and actually cold), it follows that many things act on and are acted on by, each other; for anything will be at once capable of acting and being acted upon”. Cf. 202a3: “Now everything that is capable of motion and which is at rest when not moving, is itself in motion whenever it produces motion in anything else.” This follows from action by contact (ἐπικότιον), which is reciprocal: 202a7-9, cf. the theory of contact in GC I 6 and II 2.

202a10: the term ἐπικότιον Wicksteed translates as “characteristics”, Hussey is probably doing better with “form”, because right after this it says that this “form” is the principle and cause of movement caused by the agent. But again, apparently, it is some dynamic qualification of the property, or its state in which it is capable of certain type of action, of which it is at other times incapable. The property of having a particular property does not necessarily associate the causal power. The property that possesses the causal power is not “categorically” different from the same property in the “causally neutral” state. Thus “begetting man” implies “being man”, but not vice versa. Imparting the form implies possessing this form in some way (teaching implies possessing knowledge; but possessing knowledge does not imply teaching, i.e. being the cause of knowledge in another subject).

The analysis presented in the translation by Wicksteed-Cornford generally coincides with that given by Hussey 1983, pp.58-60, who compares this with the acquisition of the “first actuality”. 71
The process of change in the changeable is a particular kind of actuality whose source is beyond the scope of this change.

When the process of building has been completed, this particular potentiality of the building materials is gone, though now their potentiality of being a house is fully actualised\(^7\).

201a28: "but motion is the functioning of a movable thing, all the time that it is bringing its potentiality into act, not \textit{qua} itself, but \textit{qua} movable".

The last clause is to be understood in respect of this particular type of movement. And a little further:

A thing is moving just as long as it is actually functioning in this particular way, and neither before nor after. For anything capable of this special kind of functioning may be exercising it at one time but not at another; for instance, the building materials are functioning as materials for building only so long as they are in process of being built with; for as soon as the edifice itself is actually raised, the functioning of what were materials for a house is merged in the functioning of the house itself; but as long as they are being built with, they are functioning as materials for a house. The act of building, then, is the energising or bringing into actuality of the potentiality of the materials \textit{qua} materials; and the passage of the materials of a house into the texture of the house itself, so long as it is in progress, is their movement \textit{qua} materials of building. And this is the theory of all the other movements equally. (201b7-15, Wicksteed-Cornford)\(^8\)

From Simplicius we have an evidence that Alexander appreciated the complexity of this account of the process of generation:

"One might say, interpreting this, that movement is the first change (\textit{μεταβολή}) or the first entelechy. For the ultimate one is the change into a perfection, by which that which was potentially, having become actual, continues to rest in this state, while the first one is the way there". (ap.Simpl. \textit{in phys.} 416, 27-31 Diels)

This is interesting in that it suggests dynamic rather than static interpretation of the "first entelechy", which here is regarded on a par with the "first change".

The introduction of potentiality and actuality into the analysis of change might expand the original scheme of \textit{Physics} I. The most conspicuous difference which it implies, and which will be exploited by Aristotle in his analysis of matter in the \textit{Meta.} H, is the way in which matter is treated in the "formal" and in the "dynamic" analysis, respectively. Within the boundaries of the "formal" account, we have matter in possession of a privation, which is withdrawn by the advance of form. On Aristotle’s favourite example of house-building, where bricks and mortar are the substrate and the house is a form, the bricks deprived of the form (of the house) are put together in the right order by the master. In this they receive the form, themselves thereby persisting and making, \textit{qua} persistent, the matter of a composite, whose form is walls and roof and the attic, taken together. In this case the

\(^7\) M.L.Gill’s objection that no potentiality is lost in the process, and there is no need to assume a different kind of potentiality, needs to be treated in parts. (1) Some potentiality is lost, namely the potentiality that is derivative from the actuality of the building blocks. When they are laid together in the structure, they don’t have the buildability. (2) No distinct potentiality for change needs to be assumed: it probably comes with the concept of potentiality.

\(^8\) Cf. Hussey 1983, p.63: "The buildability is there when the buildable is just lying around as an unused heap of bricks and mortar; but during that time it is not ‘doing’ anything characteristic of it \textit{qua} buildable. The only time at
matter is the same before we start building, in the process of building and after the job is done. We can destroy the house but keep the bricks, and so get the same matter deprived of the form. On this account matter is something that persists throughout the whole process of generation and destruction.

On the “dynamic” account the potentiality of being processed in a particular way should itself count as a property, which the bricks only possess when they are really available for building, but which they lose as soon as they are cemented in the built structure. This potentiality does not persist but is lost in the process of change. In order to get it back we would have to destroy the house. This is the logic according to which you cannot have the pudding and eat it too. We cannot have both the house and the bricks. So, if the bricks are still there, they are not yet the matter of the house, except potentially. And when they are in it, they are not available as bricks, except potentially. Then the “horizontal” continuity is not complete: there is some interruption, when the bricks get cemented and are not really separate bricks they used to be. So if we want to consider the antecedent matter (bricks in the pile) to be identical with the inherent, or constituent matter of the house (bricks in the walls, floors and ceilings), we may have to provide some additional source of this identity. But this kind of gap does not take place between an accomplished entity and its activity as such. The relation between antecedent matter and common substrate is a special problem in the case of organic generation, where the matter at the outcome does not have the same properties as the antecedent matter.

(4) The final problem that we have to consider with regard to the notion of potentiality is the mechanism of efficient causation where actuality can possess more than one underlying potentiality. This point seems to have been adopted in a peculiar way by the post-Aristotelian Peripatos. The problem is raised as purely logical: the movement that is in the mover is “action”, and the movement produced by the mover in the moved thing is “affection”. They should be either both located in the moved, or the action should be in the mover, and the affection

which buildability of the heap is essential to what is happening is when it is getting built into a house: 'to get built is what the buildable does'."


This account can be illustrated by various cases of property acquisition, in which the substrate remains the same.

This need not be understood as a “distinct sort of potentiality”, other than any potentiality for a particular change, against which assumption M.L. Gill argues in her book (Gill, 1989, p.189), though otherwise there is the distinction between the potentialities that can get accomplished and those that can be actualised but not accomplished. (See next note).

Cf. also 201b32: explaining the attribution of the indefinite character to movement by philosophers: movement is an incomplete actuality because of the nature of its underlying potentiality (τὸ διάστημα). The potentiality of this type can never be completely realised for reasons ‘logical’: you can never say that you have accomplished walking, not meaning that you have stopped walking; on the other hand you cannot say that you see, if you have not seen an object. Even if you are walking for the sake of walking, you have to make at least one step in order to 'have
in the moved. In the latter case it will follow that every mover should be in motion, but this contradicts the main law of motion; in the former case it will turn out that the action takes place in the moved; so not only the learning, but the teaching will be done in the learner.

Aristotle dismisses the difficulty as "dialectical", saying that the change-related process in the agent is identical with the process of change undergone by the subject that is being changed in the way in which the path from A to B has the same length when yardstick-measuring begins at A and comes to B, and when it goes the other way; though apparently when one measuring is done, it does not at all follow that by the same token the other is materially done too. In the same way it is with learning and teaching. Even though the effect of the process is uniform, "learning" is not the same thing as "teaching".

The later Peripatetics seem to have interpreted this text as a proof of Aristotle's commitment to the notion of the "internal potentiality" in things, as is shown by the evidence of Andronicus, preserved by Simplicius.

But the nature and the predisposed arranges the substrate from the inside in every kind of movement, as also Andronicus said. For even though the water is heated by the fire, still it is the case that the nature in water, becoming warm first, then accordingly warms the substrate, or rather warms it through.33

This is of particular importance with regard to the Galenic debate over the soul as "power", which is reflected in Alexander's doctrine.

Alexander in quaest. I 24 considers the problem of concordance between the two different accounts of generation, given in books one and three. He attempts to make the "antithetic" scheme (form-privation-matter) and the "dynamic" approach (potentiality-actuality), work together, interpreting privation as not being in actuality and as accidental non-being. 'Potentiality' is interpreted as 'capacity', a proper characteristic of matter, which has its accidental non-being from privation. It is in this qualified sense that things are said to come from non-being (in virtue of accidental privative states in which they find themselves). But they have capacity of becoming something not from privative states, but from proper matter. The "underlying" of the Aristotelian "replacement" scheme is definitely interpreted as matter. Matter has capacity to persist, underlie and retain the forms which it receives. So it

walked', while seeing, Aristotle believes, does not have a similar 'threshold'. I am grateful to Prof. Sharples for discussing this.

33 ὑπὸ τοῦ ὁμολογικοῦ ἐν τῷ ἀρχικῷ ἐμφανίζεται τῇ ὑποκείμενῳ ἐν αὐτῷ ὕδαι τῆς τοῦ θεοῦ, ὡς καὶ Ἀνδρόνικος ἔλεγε. Καὶ γὰρ θερμαίνει τὸ υπὸ τοῦ ὅπως ἐν τῷ ἑαυτῷ, ἄλλο ἐν τῷ ἑαυτῷ ὅπως ἑαυτῷ. Οὕτως ἀληθεύεται ἢ συναφεύγεται ἐν τῷ ὑποκείμενῳ. (Simpl. In phys. 450, 16-20 Diels). Andronicus' interpretation might partly depend on a different reading of Aristotle's text at 202a15 that he had. Simplicius' reports at 440, 13-17 that instead of ἐντελέχεια γὰρ ἐστὶ τοῦ ὑπὸ τοῦ κινητοῦ of most manuscripts Andronicus had: ἐντελέχεια γὰρ ἐστὶ τοῦ κινητοῦ καὶ ὑπὸ τοῦτο, and he built on it, explaining that even if the mover were external, still, led from the inherent potency to the actuality, the moved should appear to be moved by itself. But a textual difference probably was not decisive for Andronicus' view, as he apparently was developing his own theory of inherent capacity bravely disregarding differences with Aristotle, when they occurred (cf. Galen, QAM, 44, 15 M.).
is a real source of becoming, one of the sources of becoming

Conclusions.

In Physics we have a general conception of form which by its initial design should suit any categorial qualification. although Aristotle is clearly more interested in form as an aspect of natural substances. The features of the notion of form that are derived from the conception of change are the following:

(1) form (formal qualification) as a unit of “replacement” mechanism (book I);
(2) the principle of adequacy of form to the substrate of change (formal principle should work for a variety of structures that come to be, in a specific manner, book I);
(3) form as an integral property (books 1-2);
(4) form as ‘nature’ and agency (the inner principle of movement that works through the actualisation of the potentiality inherent in a thing acted upon; books 2-3);
(5) transfer of structure from the agent to the patient (rationalisation of “replacement”, book 3).

We have noticed a number of problems that might arise in the application of these principles to different classes of beings. We are now going to consider some of those problems in detail, in the two different cases, of the elements and of the living beings.

2.2.2. Genesis II (cosmology of the elements).

The theory of the elements is presented in the cosmological treatises, “On Generation and Corruption”, “On the Heavens” and “Meteorology”. In all these treatises Aristotle refers to the theory of Physics, and so is also committed to the notion of form he outlined there. On the other hand Physics seems to anticipate the possible adjustments of the doctrine for the case of the elements. So the differences that the model of elemental generation described in GC has, in comparison with the general scheme, are certainly not to be explained by any change of his views. The major difference, which consists in treating the elemental generation as a paradigm of substantial

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94 There are other indications of his commitment to the strong version of hylomorphism: in DC I 9:277b27-278a22, in his proof of the unicity of the world he uses the idea of the hylomorphic composition of cosmos; the example of “aquiline” nose similar to the ‘snub’ of Meta. and DA. Probably I have to notice that this is not a claim concerning chronology: the cross-references might be a result of updating the lecture notes. What they do indicate, is that the theories presented in different treatises are regarded by the author as compatible.
generation, is probably defined by the scope of the treatise, as it is stated by Aristotle in the beginning.  

2.2.2.1 The problem of simple genesis (GC I).

The two books of GC are different: the second one being distinct by rigorous formalism of the theory of elemental transformations, which is only in part prepared by the methodological reflections of the first book, devoted largely to the notion of simple generation, its main factors, characteristics, similarities to and differences from the other types of change. There are several cases in which Aristotle invokes the notions of form and matter: these ways are not necessarily consistent with one another, and not all of them are “hylomorphic” in the strict sense which Alexander will give them in his own theory. It will be useful to review the cases to see what grounds there are for Alexander’s hylomorphic reading of the theory of elements.

The discussion of simple genesis is opened, typically, with the “critique of the tradition. Aristotle uses hylomorphic language first in conclusion of his discussion of Democritean notion of generation as aggregation. The distinction that he draws there is actually the one between form and quality. He explains that generation is not by aggregation and dissolution, but rather “when the whole is changed from this to that.” The Democriteans would probably take this for the alteration, but there is a difference:

75 Phys. II 1: 193b20: καὶ γὰρ ἡ στέρησις ἐπὶ δὲ πῶς ἠστίν’ ἐπὶ δ’ ἠστίν’ ἡ στέρησις καὶ ἕναντι τοῦ ἀπλοῦ γένεων ἢ μη ἠστίν’, ἰστερον ἐπιπεδεῖσθαι.
76 GC I 3: 318a9-10: “And now let us state the cause that is placed in the class of matter, for which the generation and corruption does not ever leave the nature”.
77 R. Sokolowski argues, citing ample evidence from GC and DC, that the elements are not regarded by Aristotle as true substances composed of form in the proper sense. “The de generatione et corruptione gives us many reasons for denying substantial form in earth, air, fire and water: first, Aristotle says that the simple bodies are constituted by dual powers, which could not be a form in the metaphysical sense; secondly, the transformation of one body into another when one power replaces another cannot be reconciled with the presence of a substantial form: thirdly, Aristotle’s doctrine on mixtures also excludes such forms. Now if these bodies do not have substantial forms, they are not substances in the strict sense because form is the primary principle of substantiality.” Sokolowski 1970 (1982), p.100. On the other hand, he notes that the primary qualities are more than regular qualities in that they are constitutive of the simple bodies. The conclusion to which he arrives is that the notion of form should be understood differently in the complete and incomplete substances. C. Freudenthal 1995 reconstructs Aristotle’s theory of vital heat, which he takes to account for the ‘bridge’ between the inorganic and organic matter and to be parallel to the theory of nutritive soul. This viewpoint is exploited by Alexander in quaest. II 3 (see below, chapter 5), but is not reflected in de anima. Cf. also S.M. Cohen 1996.
78 R. Sokolowski reviews all the occurrences of the term “form” in GC and DC in order to state that none of them satisfies the concept of “substantial form” of Metaphysics. My goal here is to consider the motives of several characteristic cases where Aristotle uses these terms, with a view of Alexander’s possible adoption of this usage and theoretical motives. For that reason I am not reviewing all the cases but only those where theoretical context is most clearly present; and in such cases I am trying to give the interpretation of Aristotle’s thought.
For in the subject (τῷ ὑποκειμένῳ) something is in accordance with formula (κατὰ τὸν λόγον) and something in accordance with matter. Now, when there is change in these, it will be generation or corruption; while when it is in the properties and incidentally (ἐν τοῖς πάθεσι καὶ κατὰ συμβεβηκὸς), it is an alteration. (317a23-27).

The sense of ‘form’ and ‘matter’ here is the same as in Physics, as Joachim notes.

Aristotle says that there is no ‘simple’ generation in the unqualified sense; the argument will be, in part, frequently used by Alexander. But there is another sense of ‘simple’ generation, by which is understood the kind of generation that brings about a substance.

In the subsequent discussion we can distinguish two different approaches to the notion of ‘simple’ genesis: the first one is to be recognised as theoretical, within the theory of material cause, which Aristotle intends to concentrate on; and the second one seems to correspond to the linguistic and cultural conventions. The ‘theoretical’ approach is introduced as a solution of the aporia: if everything passes away into nothing, how can generation be eternally renewed? Aristotle’s solution is that every process of the passing away of something is by the same token the process of coming to be of something. This kind of ambiguity about the process of generation is found in the reports of the pre-Socratic physics of the elements. So, according to the ‘theoretical’ approach, there is no absolute distinction between generation and corruption: every generation is also corruption.

The ‘conventional’ approach imposes a constraint on this ‘theoretical’ account by upholding an absolute distinction between generation and corruption in some respects. Aristotle considers three types of reasons for this constraint. The first one, for which Aristotle cites Parmenides, assigns the value of simple generation (and qualified corruption) to earth’s transformation into fire, and the value of simple corruption and qualified generation to the reverse process. The second view, which is the one that Aristotle will second, is an elaboration on the kind of reasoning: it is also possible to explain the difference by the character of differentiae (διαφορὰ) of the underlying matter: positive or privative. Heat is said to be more formal and “categorical” a differentia than cold, which is its
Matter is understood as the substrate taking on the contraries, i.e. form and privation.\textsuperscript{105} The third conception comes from “folk physics” and sets the simple generation in relation to the perceptibility of the generated object. Aristotle is much less plausible about this account: on it, the simple generation will be of earth, because it is more perceptible than air and thinner substances, but this contradicts the truth\textsuperscript{107}. But some version of the “perceptibility” criterion will appear in the prominent place in Aristotle’s theory of elemental genesis of book II.

So, it seems that Aristotle defends the ‘conventional’ distinction between generation and destruction on the basis of assigning values to the opposite states which are taken as ontologically equivalent in the ‘theoretical’ account. The principle of opposition is still underlying this distinction, making the “replacement” scheme applicable to it. This reasoning implies two distinct processes for generation and corruption, differing in direction. In case of generation it has the direction towards being:

\[
\text{substrate + privation (of form)} \rightarrow \text{substrate + form} = \text{being}
\]

while in case of corruption it is from being:

\[
\text{being} = \text{form + substrate} \rightarrow \text{substrate + privation (of form)}
\]

The direction is determined by what counts as form, and this is established outside the theory of change, which only uses the ontological values but does not assign them. We may notice at this point that form and matter, so understood, are not symmetrically present in all the elements: some have more form, some are more material\textsuperscript{108}.

The theoretical account of GC II, to be considered shortly, does not reflect this asymmetry. But the idea of asymmetry will play its role in the account of genesis of the \textit{Metaphysics}.

\textsuperscript{105} GC I 3: 318b12-18, esp. 14-18: ἢς μὲν γὰρ μᾶλλον αἱ διαφοραὶ τόδε τι σημαίνουσιν, μᾶλλον οὐσία, ἢς δὲ στέρησιν, μὴ ὅν - ὅλον εἰ τὸ μὲν θέρμαν κατηγορία τις καὶ εἴδος, ἢ δὲ ψυχρότατα στέρησις, διαφέρουσι δὲ τῆς καὶ πού ταῦτα τὰς διαφορὰς. Joachim, \textit{ad loc.}, says that this suggests that according to Aristotle the predicates under each category “fall into two contrasted Columns of \textit{συνονομαία}”, one consisting of positive, and the other of privative, qualifications. This will be used by Alexander in \textit{quaeant.} II 3 (below, chapter 5).

\textsuperscript{106} GC I 3: 319a16-21, a20: \textit{μεταβλητικόν εἰς τάς αὐτικίας}. What Joachim understands as prime matter; but it does not have to be: cf. above, on the substrate of change in \textit{Physics} I 7.

\textsuperscript{107} GC I 3: 318b27: συμβαίνει ὅτι κατὰ δοῦμα καὶ κατὰ ἀλλήλην ἄλλως τὸ γίνεσθαι τε ἀπλῶς καὶ τὸ φθείρεσθαι: πνεύμα γάρ καὶ ἀόρα κατὰ μὲν τὸν ἀλλήθριον ἔτον ἐστιν ... κατὰ θ' ἀλλήλην μᾶλλον τόδε τι καὶ εἴδος ταῦτα τῆς γῆς.

\textsuperscript{108} Aristotle says that this asymmetry applies to any kind of change: some changes contribute to being, some, to the contrary, do not. Thus, the transformation of a non-musical man into musical is genesis in the absolute sense, while the reverse (getting rusty and unmusical as a consequence of not practising) is qualified. So apparently he is thinking not just about the traditional theory of elements but about some pertinent ontological generalisation.
2.2.2.2. Growth (GC I 5).

The second case, where the concept of form is actively used, is the chapter on growth: in it Aristotle says that growth happens only with respect to form and not matter. This chapter is a specimen (probably an early one) of hylomorphic thinking. Alexander rehearses its main argument, (it is the form and not the matter that guides the process of growth, for that reason growth is said with respect to the form), in three different texts. Conceivably, registering ‘growth with respect to matter’ would depend on what counts as ‘matter’ that grows: it is impossible to specify the exact part of matter which increased by addition. Still, it has to be understood how growth is ‘with respect to form’, if form remains the same.

The first problem which I want to address may be regarded as purely technical. In the chapter on growth, two of Aristotle’s theoretical strategies should intersect: the one of Physics I 7, with its principles of generation: form, privation and matter; and another more genuinely “hylomorphic”, albeit not yet as clearly stated, where the terms of analysis are form, matter and thing. On the general account of Physics I, that which persists, first with a privative, then with a positive qualification, is called “the underlying” or just “matter”. In our case, we are told, the form is what persists as a continuous substrate, while the quantity changes from a lesser to a greater value. So form plays the role of “matter” of the Physics account, and the positive qualification (which is actually quantitative in our case) plays, in those terms, the role of form. On the literal reading of Phys. I 7, form should be regarded as the substrate, i.e. as “matter”, because it persists. But it seems that the scheme does not work in that way. The quantitative increase by itself cannot set the parameters of growth, otherwise the cancer tumours (or, for that matter, the bumps and swellings) would count as “growth”. It seems that “form persists” has a different, stronger sense here: form is laying constraints on matter’s increase. Aristotle says that the hand “grows proportionately”. Form, after all, somehow sets the direction of change, even though it persists. Some important causal parameter seems to be missing from the “general” picture of change, and Aristotle makes a step towards its introduction in his theory of growth. The completeness of the process of change is defined by the growing organism rather than by the tendency carried by the changed aspect of quantity.

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109 _de mixt._ 16, _quaest._ 1 5 (and an Arabic version thereof, which is slightly different); _de anima_ 32-37.

110 This is the point stressed by Alexander in his _quaest._ 1 5

111 The terms form and matter appear only toward the end in Aristotle’s discussion of the process of growth in GC I 5: 321b19, in his formulation of the second principle of the organic growth: σάρξ και όστοιν και ἐκαστὸν τῶν τοιώντων μορίων ἐστὶ δεττῶν, ὡσπερ καὶ τῶν ἄλλων τῶν ἐν τῇ ὑλῇ εἶναι ἕχοντων καὶ γὰρ ἡ ὑλὴ λέγεται καὶ τὸ εἶδος σάρξ καὶ ὀστῶν.

112 It may be recalled that Aristotle says at several places, that the triad “form, privation, being” applies to the analysis of generation in all the four main categories, hence, also to growth. _Met._ Z 9: 1034b7 sq.
This theory of growth has very little physiological content, if any. Aristotle is interested in the principal question of the status of matter of growth, and his first postulate, arrived at after a series of eliminations of aporetic hypotheses, is that the matter of growth should be posited as inseparable numerically from a body, but separable by thought. This matter should not be thought of as an abstract entity (spatial limit of the body, set of points), but as a real carrier of properties. Growth is explained by nutrition, but there is not much of a physiological theory of growth in this treatise, rather there is a surprising amount of inorganic examples and parallels. The mechanism of growth is explained by prevalence of the nature of the nourished over that of nourishment, just as when wine is mixed with water, it is wine that “grows”, because the mixture preserves the properties of wine rather than water. Heat appears not as the physiological factor of nutrition, but as a literal analogy with fire in the course of explanation that the nourishment should be potentially the same as the thing that is nourished (the combustible is potentially fire). Still Aristotle seems to see the affinity between these selected inorganic cases and the organic processes.

Hylomorphic thinking is present in a couple of difficult examples, which probably illustrate the difficult way by which this idea of Aristotle’s got its place in his system, and so should not be bypassed. First, he says, that the process of growth is to be thought of with respect to form not matter as measuring water with the same measure. There is only so much nourishment that any nourished body can consume. He explains, next, that the matter of nourishment comes and goes but the body stays. This is the point that Alexander treats of in quaest. I 5 and in de mixt. 16. This point is important for understanding the distinction between form and matter of the organic body. Matter is what comes and goes; form is what stays. But what stays in the course of nourishment of the organic body is what we usually call “body”. This could be used for understanding the postulate of hylomorphism according to which soul is in the body as form in matter. The usual distinction that is drawn in this respect is between the living body and the dead one that bears the title of organism only by equivocation. But it is possible to consider this equivocal body as a residue of the “body” which passes through the framework maintained by the soul during the lifetime of a living being. This body which is always in flux is matter, while the organic limbs and joints kept

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113 GC I 5: 321b29: ἀνάλογον πούβαται.
114 GC I 5: 320b12-14.
115 GC I 5: 320b15: ἐκεῖνο δὲ οὐ ταύτα ἐσχάτα ἡ ὕλη, ἢν οὐδέποτ' ἄνευ πάθους οἷον τε εἰναι οὐδ' ἄνευ μορφῆς.
116 GC I 5: 321a32sq.
117 GC I 5: 322a10sq. This is probably to be contrasted with de an. II 4: 416a10, where the constraints are explicitly laid on the notion of fire as the main cause of growth: τὸ δὲ συναίτου μὲν πῶς ἐστιν, οὐ μὴν ἀπλῶς τὲ αὐτῶν, ἀλλὰ μᾶλλον ἡ ὕψη τὸς μὲν γὰρ τοῦ πυρὸς αὐξάσθης εἰς ἑπεραυ, ἐὰς τίνι ἢ τὸ καυσών, τῶν δὲ φοῖνις συνισταμένων πάσιν ἐστὶν πέρας καὶ λόγος μεγέθους τε καί αὐξάσθης ταύτα δὲ ὕψη, ἀλλ' οὐ πυρὸς, καὶ λόγος μᾶλλον ἡ ὕλη. Notably, “inorganic” fire which burns till the combustible lasts, is excluded from the φοῖνις συνισταμένων.
together by the vital heat 'are' soul, but as such this soul can only exist together with the body. This point is emphasised by Alexander in *quaeest.* 1 5.

Third, Aristotle says, growth is more visible in organ than in tissues of body, because the difference between form and matter is also clearer in the former; so, speaking of a body of a dead man, in general, we refer to it as 'flesh and bones' rather than 'hands and arms' 119. Here again, form is understood as having to do with shape, although not in the "geometric" sense, but rather in the sense of that which is capable of imposing the shape and maintaining it that way. Finally, the difficult place of  ἀλώς  belongs to the same reasoning: "This form without matter, says Aristotle, is, like the duct, a certain power in the matter. If indeed some matter is added, which is potentially a duct and has a certain quantity potentially, these ducts will be bigger. But if it cannot contribute productively, but as water being more and more admixed to wine finally makes it watery and water, then it produces the diminution of the quantity. But the form persists." 120 The body is to some extent pre-formed with respect to its own functions of replenishment 121. This discussion prepares the ground (if not in Aristotle's own exposition, then at least in the order of this work) for the "substantialist" treatment of form. It is not easy to describe this kind of form as property, as the question can always be justly raised: the property of what? This basic form which provides the visible shape to the organic body combines the features of a physical substrate and the primordial logical subject. This result will be useful in our analysis of the treatment of generation in *Meta.* 2.

By this time we already have three different concepts of form: one directly linked to the "replacement" scheme of *Phys.* 1 7, which in this treatise only appears in the case of "alteration"; one of the hierarchy of being (that includes the hierarchy of nature and its forces), and one of hylomorphic thinking, which has so far upset the straightforward application of the "replacement" scheme to the case of growth and suggested some constraints on this scheme.

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118 GC I 5: 321b24-25: δεῖ γὰρ νοησάω ὡς περί τις μετροί τῆς αὐτῆς μετροῦ ὑμῶν ἀλλὰ ἄλλο τὸ γενόμενον.
120 GC I 5: 322a29-33. Joachim gives a very good lead by his comparison with the ducts (it is hard to see why Williams (ad 322a8, p.112) decided to suppress it in his commentary as "unsatisfactory"). On ducts, see also Sharples 1979, pp. 214-5. Alexander in the chapter on growth in *de mixt.* 16: 237, 28sq. uses the image of 'wine moving along the channel', although, as Todd notes, Alexander's text of GC read  ἂλως  at this place. (Todd 1976, p.250).
121 In *Gt* II 6 Aristotle distinguishes two functions of nutrition: "(1) nutritive, that is to say, which provides both the whole and the parts with being; (2) "growth-promoting", that is to say, which causes increase of bulk" (744b32sq., transl.A.L.Peck)
2.2.2.3. Elemental generation. (GC II)

Now we are going to see how Aristotle combines his theory of the elements with the "replacement" scheme of change in his highly original account of elemental transformation. Here we shall have to do with the 'theoretical' account of simple generation, i.e. rid of all constraints, assuming that the coming to be of one simple body is the passing away of another. The 'teleological' distinctions among the elements are removed. The most basic requirement is that genesis should yield a substance.\(^1\)

Aristotle is going to apply the "replacement" scheme in the case of the elements, so he has to explain their structure in terms of substrate and qualifications. It is at this point that he has to use the 'transcendental' reasoning, deriving what is really a minimal generable structure.\(^2\) Both the substrate and its qualifications should be minimal and basic, so that a difference in one quality should be sufficient to account for the substantial difference.\(^3\) This is his model for a simple body. Its constituents are primary qualities: hot/cold, dry/moist.\(^4\) No quality exists "on its own": they are "built into" the yoking scheme. Each dry body has to be either cold or hot, and each hot body has to be either dry or moist - this is Aristotle's condition for the possibly tangible substance (tangibility being the lowest grade of sensibility).\(^5\) So, the primary qualities always go in couples. The primary qualities represent the two distinct aspects of the sense of touch: thermal and tactile. Each of these aspects, in turn, is characterised by contrariety so that every quality is potentially its opposite, and accordingly every simple body is potentially any other of the simple bodies. To accomplish this transformation, it has to interact with another body which could act on its qualities so that they change their current values, causing the transformation of our simple body into another.

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1. I think that this insistence of Aristotle on the substantial character of the primordial generation resists the interpretation of his use of the notion of substance as "relaxed, non-metaphysical" or even "metaphorical" (Sokolowski, pp. 94-95, et passim). The whole project seems to be: to show how the substance of the Categories can satisfy the 'physical' condition of 'coming to be'. Cf.also DC III 2: 298b10.
3. The discussion of Aristotle's notion of material substrate (prime matter) has been going on for about forty years now since the traditional notion that Aristotle believed in the ultimate substrate (Zeller and all the old scholarship) was questioned by H.R. King 1956. The summaries are to be found in: Charlton 1970, 129-145; C.J.F. Williams; most recently, a useful discussion by Cohen 1996, pp. 55-74.
4. It should be noted that Aristotle does not explicitly describe them as 'forms'. See below, 3.2, p.104. On the sense of 'formal' with respect to the elements, see above 2.2.2.1.
5. GC II 2: 329b7: it is clear, he says, that not all kinds of opposites make the kinds (eîdē) and principles of bodies, but only those that are opposites with respect to touch (ai kata ταύτα ἀντίθεμα). There follows a list of possible candidates for the primary oppositions, all of which except the weight and the lightness are eliminated on the grounds of their being derivative from the two that are recognised as primary, and weight and lightness are declined because they are said to be neither active nor passive. 329b20: ταύτιν μὲν βάρος καὶ καύσων οὐ ποιητικὰ εἰδὲ παθητικὰ. It is here that Aristotle uses the modified "perceptibility" criterion rejected as such in his discussion of the simple genesis in book I. (Of course the modification is quite substantial, as all the elements are supposed to be equally
one. The mechanism of interaction between the qualities is essentially the "prevalence of the stronger" (έπικρατεῖν). Some elements have one quality in common: e.g. fire and air are both hot, so they can mix more easily. In a mixture, the remaining two qualities that are different, namely, dry and moist, begin to compete. The one that is 'stronger' under the circumstances, takes over, and the other gives in. If there is more fire than air in this mixture, air turns to fire. If there is more air than fire, then the moist takes over and fire extinguishes, turning to air. Aristotle calls the common quality σύμβολον and says that the transformation is easier and faster between the elements that have σύμβολον. Those elements that don't have σύμβολον can still transform into one another, but it will take longer: essentially, they will have to undergo a chain of transformations until they turn into the elements that have a σύμβολον. The famous diagram is the ancient 'periodic system', illustrating relations between the elements:

![Diagram](image)

Notably this model lays no constraints on the notion of generation. The formal 'value' of elements plays no role in it directly, although it seems to have some indirect role in determining the ease and speed of the transformations.

Aristotle describes three different types of transformations possible on this model. The fastest is the one that follows the order of subsequent transmission of the active σύμβολον; when less fire is overridden by more air, and the resulting air is overcome by more water, and the resulting water is overcome by more earth.128

perceptible. This assumption becomes counterintuitive when it comes to the applications of the theory of elements in the meteorology and biology and medicine; and it is largely rejected or neglected by the later Peripatos).

127 GC II 4: 331a14.
128 GC II 4: 331a26-31b3.
(1) \((\text{HOT}+\text{DRY}) + (\text{HOT}+\text{MOIST}) + (\text{COLD}+\text{MOIST}) + (\text{COLD}+\text{DRY}) \rightarrow (\text{COLD}+\text{DRY})\)
\[
\text{BULK}_1 < \text{BULK}_2 < \text{BULK}_3 < \text{BULK}_4 < \text{BULK}_5
\]
where "<" stands for 'less' and the arrow shows the direction of change.

(2) The second way consists in the simultaneous transformation of the two qualities into their opposites:\(^{27}\):
\[
\text{HOT}+\text{DRY} \rightsquigarrow \text{COLD}+\text{MOIST}
\]
\[
\text{HOT}+\text{MOIST} \rightsquigarrow \text{COLD}+\text{DRY}
\]

(3) The third way consists in the transformation of the two non-neighbouring elements into the third one by removing one quality in each of the initial agents:\(^{30}\):
\[
(\text{HOT}+\text{DRY}) + (\text{COLD}+\text{MOIST}) \rightarrow (\text{DRY}+\text{COLD}) + \text{HOT} + \text{MOIST}
\]

The important thing that this model tells us about the elements is that in the elemental transformation transfer of structure happens by material prevalence; material prevalence sets the direction of transfer, and defines the type of structure that is transferred. Formal qualification that results is thus dependent on the external factors: it is contingent. If we take two arbitrary stuffs of a certain quantity, e.g. fire and earth, we cannot predict the outcome of ‘mixture’ on the basis of this given: the direction that the process will take may be either of the two, depending on other circumstances:
\[
\text{HOT}+\text{DRY} \longleftrightarrow \text{COLD}+\text{DRY}
\]

Probably this is why Aristotle says in the *Metaphysics* that the elements are “like heaps”: their unity is contingent on the milieu and always ready to be re-defined.

Conclusions.

The most important features of the notion of form in *GC* are the following. First, in his theory of ‘simple’ generation. Aristotle introduces the ‘formal’ characteristics of the elements, according to which some of the elements are regarded as more, some as ‘less’ formal. This presupposes a universal interpretation of formal principles within the cosmos; Alexander’s *quaest.* II 3 provides an explicit statement of just such an interpretation,

\(^{27}\) *GC* II 4: 331b4-11
as we shall see.

Second, Aristotle's account of growth in GC I 5 indicates some kind of a tension against the "replacement" scheme: formal principle in this type of change resists being interpreted as a unit of "replacement". Instead we have a model of intrinsic unity between form and matter in which the formal principle plays the dominant role, in such a way that matter cannot be properly defined as a principle without reference to form.

Finally, Aristotle's account of elemental generation assumes that each generation is "two (simultaneous) processes for the price of one". This account is highly theoretical: it presupposes a minimal perceptible structure, constituted by two primordial sensible qualities, a tactile (dry/moist) and a thermal (hot/cold), and a common substrate which allows exchange of qualities in accordance with several schemes of "replacement". The transfer of structure happens by material prevalence, and the direction of generation is contingent on this factor of prevalence. Formal qualification of this kind does not have 'directive' force with respect to the process of generation.

Comparing the theory of formal principle of change underlying this account of generation with the theory of Physics described above, we may notice that (1) the formal principle is still a unit of "replacement" (coming-to-be happens when one primordial quality is replaced by its opposite: hot by cold, or dry by moist); (2) the principle of adequacy of form to substrate has a specific sense: the four simple bodies are constituted by the four primordial qualities according to a combination scheme; (3) the formal principle is not explicitly treated by Aristotle as an integral property, but the idea of combination of qualities as defining the elements may suggest such a treatment; (4) formal qualification is nature and agency only in a general sense; no specific combination of the primary qualities is a directive factor in the process of generation; (5) the transfer of structure from the agent to the patient happens by way of 'material prevalence' (ἐντικατεί).  

2.2.3. Genesis III (metaphysics of substance).

Meta. Z 7-9 presents a modification of the Physics "replacement" scheme different from that of GC in several significant respects. The treatment of generation in book Z is an attempt to make the general account of change and the theory of form-substance work together. We shall see that the amendments made to the "replacement" model in Phys. 11 play a more prominent role in this new model of generation than the "replacement" proper. Our text is a part of Aristotle's theory of form-substance. There is every reason to think that the ontological specifics of this

\[GC II 4: 331b12-13.\]
theory influence the account of generation, so it will be necessary to consider some aspects of this theory which have most direct bearing on the concept of form that is in focus of our study.

2.2.3.1. Τὸ ὑποκεῖμενον.

Since the "subjecthood" criterion has been already invoked in the discussion of the "substantialist" interpretations of form, it will be useful to start with Z 3. First, the term ὑποκεῖμενον needs to be clarified. Contemporary discussions have displayed good command of the notion of the 'contest' of form, matter and a composite for the title of ὑποκεῖμενον in the Meta. Z 3, but the contents of the title, i.e. what is it for which these three concepts are "competing", has got comparatively less discussion. Yet there is a subject for discussion, as it seems that Aristotle in Meta. Z is aware of the difference between the two conceptions of ὑποκεῖμενον: logical of the Organon, and physical of Physics and physical treatises. We have seen that the ὑποκεῖμενον of Physics is construed broadly as a substrate for all types of change, including substantial and non-substantial. The ὑποκεῖμενον of the Categories is a 'primary substance', that is a physical individual; but its logical characteristics which make it a logical subject are not explicable from its being a subject in the physical sense, as underlying all kinds of qualifications. The task of book Z seems to be the analysis of the logical characteristics of a physical individual that allow it to fulfil the function of a logical subject. Aristotle says in the beginning of our chapter that matter, form and the composite are all ὑποκεῖμενα in different ways:

For it seems that the first underlying is substance more than anything else. But such in a certain way is matter, in the other way form, and in the third way that which is made of both. 1029a2-3.

The ὑποκεῖμενον is used in different senses by Aristotle; that it is the logical sense in which he is interested in at this point is made clear in the course of his inquiry. His first test is whether the physical substrate could qualify as the logical subject. Even if the "first underlying" is taken as a continuant of the process of change (in the sense discussed in the second part of this chapter), we still should have the logical means of ascertaining its persistence and identity: we should be able to say, what persists. How can we do it? Apparently, we should produce some kind

131 The London seminar seems satisfied with the notion of "primary substrate", without much explanation (Burnyeat et al., p.16), Gill begins with the correct statement of the logical criterion of the Categories (p.15), but then constructs her own concept of subject, adding reasonably enough, but without exact textual warrant, the criteria of "thiness" and "separate existence" (pp. 31-38) Wehrle 1994: "Aristotle has already decided that ἐπιστήμη wins the beauty contest, and he gives brief cryptic arguments in Z 3 which are interesting in their own right but perhaps not meant to be either complete or conclusive", p.201.

132 This is in fact noticed by F.Lewis 1991, 275, n.8.
of a description. Next step that Aristotle makes is to establish a satisfactory logical form of the description. First he eliminates the wrong direction of search: one might think that since it is matter that persists in the change, matter can also serve a logical subject that takes on properties. But it turns out that matter does not take on logical properties as a subject, because it is not a thing, though it may be physically persistent as an aspect of a thing\textsuperscript{134}. Then Aristotle dismisses some other candidates: the composite, which is underlying "in the obvious and secondary way"\textsuperscript{135}, its accidental descriptions\textsuperscript{136} and categories other than substance\textsuperscript{137}. His conclusion is that essence would be a satisfactory expression for substance. Any other description has its meaning only if it can be resolved into the essential description. The essential description cannot be further resolved, so it must be underlying in the order of thoughts, and its ontological correlate, which is the formal principle of a corresponding substance, should be underlying in the order of things.

Aristotle considers the difficult case of the 'coupled' terms, which have two different descriptions: one that necessarily involves the reference to their material substrate, and another that does not. The term "snub" means 'curved when said about nose', but the property of the nose that he describes can also be described by the predicate "curved" which does not contain any reference to the specific material of the surface that it describes. But the term "snub" cannot itself describe any neutral surface, so its satisfactory formula should include the reference to the domain of its application. Aristotle's thought is that the process of 'internal reference' should go on until there is no more specific domain to refer to except the genus. But such a formula will be 'essence' and definition. The case with the subclasses which can only be defined with reference to the main class\textsuperscript{138} is treated by Aristotle as "duplication" because it involves the same procedure of reduction to the essence: we cannot get a definition of "odd number", but we can get its formula if we give a definition of "number". So, the class of 'essences' is restricted to include only those things that have proper definitions, and Aristotle gives an effective procedure of arriving at the proper essence for several types of terms that occur in reasoning.

In chapter 6 Aristotle seems to suggest the ontological interpretation of the logical form arrived at in the previous argument. The question is formulated as follows: is the essence identical with the particular or not? Aristotle's

\textsuperscript{133} The "minimalist" conception of the physical substrate is available from GC II 1 : 329a27.
\textsuperscript{134} Z 3: 1029a10-30. The argument really does not depend on how we approach the status of prime matter: it may be a reduction to the absurdity as Gill suggests, but even if it is not, the prime matter (and anything in the status of "matter") cannot be the logical subject.
\textsuperscript{135} Z 3: 1029a30. Presumably, 'obvious' because it is a subject for properties and qualifications, and "secondary" because its true subjecthood depends on that of its constituents.
\textsuperscript{136} Z 3: 1029b29-30a17
\textsuperscript{137} Z 3: 1030a17-25.
\textsuperscript{138} Z 3: 1031a1-11: 'number' and 'odd', 'female' and 'animal'.
answer is that the essences, which are said *per se*, have to coincide with the particulars. Otherwise there could be no knowledge of the latter, and the former would not count as being. Knowledge of the particulars is the knowledge of essence, and on the other hand the ‘first and *per se*’ predicates could not be real if they were only the predicates.

So, they are primarily not the predicates, but parts of the subject: this in fact provides the foundation for true predication. But this amounts to a restricted ontology, where real things are those whose essences coincide with the first predicates. That these realised essences should have teleological structure, follows from the nature of the first predicates. The nature of the true substances cannot be accidental. The important claim of chapter 6 is that there must be such substances (this is, apart from other things mentioned, the condition of meaningfulness of terms like “unity”, “being”, and also “the good”). This claim should have a consequence for the theory of generation: there must be some features that distinguish the coming-to-be of non-accidental qualifications from that of the accidental qualifications. The generation is discussed in the following three chapters. The discussion is terse and sketchy, and is sometimes regarded as a digression in the text of Z. However I believe that it belongs here by the logic which I tried to present above.

### 2.2.3.2. Form as the matrix of generation.

Aristotle begins his discussion of coming to be with several classifications. First, he divides generation into natural, spontaneous and artificial. Then he outlines the structure of the process of generation. The main elements of this structure are: the ὑπὸ τινὸς, the ἐκ τινὸς and the τι. The inclusion of efficient cause as a *part of the process* is new, both compared to *Physics* and to the elemental generation.

Next, Aristotle says that this account of generation is suitable for all the four main categories, but its position in the text, and the nature of the arguments and examples clearly indicate that substance is his major concern. The

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139 Z 7: 1031b2: καὶ εἰ μὲν ἀπολελυμέναι ἄλληλαιν, τῶν μὲν οὐκ ἦσαν ἐπιστήμη, τὰ δ’ οὐκ ἦσαν ὑπότητα.
141 The argument to the same effect, but on somewhat different grounds (from the notion of a sensible substance) is given by S. Mansion (1979).
142 Z 7: 1032a14.
143 GC II 10 gives an account of the efficient cause of coming to be in general, but its action is in principle hardly specifiable to the particular instances of generation. In *Physics*, too, there is the notion of a mover, but it is characteristically absent from the models of generation. The role of a mover is regarded as bringing about one of the operative conditions in the system, but the character of a mover has no ontological import.
natural generations are those in which coming-to-be is from nature, which is said to be ex quo, which we call matter, that by which is one of the natural things; and "that which" is e.g. man, plant, or something else what is called substance in the principal sense. The triad “privation - form - the underlying substrate” is still assumed as the mechanism of change, though it does not have a general explanatory function, because of the inclusion of the causal aspect into the agenda of the explanation, but also because of the new status form has obtained in this treatise. This change of the scope is seen from the description of the main factors of generation. Matter is said to be possessed by all the things that come to be by art and nature, because the main character that it provides them with is contingency. Aristotle says that ἡ ὕλη and καθήκοντα are, each of them, nature, describing the generated thing with the term καθήκοντα that normally designates form, as Ross notes. The efficient cause is a natural moment of generation in virtue of its form.

Aristotle outlines the types of generations that are not by nature spontaneous and artificial. The production in crafts becomes the main illustration for this model, and this is related to the new function of form in the process of coming-to-be. Aristotle clearly wants to emphasise the central role of form in the process. His description of the production in arts says: ἀπὸ τέχνης δὲ γένεται ὡσον τὸ εἴδος ἢ ψυχή, and the explanation that follows defines the form as the essence of each particular and the first substance.

Aristotle says that the form of the opposites is somehow one: the privation is relative to the form, as he has already observed in the Physics. He explains here that the notion of disease is formed in the soul of the doctor by contrast with the formula of health, which is a positive determination. Health in the sick person is produced in the following way: given that health is this and this, in order to reach this state, it is necessary to reach some other state, which will be conducive to it, e.g. the evenness of temperature, and in order to reach this, it is necessary to reach some prior state, e.g. warmth. And in this way he thinks all the way through, until he reaches the very proximate thing that he can do. The process until this point is called thinking. The movement starting from the last point

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144 Z 7: 1032a15-20.
145 Z 7: 1032a20.
146 ad loc., p.182.
147 It is not “agent” in virtue of its form only, as Ross explains, because this kind of agency involves matter: form needs a material carrier. But it is natural for the process of generation due to the form and not matter, so it is called ἔμαυείδης.
148 Z 7:1032a32
149 Z 7: 1032b1-2: the latter definition caused the problem with regard to the distinction of first and second substances in the Categories. The debate involved the issue of relation of the theory of substance in Meta. to that of the Categories. These matters are discussed in chapter four. At this point suffice it to say that this text does not necessarily involve the interpretation of the “first substance” as a universal. The form that is in the soul of the craftsman is said to be the first substance of the artefact. In the same way the form that is in the seed can be said to be the first substance of the organism. The implication of universality may follow, but not necessarily after it.
established by reasoning to the first state which was the goal of the process is called production. So in some sense, says Aristotle, it happens that the health comes about from health (when the matter deprived of health becomes a property of a material organism), and in the same way the house comes to be from the house.\footnote{Z T: 1032b9-14.}

We can see that the scheme, although it preserves the “replacement” as a general mechanism of change, differs from those of Physics and the GC in that it explicitly includes as its part here the directive factor which determines the scope and nature of a “replacement”.

The new scheme of the process of generation (or change) is as follows:

\[
\text{Form} \rightarrow \text{state}_n \rightarrow \text{state}_{n-1} \rightarrow \ldots \rightarrow \text{state}_0 \rightarrow \ldots \rightarrow \text{state}_{m-1} \rightarrow \text{state}_m \rightarrow \text{Form}
\]

\[\text{ratiocination (专业知识)} \rightarrow \text{production (知识)}\]

The same scheme applies to the natural process except for the fact that the “ratiocination” stage is not present in it in the way it is present in artificial production: there is no thinker who has to keep in mind the whole process from its last goal to the first, but there has to be some similar process which Aristotle wants to formulate. So he examines carefully once more what happens in the natural process when the first goal is achieved. He says that, for instance, in our example, when the due warmth of the body is secured, warmth should consequently either be a part of health or be followed upon by something such that is the part of health, or be followed upon by something which will be followed upon by that which is a part of health.\footnote{Z T: 1032b26: ἢ θεωμότης τοῖσιν ἢ ἐν τῷ σώματι ἢ μέρος τῆς ἰσχίας ἢ ἐπεταὶ τι αὐτῷ τοιοῦτον ὡ ἔστι μέρος τῆς ἰσχίας, ἢ διὰ πλειόνων.} So, the state\(_0\) of our scheme should be somehow technically related to the final state. Aristotle says that it is related to the final state as part to a whole (either directly or implicationally so), by “being present in a thing and undergoing genesis” (Ross’ paraphrase)\footnote{Z T: 1032b30: ὡστε, καθάπερ λέγεται, ἀδύνατον γενέσθαι εἰ μὴδὲν προϋπάρχῃ. ὅτι μὲν ἄν τι μέρος ἐξ ἀνάγκης ἐπάσχει, φανερῶν ἡ γὰρ ἡ λίμνη μέρος (ἐνυπάρχει γὰρ καὶ γίγνεται αὐτῇ).} He next raises the question of whether matter in such cases is somehow also present in the formula of the things generated in this way.

The next passage seems to explain the way in which matter is present in the formula of a generated thing\footnote{Z T: 1033a2-23. The passage has been treated differently by the commentators. Ross says that “Aristotle passes from the implication of the previous existence of something εἰς ὑ ὁ γενόμενον γίγνεται to mention, rather irrelevantly, his favourite linguistic point about the use of such words as λίθος (cf. Θ. 1049a18, Phys. 190a25, 245b9), ignoring, unjustly, I think, Aristotle’s question ἄρα καὶ ...ἐν τῷ λόγῳ, that immediately precedes the discussion. The London seminar raises the problem (among others): “At a11-12 we find that the healthy man is not said to be sick, because he comes to be ἐκ κακῶν τον. We would expect, therefore, the statue to be called not ξύλον but ξύλον, because it comes to be ἐκ ξύλου. But Aristotle precisely denies this (cf.a 19-21): a thing is properly ἐκ its privation, not its matter. So the latter point undermines the former, making the relation of the ξύλον ξύλον point to matter.}.\footnote{Z T: 1033a18-20: Τὸ τερματικὸν πράγμα αὐτὸν ἐπειδὴ ἄρα μέρος, διὰ τῆς λίθου ἂς ἐστι, ἐπειδή τερματικὸν πράγμα εἶναι ἀναλογικόν ἔστιν ἄρα εἰς τὸ ἐπιτηδεύων, ἔστι δὲ μέρος τῆς λίθου καὶ τοῦτον ἀποτελεῖ.}
Aristotle says that the house which is made of stones is called a “stone house”, because stones were the matter from which it was built, just as the sphere made of bronze is called a “bronze sphere”, and generally everything that is made of something is not called by the name of that something directly, but only in the form of an attributive adjective: not ἐκεῖνος, but ἐκείνους. But then, turning to the case of non-substantial generation (where what comes to be is a property rather than a thing), he notes that in the case of the “recovering man” (ὑπαινοῦν), who comes to be from the sick, the possessive modifier refers not to the underlying substrate proper, but to its qualification which is directly related to a change, and refers to it in the oblique way, by contrast. In this Aristotle invokes the *Phys.* 1 account of generation, and chooses not to exploit the distinction between substantial and non-substantial generations, but rather to treat them in the same way. So he says that in case of stones and bronze, the names of the materials (which are the ‘underlying’ of the process of genesis in those cases) are used to form the modifier, just because in those cases the privation which qualifies those materials with respect to the form is “obscure and nameless”\(^{154}\).

The distinction that Aristotle draws here is between the two types of a substrate (treated uniformly in the *Phys.*): in the case of a house, where what is generated is a thing, the substrate is taken as ‘antecedent matter’, while in the case of a healthy man, where what is generated is a property, the substrate is taken in its privative qualification. Aristotle wants to say that the general logical structure of generation (by “replacement”) is the same in both cases, although the specific logical structure is different in the cases of substances and non-substances. This account, by correlating the form of a substance with the antecedent matter, indicates the importance of form in the process of generation.

In Z 8 Aristotle formulates his thesis that neither form nor matter is generated in the process of genesis; the very same one that was raised by P.Moraux as a charge against Alexander’s theory of form. For that reason it is useful to examine it briefly. What Aristotle says in this chapter is that there is one product in every generation (or production), and it should not be thought of as a multi-goal process, because the multi-goal process will lead to the indefinite\(^{155}\). That does not mean of course that the materials which make a part of the process of production should be “uncreated”: but they should be produced in a different process of production. Still less can the production start

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the ἐκ-privation/ ἐκ-matter point yet more problematic.” (Burnyeat *et al.*, p.61) M.L.Gill discusses it at length, interpreting the account of matter that it gives as belonging to the formula of the compound in the essential way. (Gill 1989, 120-5).

\(^{154}\) Z 7: 1033a14: ἄδηλος καὶ ἀνάσωμος.

\(^{155}\) Z 8: 1033a31: τὸ γὰρ τάδε τι ποιεῖν ἐκ τοῦ ὅλου ὑποκειμένου τάδε τι ποιεῖν ἔστιν (λέγω δ’ ὅτι τῶν χαλκῶν στοργύλων ποιεῖν ἔστιν οὐ τῶ στοργύλων ἢ τὰν σφαίραν ποιεῖν ἀλλ’ ἐκεῖν ὅτι, οὗτον τὸ στοργύλον τοῦτο εὖ ἀλλιμ...) εἰ οὖν καὶ τούτο ποιεῖ αὐτό, ἄδηλον ὅτι ὑσιωτῶς ποιήσει, καὶ βαδισθῶμει αἱ γενέσεις εἰς ἀπειρον.
if the form of the product has yet to be formed in the head of the maker. These processes may well precede the process of production in due course, but they are not parts of a particular process of production, where form and matter are pre-requisites. So, the postulate of the form being "ungenerated" is valid, but probably should be taken a little less dogmatically, because its strict ontological implications are not clear in this context, where it is explained more as a necessary condition of generation.\textsuperscript{156}

Furthermore, the forms that can contribute to generation should be of the same ontological level. This is what I take to be the meaning of the next passage:

Moreover, in certain cases it is clear, too, that that which generates is such as is that which is generated, but certainly not the same as it, and not one with it in number, but in kind, as in the natural things: for man begets man, - unless something has been begotten against nature, for instance the horse, a mule (but this case, too is similar: for that which is common to the horse and donkey, which does not have a name, that is the closest genus, would perhaps be both, like the mule). 1033b29-34a2.

In some cases this ontological equality of the form of that which generates and of the thing that comes to be can be seen.

So there is not necessity to postulate form as a separate paradigm of the process, but it will suffice to pose that which generates and to have the formal cause in matter\textsuperscript{157}. Probably Alexander’s account of generation in the commentary on Physics II cited above was written with this passage (and its surroundings) in mind.

In chapter 9 the issue of the persistence of matter under the formal qualification is considered again. We have noticed that this is a significant addition to the account of Physics, which is probably related to the general orientation of Metaphysics to organic generation. Aristotle considers the question why some of the processes can take place both as induced by art and spontaneously, e.g. the recovering of health, while some cannot. His answer is that in some cases the matter which is the principle of generation is capable of being moved by itself in a particular way. For many things can be moved by themselves, says Aristotle, but not many in a particular way, e.g. "dance". An example of a special moving property in matter is heat which can start spontaneous healing.

Aristotle’s explanation of the process is of interest. It is obvious, he says, that everything comes to be from something of the same name, either from a part of the same name, or from a thing which has that part of the same name, unless it comes to be accidentally. For the cause of the production is the first part that acts \textit{per se}. (We have to think about the form in a scheme above). Thus the heat which is in the movement (of rubbing) produces heat in

\textsuperscript{156} In particular, right after this claim Aristotle turns to consider the postulate of separate universal forms, which would probably answer the condition of not being generated (Z 8:1033b19), and rejects it on the grounds that it could not be helpful for the explanation of generation. So, the qualification of not being generated cannot be taken as evidence against the individual forms. I am grateful to Prof. Sharples for drawing this point to my attention.
the body. But this latter heat is either health or its part, or some part of health, or even the very health itself is consequent upon it. For that reason it is said to "produce", since it produces that upon which the end-state follows.

The state, according to Aristotle, can in some cases be available without the action of the artificer, and outside the chain of natural production\textsuperscript{158}. Aristotle closes the discussion saying that the thesis that form is not generated is true for genesis in any category, not just substance. In this way the dependence of the process of substantial generation on form is shown to be in agreement with the general scheme of change. This precludes reductivist interpretations of generation, both substantial and non-substantial.

At this point we are in a position to compare the notion of form developed in the metaphysics with that of Physics and the GC. (1) Formal principle is a unit of "replacement", but the "replacement" scheme has suffered some serious modifications. In particular, it has got more structure and more intermediary stages at which form is not the unit of "replacement".

(2) Adequacy of substrate to form: in this case the adequacy of matter to form is governed by form. The substrate is gradually 'worked up' by form toward the final stage; on the other hand, there are intermediary stages at which the substrate is adequate to form not actually, but just potentially.\textsuperscript{159}

(3) The notion of form as integral property introduced in Physics is to some extent preserved by the compositional analysis of book Z. It is used as an illustration of the distinction between form and accidental property. This is different from the treatment in GC, where the notion of form as integral property is not as central.

\textsuperscript{157} Z 8: 1034a2-5: ὡστε φανερὸν ὅτι οὐθέν δεί ὡς παράδειγμα εἰδος κατασκεύασειν (μᾶλλον γάρ ἀν ἐν τούτωι ἐπέφηγον) οὐσία γάρ αἱ μᾶλλον αὐτῶι (ἄλλα ἱκανον τὸ γενέμαν ποιησαι καὶ τῷ εἰδος αὐτῶι εἶναι ἐν τῇ ὑλῇ.
\textsuperscript{158} Z 9: 1034b4: ὥστε ἀπὸ ταυτοματόν ὑπέρ ἐκεῖ γίγνεται, ὡσων ἡ ὑλή δύναται καὶ ὑπὸ αὐτῆς κατασκευὴ 

\textsuperscript{159} (Transl.A.L.Peck) D.Balme 1962 argues on the basis of this and related texts of GA III and HA 5-6, one the one hand, and our text of the Metaphysics, on the other, that the theories presented in both groups of texts are different (and makes some conclusions about the chronology). (I am grateful to Prof.Sharples for drawing my attention to this article). But for our study the common point is more interesting, namely that Aristotle looks for the intermediate states between the organic and inorganic matter, and tends to describe them as the states of matter. This will be of interest in relation to Alexander's hylomorphic doctrine.

\textsuperscript{159} This could provide a link with the discussion of form and matter form the point of view of potentiality and actuality in books H and Θ, the analysis of which lies beyond the scope of this study. Yu 1997 argues that the problematic of the books H and Θ is different from that of book Z: the former deals with the categorial problem of form and matter with the compositional analysis of hylomorphic constitution, while the latter has to do with the 'genetic' analysis from the point of view of actuality and potentiality. While this seems generally plausible, it may still be noticed that some overlap of compositional and teleological approaches to hylomorphism occurs in Aristotle. We have seen that in Phys. the 'teleological' approach follows upon the 'compositional' analysis of Π 2. I am grateful to Prof. Sharples for drawing Yu's article to my attention.
As we have seen, form in *Metaphysics* does possess directive force. This is another significant difference from the conception of *GC*, where the direction of interaction between two simple bodies is essentially indeterminate from the point of view of form. There, the direction of generation is decided by prevalence and the process of generation is reversible, i.e. once started, if the conditions of prevalence change, it can be reversed and flow in the opposite direction. In the substantial generation described in the *Meta. Z*, form directs the process of generation and the process is irreversible. This does not mean that generation cannot be interrupted by prevalence of some material factor, but in case of the interruption the nascent structure will not revert to its initial state, but will be dissolved into the simple constituents.¹⁶⁰

(5) From the preceding point it follows that the transfer of structure in the substantial generation as described in *Metaphysics* happens not by immediate prevalence, but by a process which involves several intermediary stages. Calculating the stages and selection of the initial state are functions of art in case of artificial production and of natural form in case of a natural generation.

The resulting notion of form-substance is of course very different from the notion of formal factor that could be derived from the elemental model of generation, although, as has been noticed, they both stem from the same general conceptual scheme, namely *Physics* theory of change.

Conclusions.

In this chapter we have seen that the *Physics* scheme of change, when applied to the two different domains, of the elements and of the substances of *Metaphysics*, endowed with essences and teleological structure, yields two different notions of substance to which correspond the two conceptions of formal principle.

In the case of the elements, substancehood of the formal principle is derived from the physical nature of the constituent properties. In the case of the structured substances, substancehood is postulated and important adjustments are made in the mechanism of generation compared to the general “replacement” scheme.

It may be noticed that there is no attempt to reconcile the two notions of substance, although Aristotle is obviously aware of the tension between the two theories, because in the *Metaphysics* he refuses the elements the status of true substances. The formal principle in the case of the elements is dependent on the primordial qualities, which are constituent physical properties of the simple bodies. In case of the structured substances the formal principle, accordingly, is the main principle of structure, and as such does not depend on matter in the same way as the formal

¹⁶⁰ On Alexander’s analysis of this problem, see below, chapter four.
qualification of an elemental compound.

Since every hylomorphic compound includes matter, and since every matter is made up of elements, a question should inevitably arise about the relation between the two formal principles within a material substance. Aristotle does not raise this problem explicitly, but his Commentator has to deal with it. In the following two chapters we are going to see the two conceptions of hylomorphism which are present in the opening part of Alexander’s *de anima*. 
Chapter 3. Alexander's theory of formal constitution.

3.1. Alexander's expository method.

Alexander's treatise is on the whole based on his commentary on Aristotle's *de anima*, and large parts of it are designed as paraphrases of Aristotle's arguments\(^1\). The beginning of his treatise, however, is not one of them. Aristotle's first book is the outline of the problems and the analysis of different views on the subject. Alexander's introductory part is a brief compendium of the Aristotelian doctrine, where the views of the others that are presented do not have the heuristic or epagogic function they have in Aristotle, and are only mentioned to be refuted. The scope of this compendium exceeds that of Aristotle's first book; it looks very much like a *cento* collected from all over the corpus. To a certain extent this is the result of Alexander's exegetic method, characterised by an overall "connective" style, and the commitment to the "immanent" interpretation (*Aristoteles per Aristotelem*). As P.L. Donini writes,

> a scavare sotto una proposizione di Alessandro c'è, di solito, di che rimanere sbalorditi: si è rinviati, come d'anello di una catena a quello precedente, a una serie imponente di testi aristotelici che sono presupposti e, una volta sgranato tutto il rosario, ci si rende conto che l'interprete ha inteso dare ragione anche di tutti quegli altri testi nel commentare l'unico a cui, apparentemente, il suo interesse immediato doveva essere rivolto.\(^2\)

When the exposition has a paraphrastic nature, there is no question of what holds together the concatenation built up by the cross-references within the corpus: it is the Aristotelian text. An example of what I call "paraphrastic" method of exposition is presented by *mantissa* 1. This treatise is devoted to roughly the same range of topics as the beginning of *de anima*. In order to see the difference, it will be useful to review the arguments of both treatises paying special attention to the source of the main doctrinal points that are propounded.

(a) *mantissa* 1.\(^3\)

101, 3-12: statement of the difficulty of study of the soul: it is one of the most familiar and obvious things as regards its being and *πνεύμα*, but one of the least known in its essence (*σώμα*). Other such things include, apart from the soul: movement, place and time.

101, 12-15: the first thing to do in the systematic exposition is to find out under which of the first genera soul

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\(^1\) See AD above chapter 1; Donini 1994.

\(^2\) Donini 1994, p.5041.

\(^3\) The full translation of the treatise is to be found in the *Appendix* 1.
101, 15-102, 9: explanation of the composite substance: the examples are found in many places in the Aristotelian corpus, but the main topic and associated doctrine come from DAI 1: 412a3-164.

102, 9-12: the missing part would probably disprove the uniformity of “paraphrastic” method, because it seems from what is preserved that Alexander introduces the hylomorphic relation between soul and body by elimination of alternatives, his method, which will be discussed below in some more detail. The two alternatives that are eliminated are probably, as Bruns suggests, the juxtaposition of parts and the blending of the whole bodies (or fusion: in this example they are treated indistinctly).

102, 12-103, 20: the explanation of hylomorphic constitution, six arguments to the effect that soul is form and body, matter, all based on DAI 1-2:

(i) 102, 17: τὸ μὲν σῶμα τῆς ψυχῆς εἶδος λέγειν ἀδύνατον· ὑποκειμένου γὰρ τὸ σῶμα: from 412a17-19;

(ii) 102, 18: ἐτι καὶ ἔκαστῳ τῶν ὄντων τάδε τι κατὰ τὸ εἴδος ἔστιν, ὅν οὐκ ἦν καὶ οἰκία, ναῦς, πύρ, ὕδωρ, γῆ. Καὶ τὸ ζῷον δὲ κατὰ τὴν ψυχὴν γίγνεται ἐστί. ὡστε ἡ ψυχὴ τὸ εἴδος: derived from 412b10.

(iii) 102, 20: Ἐτι εἰ τούτῳ ἐστὶν εἴδος, ὁ μηκέτι παράνομος μονὴ ὄντος ἐν τῷ ὑποκειμένω πέπαιναι τάδε τι εἰκὼν ὁ ποιητήριον ἢ τοι, καὶ τὸ ζῷον δὲ ζῷον εἰπαι ναζωθεῖν τῆς ψυχῆς ἀπὸ τοῦ σώματος ὡς γὰρ ὁ πέλεκες κατὰ τὸ σχῆμα πελεκές ἐστι καὶ ἐστιν εἴδος αὐτῶν τοῦτο, καὶ εἰ ἤθελεν ἢ ἰμάλοι, ἢ (ἀυ) αὐτὸ τὸ σχῆμα, ἀλλὰ ὁ σύνθεσις ἡ ψυχή, οὕτως καὶ ἡ ψυχή εἰ σῶμα ἀνάλογον ὠσα τῷ τοῦ πελεκέως σχῆματι, κατὰ γὰρ ταύτην ζῷον ἐστὶ τὸ ζῷον, εἰς ἣν ἡ κατὰ τὸ εἴδος οὐσία: derived by interpretation of 412b13 f.

(iv) 102, 27: Ἐτι ἐι, οἷς διαφέρει τὸ φυσικά σώματα ἀλλήλων, εἴδη ἐστίν, διαφέρει δὲ τῷ τὰ μὲν ἐμψύχα εἰναι, τὰ δὲ ἀμύμα, εἰς ἣν καὶ ἡ ψυχή ἐδής: from 413a20-b10

(v) 102, 29: Ἐτι εἰ, ὁ πρῶτω ἐπιστάμενα, ἐπιστήμη ἐστὶ (κατὰ γὰρ τὴν ἐπιστήμην ἐπιστάμενα), καὶ ἐστιν ἡ ἐπιστήμη νοὸς ὑποκειμένοις τι, ἀλλὰ ὁ τὸ ὑποκειμένου δεξαμενὸς δευτέρως ἐπιστασθαι λέγεται (τούτῳ δ' ἐστίν ψυχή), καὶ ἣ πρῶτα ὑγιασθεῖσα, τούτῳ ἐστὶν ψυχή, τούτῳ δὲ οὐς ὑποκειμένος (τὸ γὰρ σῶμα ὑποκειμένος, ἤ δεχεται τὴν ψυχήν, καὶ δευτέρως ὑγιασθεῖσα τούτῳ), ἐστὶ δὲ καὶ ὁ πρῶτως ψυχή, ψυχή, οὐδὲ ἡ ψυχή ὑποκειμένου, ἀλλὰ τούτῳ ἐν τῷ ὑποκειμένου δεξαμενοῖς δεύτερας καὶ αὐτὸ λέγεται δεύτερας, ὡς ὑγιασθεῖν τὸ τῆς ψυχῆς δεξαμενοῖς σῶμα καὶ ἐπιστασθαι η τῆς ἐπιστήμης δεξαμενην ψυχή. ψυχὴ ἄνω ἐστιν ἣ κατὰ τὸ εἴδος οὐσία. from 414a5.

103, 3-10 form is entelechy: this is a didactic digression made for the sake of the next argument and marked as such (τὸ δὲ εἴδος τελειώτατα τα καὶ ἐντελέχειαν ὁ Ἀριστοτέλης λέγει.)

103, 10-20 (vi) the proof that soul is the first entelechy: corresponds to 412a23-30.

103, 20-104, 17: variations on the theme of σώματος φυσικοῦ ὀργανικοῦ: corresponds to 412a30-b9 (a detailed paraphrase).

104, 17-21: the soul is incorporeal: not in Aristotle, but may be prompted by several places in II 1-2 (412a16; b6; 414a20), and so is justified within the paraphrase.

104, 21-22: Ἐτι δὲ ἡ ψυχή ἐντελέχεια ὀσία δ' ὧν τοῦ σώματος, τῶν γὰρ ἐμψύχου τοῦ ἐμψύχου μέρος. This may be not strictly accurate as regards the Aristotelian biology, unless the body is defined so as to exclude some “soulless”

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4 The parallels include: 101, 15-17: διανοούμενον τόμων τοῦ δοτού εἰς τὰ πρῶτα καὶ ἀνωτάτῳ γένει δέκα ἐν τι τούτων καὶ τῶν οὐσίαν εἰλα φαμεν is an expanding paraphrase, much in the manner described by Donini, of 412a6-7: λέγομεν δὲ γένος ἐν τι τῶν οὐσιῶν τῶν οὐσίας. 101, 17-22 Br.: ἄρτῃ τὸ μὲν σύνθετον λέγομεν κτλ. a didactic expansion of 412a6: οὐσία δ' οὕτως ὡς συνθετή. The characteristics of the composite substance are indeed collected from all over the place: 101, 18-20: ἄρτῃ τὸ συνορισμένη διαμέλη, τὴν ἀποθήκην τε καὶ ἐνεργεία οὖσαν καὶ πάλι τοῖς ἄλλοις γένεσιν τοῦ δοτοῦ υποκειμένην (Categ., Meta. A), but the introduction of this topic here is warranted by the Aristotelian text. 101,22-102,10: explanation of form and matter corresponds to Aristotle’s 412a7-10. The examples of substances are Alexander’s own.
parts (e.g., blood), but the origin of this could be Aristotle’s reflections on the “eye” simile of the soul (412b20).

104, 22-34: this is not a paraphrastic part, but aporetic, and the derived principle (104, 28: καὶ ἐστὶ τὸ σῶμα καὶ η̣ τοῦτον κοσμὸν αἰτία τῆς ψυχῆς τῆς ἐξ ὄρθρις γενόσεως) is new in the Aristotelian system.


105, 2-106, 5: the hierarchy of the soul’s faculties: corresponds rather exactly (with some expansions and additions) to DA II 3: 414a29-b19.

106, 5-17: the soul is the unmoved cause of movement that moves because it is due to it that we can think and deliberate: corresponds to DA III 10, appears here as an expansion on the theme of ὕλης in DA II 3.

I have omitted many details, but tried to reproduce the logic of this treatise. It seems clear that this is mostly the logic of paraphrase. Of course there are non-paraphrastic sections (102, 9-12; 103, 3-10; 104, 17-21), which is never to be excluded in the real paraphrase, and there is the question of their source, the solution of which also requires us to go beyond the paraphrased text. A full concordance would certainly discover much more of the Aristotelian background behind Alexander’s text, but it would not cancel the fact that the exposition follows the text of the second book of Aristotle’s DA.

Now let us look at the introductory part of Alexander’s own de anima. Alexander begins his exposition by formulating the difficulty, which, he thinks, underlies all the remaining problems concerning the soul: it is the difficulty of reconciling its powers and functions with what is said about it as being more divine and greater than any corporeal power. P. Accattino has suggested that this aporia might have been Alexander’s reaction to the Atticus’ eloquent critique of the Aristotelianism7. On the other hand, AD in their commentary draw attention to the passage from the introduction to the psychological treatise by Boethus of Sidon, in which the proximity of the soul to the divine is connected to the soul’s being in constant motion, naturally averse to rest8. According to Alexander’s presentation of the problem in de anima, what makes soul “more divine” and so problematic, is its ‘movements’, so it may allude to either of the two sources9. He undertakes to show that the body of which this soul is a property is paradoxical and intricate enough to make the status of the soul less surprising and paradoxical. Alexander’s

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5 For references and discussion see Cohen, pp. 145-149.
6 2, 15-18 Bruns
9 2,19 Br. So it is likely that this problem is echoing some polemic, even though AD in their commentary correctly notice the possibility of the “internal” origin of the problem of the divine, in connection with the theory of the soul of the cosmos. On Alexander’s discussion of the divine power of the cosmos in quaest. II 3, see below chapter five.
programme of investigation involves concentrating first on the design of the body, which has the soul, and the
description of the economy of its internal parts, as well as the nice agreement of them with the external parts.10

After expounding the aпорia, Alexander starts his account of the soul as form with his formulation of the
hylomorphic principle. He says that “it must be most true and obvious for those who undertake the clarification of
these matters that every corporeal and sensible substance is a composite of some substrate which we call matter,
and the nature which shapes and defines this matter, which we call form.”11 The following argument contains the
main principles of Peripatetic doctrine of form and matter.12

(b) de anima 2, 25 - 7, 14 Br.

I. General.

2,25-3,2: every composite sensible substance consists of form and matter. (παντὸς μᾶλλον ἀληθεὶς καὶ ἐναργῆς).
(AD cite: D.II 1: 412a6-16; Meta.Θ 1-2; Α 1-5)

3,2-13: illustrated by the example of artefacts. (From Phys. II 3) There is an allusion to the στίχος of Aristotle’s
theory (Phys. I 7) at 3,11-13: ὥλη δὲ τῆς τέχνης τὸ σώμα τὸ πεδινὸς αὐτὴν δέχεται οὐκ ἔχου τὸ τοίχοι λάγο τὸ
nυόμενον ἀπὸ τῆς τέχνης ἐν αὐτῷ. The “privation” is not named explicitly, though it is included into the explanation.

3,13-21: the example of a natural body: bronze itself consists of the moist as matter and of compaction as form.
(AD cite Meta. V 4: 1015a10; Mete. III 6: 378a26)

II. Matter and form.

*3, 22: (Prime matter introduced). The division of natural things into simple and composite is introduced, then
rationalised on the basis of the distinction of the types of underlying matter: in the case of the simple bodies it is
simple, and in the case of the complex bodies it is complex. (The Aristotelian sources for the simple matter might
be DC III 8: 306b15; IV 5: 312a30; GC II 1: 329a27; AD cite also: Phys. I 7: 191a7; IV 9:217a21; Meta.Θ 4:
1044a15 and Θ 7: 1049a24-7).

*3,26: Simple matter is not a body. (Alexander’s theoretical development; not in Aristotle, but may be implied from
GC II 1: 329a27). The description of simple matter as ἀμορφὸς, ἀνείδεος, ἀσχημάτιστος.

Introduction of form: form deprives matter of this formless (ἀειδέος) state, which is in accordance with its proper
account (Phys. I 7). This formless matter is matter in the principal sense. Matter in the principal sense is matter of

10 AD and Donini 1971, pp. 67-9 point out that he has not exactly fulfilled this promise. It might be that the
promise is as given as a retort to Atticus’s reproach to Aristotle fr. 7: 45 des Places: οὐ γὰρ ψυχῆς ταῦτα φησί τὰ
kινήματα ὁ τῆς φύσεως, ὡς φαινεί, γραμματεῖς—πάνω γὰρ ἀοτρὸς ἐστὶ πιστῶς συνειδέασι τι περὶ τῶν ἐκτὸς ὁ τῆς αὐτῶν ψυχῆς
τουτοῦν ἀνθρωπηκίματος ἡς μηδ’ ὦ θα διανοεῖται παρακολουθεῖν. Alexander may be taking the challenge, and promising,
good-humouredly, to give a requested account of the “internal”, which will also have the advantage of being in
agreement with the “external”, along the lines of Aristotle.

11 2,25-3,2.

12 Alexander uses these principles in the proofs concerning the soul throughout the first part of his treatise: 10, 5
Br.: οὐ μὴν ἄλλα καὶ ἐκ τοῦ κατ’ ἀρχὰς ἡμῶν τῶν λόγων δεδειγμένον τούτο γνώσιμον. ἢν γὰρ κείμενον τὸ καθ’ ὂς ἐκάστῳ τὸ
eῖναι ἐστι, τούτ’ ἐστι τὸ εἴδος αὐτοῦ καὶ τελειότητα.
the simple bodies. The example of wax, which it is impossible to conceive of without the form. (DA II 1: 412b7). AD cite also Meta. A 2.

The matter of natural simple bodies cannot exist without them, but its essence (εἶναι of definition) is not with any of them. (Development of GC II 1). For otherwise it would not be simple and could not be the matter of anything else, if it perished and lost its proper form.

4,20-21: Not only matter cannot subsist on its own, but neither can the form which is in it so subsist.
*4,21-22: Form can so subsist even less than matter.
*4,22 -5.1: For the matter of the artefacts at any rate can subsist on its own when the form of the artefact is removed.
5,1-4: the difference between the form of the artefacts which is not substance, and that of the natural things which is substance, because nature is substance (the argument can be found in Meta. A 4; AD: Meta. A 3: 1070a15).13

III. Hylomorphic constitution.

5.4-9: the explanation of the hylomorphic constitution of a natural body with the example of fire: its form is heat and dryness, and also the lightness which comes from these two and follows upon them. Its matter is the substrate of these, which, taken per se, is none of them, is receptive of all of them and their opposites (this is in fact how the simple bodies change into one another). (By implication from GC, DC).14
*None of these is a body, but that which is from them is already a body, namely fire, which has from its nature and its substance-form the natural upward movement.
*This lightness itself, being the nature and form of the fire, is not moved. (Implication from DC. AD quote I 2: 268b16; IV 1: 307a28-308a).


*5. 18 -6.1: none of the constituents of the simple body is body. (Arguments: (i) every body is tangible and with a contrariety, but matter is deprived of any quality; (ii) body subsists on its own, but matter does not. In the same way form, too, is not a body.) (From GC II 2; AD quote Phys. IV 7: 213b34).

*6.2-6: however, each of these constituents is a substance. For parts of the substance are substances; moreover, it is because they are substances that the composite substance is substance (distinction between the natural and the artificial: forms of the artefacts are qualities). (For tripartition of substances AD quote DA II 1: 412a6-13; but it could be Meta. A 3: 1070a10)

6.6-20: explanation of the problem of generation of substance (there is no unqualified coming to be).
(AD cite DC III 3: 301b31-302a9; 6: 305a14-32; GC I 3: 317a32; for the problem of eternity of the world DC I 10; II 1).

*6.21-29: every body has its being what it is due to its form. (κατὰ τὸ εἶδος). For each thing has its difference from all else due to its form, given that the matter is the same in all. (By implication from Phys. I 7; PA II)

*6.29 - 7.9: Form is perfection (τελειότητας). (i) Perfection (or completion) signifies the end of becoming; but becoming ends when the thing is wholly in its form. Hence perfection is in the form. (ii) But the reverse is also true: since form provides every thing with being what it is (τὸ εἶδος τοῦτο ὁ ἐστίν), and being what it is is its perfection, it is true that that in virtue of which each compound of form and matter has being (καθὼς τὸ εἰδώλιον ἐκάστου τῶν ἐξ ὁμογενῶν τοῦ καὶ εἰδικῶν συνόδων), is its form and perfection. (AD cite for coincidence of form with perfection: Meta. A 4: 1015a10-11; 16: 1021b21-3).

*7.9-11: Not only the being of each thing and its differences from other things are in virtue of form, but even the differences with respect to acting and undergoing action (ποιεῖν καὶ πάγγεσθαι).

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13 Cf. Alex. in metaph. 359, 25.
14 AD, p.109: "Le basi aristoteliche per questa sistematizzazione sono tuttavia esigue". (Use of εἴδη in GC II 2: 329b6; implication of the prime matter in Meta. A 4, 1070b11-13).
“The bodies act and are acted upon by way of incorporeals.” (ἐνδομοίον λέγεται, “forse un indizio della consapevolezza della mancanza di una solida base aristotelica”, AD p.113).

From the character of the references it is clear that the argument is not a paraphrase of any particular text of Aristotle. Most of its statements are found in Aristotle, but not this sequence itself. The brief concordance provided by AD in their commentary shows rather that the statements are fairly widely scattered over the corpus, and sometimes are taken from parts, the agreement of which may be questioned (this particularly pertains to the treatment of elements in full accordance with the hylomorphic principles, as developed in the middle books of Metaphysics, where incidentally the substantiality of the “simple bodies” is denied).

The function of this introduction is to prepare the theoretical setting for the definition of the soul. In this Alexander follows the “topical” order of investigation, developed by Aristotle in the logical writings, as J. Mansfeld notes, but also in the DA itself: “What is the soul, i.e. to what category does it belong: is it a substance, a quality, or a quantity? Does it have potential or actual existence? Does it have parts? Is every soul of the same kind or not? Etc.” The outset of mantissa I displays the same pattern even more manifestly, as Alexander says there that first of all we need to determine in what category the soul belongs, and goes on to argue that it belongs in the category of substance, in the sense of form. So, both treatises share the same point of departure. The theory of form and matter is introduced in both cases as the basis for answering these questions. But while in mantissa the source is mostly DA II 1-2, in de anima 2,25-7,14 Alexander presents a synthetic theory based on very different (in many cases disparate) Aristotelian sources.

It is possible that Alexander reflects in his exposition on some systematisation of Aristotelian doctrine of form and matter used in the school tradition. Some testimony to the existence of such systematisation is provided by the textbook excerpted by Stobaeus, attributed by Diels to Arius Didymus, which should be roughly contemporary with

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15 Prof. Sharples points out to me that this difference in style between mant. I and de anima 2,25-7,14 can be compared to the difference between the two types of ἐπισκόπωμεν found in the quaestiones (ἐπισκόπωμεν is one of the six genres of school treatises distinguished by Bruns on stylistic and functional grounds; its distinct function is a close summary of some text of Aristotle; see Bruns’ introduction, pp. VIII-IX): the ones that follow the order of Aristotle’s text and the ones that are systematic constructions from Aristotelian materials of arguments for an Aristotelian doctrine (citing as an example quaest. I 1).
16 Mansfeld 1990, p.3063.
17 DA I 1: 402a23 sq. This list of questions was taken over by the later commentators, cf. Philoponus, in de an.: ἀλλ’ ἐπειδὰν εἴρημεν ὃτι σῶμα ἐστὶ, πάλιν ζητήσας πέτερον σώμα ἢ ἀσώματον, χωρίστον ἢ ἀχωρίστον· καὶ πότερον μία ἐν ἐκάστῳ ψυχῇ ἢ πολλαί· καὶ εἰ μία· μονοειδῆς ἢ πολυειδῆς· καὶ τις ἢ τῶν δύο· ἢ ἀνάμεσα· καὶ εἰ πολλαί· πότερον τῷ ἀνάμεσα πολλαί· καὶ εἰ τῷ εἴδει· πότερον καὶ τῷ γένει· ἢ ὡς· ταῦτα τοῖνυν καὶ τούτων πλείονα πρὸς τὸ λαβεῖν τὸν ὀρσίον τῆς ψυχῆς ζητητέου. (33, 7-15 Hayduck).
Alexander. The points that the doxographic presentation has in common with that of Alexander’s treatise, and which show the same kind of systematisation of Aristotle’s doctrine, are: the presentation of ‘synthetic’ hylomorphic theory, with the principles of form and matter resulting from some kind of exegetical construction; explicit theory of prime matter; the acknowledgement of special ‘corporeal’ character of matter as opposed to form; the statement of incorporeal nature of the bodily constituents.

P. Accattino’s suggestion, that the character of this introductory part is to be explained by polemic against the Platonists is quite plausible, but it alone cannot explain the arrangement of the Aristotelian material, which shows more features of traditional systematisation than of an ad hoc construction. One conclusion which could be tentatively derived from both ‘polemical’ and ‘school systematisation’ hypotheses is that the patterns of systematisation were influenced by the school polemic.

The doctrinal points made prominent by this systematisation, which will be important in our analysis of Alexander’s argument, are as follows:

(i) The doctrine of prime matter. The notion of prime matter is not explicitly developed by Aristotle. As we have seen above, the evidence for this interpretation of Aristotle’s “common matter” is debated, so its introduction in the exegesis of Aristotle should not be granted without scrutiny, not even to Alexander. We should inquire what set of assumptions led to such an exegesis and not another.

(ii) That simple matter is not a body but is present as a uniform constitutive aspect in each body, is Alexander’s theoretical development, not Aristotle’s. In Aristotle, as we have seen, the common matter is only a necessary

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19 For attribution see DG, pp. 69-78, for the critique of Diels and possible date and provenance of the work see Göransson, pp. 203-226. For the analysis of Aerus’ texts see Moraux 1973, p.262 f. and Tarán 1981. For another case where Alexander’s text shows several affinities with the same group of fragments, see Todd 1976, pp. 49-65. For Alexander’s use of doxographical sources, see Todd 1976, pp. 21-34. For Alexander’s use of doxographical techniques in his own writing, see Mansfeld 1988. Accattino 1992, p.47, n.30, observes that the thesis of ensouledness of the heavenly body defended by Alexander in several places, exactly corresponds to the what was attributed to Aristotle by the doxographic literature (in contrast with Aristotle’s own accent on the natural character of the circular motion), citing Aëtius Didymus’ frg.9 Diels and Aet. I 7.32 and II 3.4 Diels.


24 Accattino 1995, see above, chapter one.
condition of mutual transformation of the elements: it does not by the same token become their constitutive principle. (The necessary condition might mean, e.g., a postulate that all the \( \sigma\mu\mu\lambda\alpha \) which carry out the transformations, belong to the same nature, as has been mentioned above). This is not to say that postulating such matter is in disagreement with Aristotle, but it is important to realise that this step is not made by Aristotle.

The same pertains to the point (iii) that matter of a natural compound can persist in the absence of the forms of particular kinds (forms of the artefacts).

(iv) The explanation of hylomorphic constitution by example of a simple body, which is not to be found in Aristotle.

(v) Alexander's emphasis on the incorporeal nature of the constituents of a body originates from Aristotle's derivation of the simple bodies from the primordial qualities in \( GC \ II \ 3 \). But in Alexander's system the role of this principle is much more conspicuous than in Aristotle's.

(vi) The explanation of essence by "difference from all else" without reference to the genus, is slightly unusual, and so is the explanation of perfection as the end of the process of becoming.

(vii) Finally, the thesis "body acts upon body in accordance with the incorporeal" is derivative in the Aristotelian system, but gains much more weight in Alexander's argument.

Probably I need to emphasise that the points of difference brought in by systematisation need not amount to doctrinal differences from the Aristotelian teachings. We are likely dealing with the new formulations of the old problems, which re-shape them or put them into a different perspective. Such is the kind of difference we are most likely to encounter in the case of Alexander, as otherwise he was a consciously "orthodox" Aristotelian, i.e. he was trying to preserve as much of a doctrine as possible in a consistent manner.

3.2. Form and matter: the case of the simple bodies. (2,25-7, 14)

In this section we are going to consider the major innovation of Alexander's approach that consists in the application of hylomorphic analysis to the case of the simple bodies.

At 3,21 Alexander introduces the distinction between the simple and composite natural bodies\(^{35} \). This distinction is drawn by Aristotle himself and by Theophrastus, though the notion of "composition" that they envisage is not
hylomorphic, but rather has to do with complexity of structure.\(^\text{26}\) The problem of the categorical status of the elements goes back to Plato, who in *Timaeus* suggests considering them not as bodies, but rather as qualifications of bodies *qua* corporeal\(^\text{27}\). Aristotle, on the other hand, in the cosmological treatises uses the expressions like τόδε τι to designate the elements, though in *Metaphysics*, precisely where he develops the rigorous ontological theory of form and matter, he shows serious reservations about their being substances.

Theophrastus probably perceives the problem. One of the *aporiai* of his *Metaphysics* is whether the first principles should be conceived of as formless powers or as the entities possessed of some form:

πῶς δὲ ποτὲ χρή καὶ ποιας τάς ἀρχας ἐποίησαν τάς’ ἄν ἀπορεῖσειν τις, πότερον ἀμόρφους καὶ οὐν δυναμικάς, ἤσπερ οὕσει πῶς καὶ γῆς, ἢ μεμορφωμένας, ὡς μάλιστα δὲν ταύτας ὑποϊσθαι, καθάπερ ἐν τῷ Τιμαίῳ φησίν’ τοίς γὰρ τιμιωτάτοις ὁικείωτατον ἢ τάξις καὶ τὸ ὑφίσταται. (6b23 Laks-Most).

There is no agreement on whether the two different views described by Theophrastus are to be understood as two different positions with regard to general principles, as Laks and Most suggest, and in that case the difference of opinions will correspond to that between the different schools (e.g. Ionian natural philosophers and Plato)\(^\text{28}\); or whether the positions should be considered as systematic rather than doxographic, as M. van Raalte argues, and in that case the issue will be the nature of the basic material constituents of cosmos (elements, particles).\(^\text{29}\)

Theophrastus’ solution of the dilemma is that the principles should include both kinds, formal and material, for the completeness (τὸ τέλεον) resides in both. His explanation is “aporematic” in style, because he intends to avoid the difficulties into which both one-sided positions run: materialists and “teleologists”. The difficulty of the materialists is obvious: they want to derive order from the disordered stuffs (hence the possibility that the first member of conjunction still includes the elements is not discarded); the difficulty of the teleologists is that they have to account for a different degree of facility and adjustment in different cosmic processes. It is wise to have both principles, in order to be able to account for both aspects of the cosmos. From this it does not follow that the elements themselves should be regarded as compounds of form and matter, but the position which he regards as most proper can be

\(^{23}\) 3, 21-27.


\(^{27}\) *Tim.* 49d5-e2: άεί δ’ καθοριζόμεν άλλοτε ἄλλη γραμμένον, ὡς πῦρ, μὴ τούτο άλλα το τοιαύταν ἐκάστοτε προσαχρείειν πῦρ, μηδ’ ἢδος τούτο άλλα το τοιαύταν άεί, μηδ’ άλλο ποτὲ μηδ’ ἢδος ταύτα ἢδοι δεικνύονται όσα δεικνύοντες τῷ ὅματι τῷ τόδε καὶ τούτο προσχρέωμεν δηλοῦν γραμμένα τι, κτλ.

\(^{28}\) They suggest that perhaps by *μεμορφωμένας* Theophrastus alludes to the intelligible model (*Tim.*28a2-3) in accordance with which the demiurge shaped the cosmos (28a-6-7). Laks-Most, p.49, n.4.

\(^{29}\) She says that “the second member of the disjunction represents the idea that the basic constituents of the cosmos (elements, particles) are shaped ..., i.e. matter plus form.”. Van Raalte, pp. 287. J.Ellis terms the conflicting positions “materialist” and “formalist”, suggesting that they are dialectical constructions, advanced in order to investigate further theoretical possibilities entailed by each of the hypotheses. Ellis 1988, p.221 f.
described as that of “global” hylomorphism: the principles of form and matter are postulated as essential in the explanation of the whole of the cosmos.

Alexander’s position is interesting in that he wants to establish hylomorphism at the elemental level. So he is a “formalist” with regard to the elements, and he wants to retain for them the expression τοδε τι and the notion of substance. Importantly, the notion of substrate for forms is present in the Platonic theory; while the notion of hylomorphic composition is Aristotelian. But Plato’s notion of “form” was that of a geometrical shape, whereas Aristotle, as we have seen, never applied hylomorphic analysis to the elements. This kind of synthesis may have been suggested to Alexander by the contamination in the tradition of the Platonic theory of substrate and Aristotelian theory of matter. The contamination was possibly started by Aristotle himself, and it persisted in the tradition. The Aristotelian authoritative text for such an approach could be the passage from DC III 8 (cited by M. van Raalte in connection with Theophrastus’ discussion of 6b23):


The development given to this idea by Alexander consists in systematic treatment of the elements as bodies, which have the aspects of both form and matter. As we have seen above, Aristotle did not apply the hylomorphic analysis to the elements, and his use of the terms ‘form’ and ‘matter’ with respect to the elements was far from consistent. Simplicius’ report in his commentary on DC shows that Alexander was possibly aware of different tentative strategies of morphological description of the elements in Aristotle. Simplicius mentions the following variants in his commentary: (1) considering the ‘outermost’ elements (fire and earth) as formal, and the middle ones (water and air) as material; (2) the method according to which the light and the hot are defined as form, and the cold and the heavy as matter. This method is said to be shared by Theophrastus and Poseidonius. (3) the method added by Alexander, according to which earth and water are material in the unqualified sense, and fire and air are formal in the unqualified sense, “while with respect to one another they, being close to one another, have little difference as the proximate forms and as the proximate matters. For water somehow is form of earth, even though it is itself material, because it is related to it in this way”.

But all these strategies apparently have no relevance to the method of distinction between form and matter of the

30 Cf. above, p. 82, n. 125.
31 See Cherniss 1962, esp. p. 156, for the difference between the two principles.
elements in the *de anima*. Alexander says that since some of the natural bodies are simple, and some are composed of them, in the former the matter is also simple, while in the latter the matter and substrate is itself a natural body, hence, itself a composite of form and matter. The substrate of the simple bodies is not a composite, so, by the same definition, it is not a body. According to this method, all the elements are equal with respect to form and matter. The matter is common to all of them, and the form is that by which each one is different from the other three. This approach is suggested by Aristotle’s analysis of mutual transformations of elements in *GC*.

The difference between Alexander and Aristotle seems to be not that Alexander has the notion of the prime matter and Aristotle does not. Aristotle was arguably thinking along these lines, and there are passages in which the necessity of a common substrate is explicitly pronounced, as we have shown above. But these statements usually do not contain any theory of prime matter, and it should not be granted that there is only one way to conceptualise the common substrate. It is not clear that Aristotle’s description of matter in *DC* as ἀείδες καὶ ἀμορφον (above) has to be understood in the Stoic fashion.

In fact there is evidence that the Peripatetic tradition before Alexander did not take the principle of matter of Aristotelian theory of change as the prime matter. The commentary on *Physics* I 7 can cast some light on the special character of Alexander’s view. According to Simplicius, who must be quoting from Alexander’s commentary, Boethus drew a distinction between substrate and matter as follows:

“insofar as it is qualityless and formless it is called ‘matter’; for the term ‘matter’ seems to be used with respect to the future being; but when it has received the form, it is not called ‘matter’ anymore, but ‘the underlying’; for something is said to be underlying to that which already exists”.

The distinction here is between the substrate with privation and the substrate of a compound, where the privation has been replaced with form. This distinction makes a lot of sense conceptually, as a distinction between the antecedent matter and constituent matter of a hylomorphic compound, although it probably cannot be strictly defended qua terminological, because Aristotle uses terms ὄποκείμενον and ἄλλα for both types of matter without distinction. Notably Boethus does not attempt to interpret either matter or substrate as prime matter. His distinction in fact is that between the ‘antecedent’ and the ‘constituent’ matter, perhaps close to the one drawn by the

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32 *Ap. Simpl. in cael.* 700, 12-16. Prof. Inwood points out to me that this distinction corresponds to the Stoic division of the elements into active and passive. (συνεκτικά and συνεχόμενα: cf. *SFV* II 439; 440; 444).
33 3, 21-7 Br.
34 The alternative ways of thinking of “common matter” are discussed in Charlton 1970, pp.129-145, Gill 1989, pp. 42-82, Cohen 1996, pp. 55-88. The tendency to do without the “prime matter” in Aristotle is persistent, because he never used this concept quite “openly”. It seems that he was trying to remove the unstructured constituents from his physics, replacing them where possible with some articulate mechanisms.
35 *Ap. Simpl. in phys.* 211, 15-18: ἀμορφος μὲν οὖν καὶ ἀείδες ὅπως λέγεται· ἢ γὰρ ὅπως τὸ ἐσθημένον ὑμομάσθαι δοκεῖ· ὅταν δὲ δέχηται τὸ εἴδος, οὐκέτι ὅπως ἄλλα ὄποκείμενον λέγεται· ὄποκείμενοί γὰρ τι λέγεται τῷ ὅπως ἕνωτο.
contemporary Aristotelian scholarship.\textsuperscript{36}

Alexander's approach is different. He too thinks that there is substantial difference between the two terms. But he conceives of it differently from Boethus:

‘qualityless matter is in accordance with its own account, because it is not privation of the quality (for the privation, too, is quality), but as though in the total negation (ἐν ἀποκάθαρσι). For it is receptive of both form and privation’.\textsuperscript{37}

This is the distinction between the prime matter which exists only conceptually, and the matter which is qualified.

In Boethus the distinction is between matter which is deprived of some quality and the matter of a thing, which has that quality. In Alexander, it is the distinction between matter which has no qualities and matter which accepts all the qualities of a thing. This theory of matter is necessary for his theory of the elements.

Aristotle's tendency of treating of the elements as more “material” and some as more “formal”, indicates that he probably intended to consider all of the elements taken together as matter, different parts of which tend to behave towards one another somewhat like form with respect to matter: invading, fighting and assimilating, and making the other into itself. But the formal principle in the elements does not have a regular pattern, because the direction of the process of assimilation is defined not only by the nature of the elements but also by their quantities and probably other chemical circumstances. So, there is common matter, and it may even have some propensities toward structure and form, as in the case of the ‘spontaneous generation’, but these propensities are still “dynamic”, as Theophrastus says above, and do not possess determinate formal structure.\textsuperscript{38} The greater presence of the “more formal” elements (containing heat) would probably be ‘attendant upon’ a higher organisation of a physical body\textsuperscript{39} (this without making the “formal” elements into ‘form’ or active principle, but only by way of material cause). But in this case they on their own would still never count as full-fledged bodies.\textsuperscript{40}

Alexander's approach is different in that it involves the description of all the elements as bodies consisting of matter and form. This step might ἡσαε be suggested to him by the discussed passages of GC, but it might also have been influenced by the Stoic treatment of the primary qualities.

\textsuperscript{37} \textit{ap Simp. in phys}. 211, 20-23 Diels.
\textsuperscript{38} See the discussion of GC in chapter two. The view of matter as ‘dynamic’ structure is found in Aristotle. In \textit{PA} II 1 Aristotle describes the first of the three types of composition as that of ‘elements’, or it is better to say, ‘powers’: ἐτὶ δὲ βλέπων ἵνα ἐκ τῶν δυνάμεων λέγειν, καὶ τούτων οὐκ ἐξ ἀπατεων, ἀλλ’ ὡσπερ ἐν ἑτέροις ἕσσηται καὶ πρότερον ἤγον γάρ καὶ τρόπον καὶ θερμὸν καὶ ψυχρόν ὑπὸ τῶν συνθέτων σωμάτων ἐστίν, οὐ δ’ ἄλλας διαφορὰς ταύτας ἀκολουθέων, οίον βάσεις καὶ κολόνταις καὶ πυκνότηται καὶ μανίσσις καὶ τραχύτηται καὶ τάλλω τοιαύτα τὰθη τῶν σωμάτων. (646a15sq.) I am grateful to Prof. Magee for this reference.
\textsuperscript{39} See chapter 2, p. 76, and n.97.
\textsuperscript{40} Aristotle often uses the term ‘elements’ (στοιχεῖα) for the elemental constituent qualities rather than for the simple bodies; and it is these qualities that are described as ‘active’ and ‘passive’ principles, e.g. in \textit{Mete}. IV 1: 378b10-14. I am grateful to Prof. Magee for drawing this point to my attention.
Galen\textsuperscript{41} regards the Aristotelian and Stoic teachings of primary qualities as essentially the same, both going back to Hippocrates' theory of four qualities (so he does not mention Aristotle's theory of binary qualities), noting as the only difference between the two sects that according to Aristotle only the qualities go through each other and mix in a total way, while the Stoics allow this for whole substances. Alexander wants to show that the difference is also in the way in which the elements are treated: they are not the primary qualities, but combinations of the same. But the assumption that these qualities differentiate the prime matter seems to be shared by him.

Alexander goes on to give a more detailed description of the incorporeal matter of the simple bodies, that is of the prime matter. He says that it is "some simple nature, unstructured, formless and shapeless by its very definition, and on account of its [this simple nature's] both being and being identified as formless, that is termed 'form', which by its presence in this [simple nature] imposes a limit on its privation mentioned above; and this kind of nature is called matter in the principal sense"\textsuperscript{42}. The matter of the composite bodies is of a different type because it is not simple, but already in possession of some kind of form\textsuperscript{43}. The matter of the simple bodies, to the contrary, is totally deprived of any form, so much so that it is incapable of independent subsistence, because only the whole composite is body, as has been said\textsuperscript{44}.

Alexander gives an explication of the notion of prime matter with the help of a plastic image, comparing the matter of the simple bodies to wax. The image is indeed used by Aristotle in \textit{de an.} II 1: 412b5 to illustrate the inseparability of matter from form in the "canonical" hylomorphic compounds, i.e. the living organisms, but not for the case of the elements (in fact Aristotle does not exploit the 'plasticity' aspect of the image, but only the 'inseparability' aspect, while Alexander makes his case in a much more technical and literal way). It has to be noticed that the explanation deals with prime matter, which is the matter of the simple bodies, and we are not going to learn much more about the matter of the composite substances from this account.

But this example is important because it is supposed to demonstrate the relation between form and matter in the paradigmatic hylomorphic compound. Alexander says that the forms of natural bodies relate to their matter in the same way in which the shapes of wax relate to its stuff, in that the prime matter can neither exist without any of the elemental forms, nor is its being dependent on any particular elemental form. It does not perish when it loses a

\textsuperscript{41} \textit{methodi med.} I 2 vol.X 15 K. = \textit{SVF} II 411.
\textsuperscript{42} 3, 28-4,4 Br. Bruns conjectured \textit{λεγόμενη} <\textit{ιδιός}> from the Hebrew version; this was adopted by Fotinis. I read the text as printed, with AD. I am grateful to Prof. Magee for helpful criticism of my translation.
\textsuperscript{43} 4, 6: \textit{μετά εἰδους τινός}.
\textsuperscript{44} 4, 6-9. The last sentence is interesting in that it implies that the matter of the composite bodies is capable of independent existence in virtue of its corporeality, and we shall shortly see some further evidence for this implication.
particular form, for in that case it would not have been simple and incorporeal.\footnote{4} At the next stage Alexander treats of the inseparability of form, following upon his re-introduction of this notion\footnote{46}. His reasoning at this point is interesting because originally it is supposed to apply to the case of prime matter and the primordial hylomorphic compounds, but in the course of his argument Alexander seems to slip into a generalisation, expanding the scope of his argument by the examples which he has just classed with the composites. He says that “not only is it not possible for this kind of matter (meaning still the prime matter) to subsist by itself, but neither is this possible for the form that is inherent in it. And the form is even more subject to this <restriction>.\footnote{47}” His explanation is as follows:

‘In the case of matter, even though the principal matter is not capable of subsisting on its own, but at least the matter of the composite bodies, taken as proximate, insofar as it is not matter in the unqualified sense, but the matter of something so and so, can still subsist on its own (such, at any rate, is the matter in the artefacts), but of the forms inherent in the matter none can ever subsist by itself, be it of a simple body, or of a composite one.

At any rate the forms that come about in their material substrates due to the art, are inseparable from them, even though these latter are capable of subsisting separately from the former. For the form that is brought into being by art is not a substance, because the art itself is not a substance (and the form like this is art, as has been said above), while the form that comes about by nature, is substance, because nature itself is substance, and the form like that is nature.’

He says here that at least in the cases when the form in question is not natural, the same matter can subsist both with and without a given form. The particle γον of precludes from such treatment both the matter of the living beings and that of the elements. But his point is that in some cases it is possible for what is matter in a compound to exist as a thing separately from the compound. When such is not possible, as e.g. in case of the living beings, it is still at least possible to conceive of the matter of such things on this model as of something that can be resolved into the material composite, which, though not itself a matter of that thing, has to do with its material constitution. So there is some weak proximity with the matter of the living body and flesh and bones. Flesh and bones can exist on their own (e.g. at the butcher’s), perhaps even indefinitely long, but the state of being alive of a living being cannot do without flesh and bones.

But Alexander does not use any example of a natural complex body in this case. What he does use to illustrate the difference between natural bodies and artefacts is the example of a simple body. So, the second part of his

\footnote{4} 4, 18-20 Br.

\footnote{46} At 4,2-4 Br.: this re-introduction is remarkable for its derivation of the term for form from the matter’s property of formlessness: δι’ ἅνειδου οὐδὲν τε καὶ λεγόμενον ἑδος ἄνημασται. δε γενόμενον ἐν αὐτῇ παῖε τῆς πατερημένης αὐτῆς στερησεως, κτλ. Alexander here clearly applies the “replacement” analysis to the notion of prime matter. On text, see note 42 above.
argument for the inseparability of form in fact turns into an extended consideration of the essential properties of form using the case of the elements which becomes paradigmatic in Alexander’s theory of form.

None of these is a body, but the whole that comes from them is already a body, and specifically fire, which has from nature and from its substantial form the lightness, which is the principle of upward movement. This lightness is nature and form of fire, while being itself unmoved. (5, 9-12 Br.)

Here he explains what properties in the elements are accounted for by the notion of form. They are of the two kinds: (1) the inherent ones, which are Aristotle’s primary qualities, and (2) the ‘resultant’ or ‘emergent’ ones, to use the modern term, which are Aristotle’s natural motions. It is not very clear whether the second kind of properties are ‘emergent’ or ‘resultant’, i.e. whether they are different in their genesis from the complex properties which can be derived from the simple ones (the ones that Aristotle eliminates from the “short list” in GC II 24); in fact AD indicate in their commentary that in in meteor. 73,20 Alexander says that weight is accounted for by the cold, thus suggesting that these properties are ‘resultant’, i.e. the products of the inherent ones. In any case, the reason why they form a separate group is that they are responsible for movement, and as such will provide a paradigm for the soul.

“For the form of fire, which is a natural and simple body, is the heat and the dryness, as well as the lightness, generated from these as their sequel, while their substrate is matter, which, being by its own nature none of them, is receptive both of them and of their opposites (due to which nature happen the changes of the simple bodies from one into another).” (5, 4-9 Br.)

Alexander is in fact quite careful in outlining the essential structure of his hylomorphic model: he will need both types of properties (inherent and emergent) in his account of the soul. The treatment of this sort has no parallel in Aristotle. Aristotle mentions as the distinctive feature of the ‘gravitational’ properties of weight and lightness that they are not used to account for body’s being active or passive, as opposed to various ‘chemical’ properties which are so used. It is unclear whether the GC was supposed to present the ‘parallel’ account of matter to that of the DC, or it was rather a certain revision and the re-structuring of the theory. It is not impossible that Aristotle was developing the notion of common matter for DC, in which case the “common substrate” of the GC and the “common matter” of the DC do not have to refer to the same theoretical entity. But Alexander clearly thinks that the matter that is meant in both cases is the same theoretical entity, and the difference of the levels of consideration

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47 4, 20-22 Br.
48 329b17-18: θερμῶν ζωοχόν, ἔρημον ὕπόλοιπον, βαρύ καὶ φόβου, σκληρῶν μαλακῶν, ἐλαστικῶν κραίρων, τραχύ λείων, παχύ λεπτῶν.
can be accounted for with the help of the concept of form. The "basic" properties are regarded as grounding the 'resultant' or 'emergent' ones. Alexander uses this notion in *mant. 8*, arguing (against Theophrastus and the Stoics) that air is naturally hot rather than cold. He says there:

Since fire, being hot and dry, is naturally light, the element which goes after it should share with it that, in virtue of which it is light. But fire is light in virtue of its being hot, while the dry at any rate is in the earth, which is heavy, hence the air, which is the second light, is hot. (126, 25-28 Br.)

The 'resultant' or 'emergent' property apparently is somehow related to the dominant part of the elemental conjunction. There is no clear mechanism of this relation, but lightness is probably related to heat, and weight to cold. The "parallel" combination of both features in the hylomorphic theory is Alexander's innovation based on the exegetical construction.

Alexander outlines the way in which form can be regarded as the cause of the kinetic properties of the body, while itself retaining its immobility. Immobility follows from the form's dependence on the whole substance:

"For how would the lightness ever be moved by itself, if it exists as <an attribute> of another, and not by itself? For the lightness is some sort of a power (δύναμις) of the body that has it. And no power is separate from the thing that has the power. For that reason, it is without being itself moved that it is a cause for a body that has it of its movement by itself, and for that reason it is said to move the body that has it, because it has movement by means of and due to this its power and nature." (5, 12-18)

Alexander tends to emphasise the features of the principle of natural motion which are similar to those of the soul as the source of animal motion. At this point he first uses the term "power" with regard to the form, the usage which has parallels in *GC*. The notion that lightness is the unmoveable principle of motion seems to be developed in anticipation of the same characteristic of the soul.

At the next point Alexander clarifies the distinction between the three constituents of a hylomorphic compound,

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50 On the tension between *GC* and *DC* see Longrigg 1975.

51 These two terms are distinguished in classical emergentism: resultant property is such as can be regarded as a direct effect of the sum of lower-level factors, while emergent property is such as, though it requires the same sum of lower-level factors, cannot be regarded as their direct effect. An example of 'emergent' property before the discovery of structure of atom, was chemical connection. But already the classical emergentists allowed a possibility for the 'emergent' to turn into the 'resultant', when an adequate explanation of its relation to the lower-level structure is found. Alexander's weight and lightness are resultant rather than emergent according to these standards (he would hardly give up his explanation of weight by cold), but it seems significant for his theory that these qualities determine the properties (like upward movement) which do not interact with the basic properties, defining, instead, the patterns of activities which are of a different nature.

52 See Appendix I. That air is naturally cold is one of the traditional tenets of Greek medicine, which Aristotle himself uses in his treatise on respiration, in contradiction with his theory of binary qualities of the *GC*. Theophrastus also reverted to the traditional view. The discussions in Longrigg 1975 and 1993, p.149-159. Sharples 1998. I am grateful to Prof. Sharples for drawing this point to my attention.

53 *in meteor*. 72, 6 H.

54 Cf. II 10: 337a3
which he also regards as three kinds of a common genus “substance”: form, matter and body. Alexander explains that none of the primordial constituents of a simple body is corporeal.

For matter is not a body; for every body is tangible and has some kind of an opposition, but matter is without any tangible quality and opposition. Also, the body is subsistent, while matter, for its being, needs form. (5, 19-22)

The notion of body as and having a tangible opposition is taken from Aristotle’s account of sensible substance in the GC II 2. The understanding of “less than corporeal” nature of the primary qualities probably comes from the same place, more precisely, from the Aristotelian derivation of a simple body from two types of tangible qualities. But it has to be noted that Aristotle does not explicitly treat the opposites as incorporeal: the conclusion, although it follows, still has to be drawn, and Alexander draws it. Alexander’s main reason for upholding the incorporeality of form seems to be this:

And form is not body, because it also cannot exist on its own, since it is inseparable from matter, as has been proven. (5, 22-6.2)

This is the preparation for the batch of arguments for the incorporeality of the soul, developed later in this treatise and in mantissa 3. The problem of distinguishing between form and any property will lead to the problem of countering the eliminativist view of the soul. The next point he makes, probably addressing this problem, is the substantiality of the hylomorphic principles of body, matter and form.

“Yet each of them is substance. For the natural form is also substance, in the same way as matter. For the parts of substance are substances, or rather, it is because each of these is substance, that the whole composed of both of them is substance and some one nature, unlike the artefacts, which are substances with regard to their substrate and matter, but qualities with regard to their forms”. (6, 2-6)

Alexander’s effort to establish full balance between all the three principles certainly does place a limit on the materialist account of substance: a thing is substance only because both of its constituents, matter and form, are substances. It is not matter, but form (more exactly, form’s being natural) that accounts for substantiality. It is not enough to be material, in order to count as substance. For instance, artefacts are material, but not substances.

However he differs from Aristotle on this insofar as he applies the Aristotelian theory (at this point even exclusively) to the simple bodies, thus making them into paradigmatic hylomorphic compounds, the role that was reserved for living beings in Aristotle’s system. In Alexander’s ontology, as opposed to Aristotle’s, it is not

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55 Cf. AD ad loc.
56 Cf. the passage from his commentary on the Physics discussed above. This general account is in accordance with Aristotle’s DA II 1: 412a5sq.: substance as a common genus, and its three divisions; 411: bodies as substances in the most apparent sense; among them natural substances. Its application to the elements is less usual.
57 329b7sq.
58 Cf. Sharples 1994 (review of Robinson), and above in chapter one.
necessary to be alive to count as substance. For instance the elements are not alive, but they are substances. His ontology is less generous than the Stoic but more generous than Aristotle’s.\(^{59}\)

Alexander’s next argument might explain for us the source of this ontological expansion. He begins with addressing the difficulty raised by “some”, who might be the Stoics again\(^{60}\): how can the bodies be (γίνεσθαι) from the incorporeals. The verb γίνεσθαι allows him to turn the problem into that of coming-to-be and so to use Aristotle’s strategy of dealing with the notion of “non-being” against the Eleatic difficulty. Alexander says that no body comes to be from a non-body, but every “this body of a certain kind” (τοῦτο τί σώμα) comes to be from what is not this body (ἐὰν μὴ τοῦτο τοῦ σώματος).\(^{61}\) He says that the case of coming-to-be is parallel to the way in which the separation of matter from form is purely conceptual and theoretical, because it is not really separable, adding that it is separable only from “this form of a certain kind” (τοῦτο τίνος εἴδους), but not from any form at all, just as the wax is separable from any particular shape but not from any shape at all.

The last clause is ambiguous and can be interpreted as describing two different processes: (i) the destruction of hylomorphic compound leads to the passing away of both form and matter (this would be the view of Aristotle’s Metaphysics\(^{62}\)); (ii) the destruction of a hylomorphic compound leads to the passing away of form, while matter persists, under a different formal qualification (like in case of the artefacts).

The second reading would also correspond to the Stoic view of matter, which draws the strongest ontological consequences from the persistence of matter. It can be illustrated by the theory of Mnesarchus\(^{63}\):

Mnesarchus says that it is clear that an entity as determined by the proper characteristic (κατὰ τὸ ἴδιον ποιῶ) is not the same as an entity as determined by the substance; for the same entities should have the same concomitant properties. For if someone having moulded a horse, say, crushed it altogether and then made a dog, it would be reasonable for us seeing this to say that it was not some time ago, but now it is. So that the account by characteristic is different from that by substance. Generally the opinion that we are identical to our substances seems not credible.\(^{64}\) For it happens now and again that substance is prior to the coming to be, say, of Socrates, while Socrates himself is not yet there; and that after the dissolution of Socrates the substance persists, while he himself is not any more.

In Mnesarchus’ example the “token” matter of Socrates can exist without Socrates, as a part of the total matter.

\(^{59}\) I am grateful to Prof. Sharples for the helpful discussion of this issue.

\(^{60}\) Cf. below chapter four.

\(^{61}\) 6, 16-17 Br.

\(^{62}\) On which see above ch.2, sec.2,4.

\(^{63}\) Ar.Did. Fr.Phys. 27, 463, 5-13 Diels: τὸ δὲ μὴ εἶναι ταὐτὸ τὸ τε κατὰ τὸ ἴδιον ποιῶ καὶ τὸ κατὰ τὴν ὀψίαν, δῆλον εἶναι φανεν ὁ Μνησαρχὸς ἀναγκαῖον γὰρ τοὺς αὐτοὺς ταῦτα συμβεβηκέναι. Εἴ γὰρ τὰ πλάσματα ἤπειρον λόγου χάριν συνελάταιν, ἐπεὶ καίνα πεπεσείται, εἰλόγως ἂν ἴματος ἰδούτας εἰπέν, ὥστε τοῦτον τὸν παλίον, νῦν δὲ ἔστιν ὡσθ᾽ ἐτέρον εἶναι τὸ ἐπὶ τοῦ ποιῶν λεγόμενον τὸ τε [καὶ] ἐπὶ τῆς ὀψίαις. Καθάποtol νομίζειν τοὺς αὐτοὺς ἴμας εἰναι ταῖς ὀψίαις ἀπίπανου εἶναι ψαλίταις πολλάκις γὰρ συμβαίνει τὰ μὲν ὀψίαις ὑπάρχειν πρὸς τὰς γενέσεις εἰ τυχέ τῆς Σωκράτους, τὸν δὲ Σωκράτην μηθέτω ὑπάρχειν, καὶ μετὰ τὴν τοῦ Σωκράτους αναίρεσεν ὑπομένειν μὲν τὴν ὀψίαν, αὐτὸν δὲ μηκέτι εἶναι.
which can still be tracked down, at every moment in the history of the universe, as the part belonging to Socrates. Differentiation on this view is an abstraction from individuation: the common differences between the classes of things are abstracted from much richer history-sets of individual properties.

These two readings reflect two different ontologies, with two different concepts of individual, and two different theories of formal qualification. In the Aristotelian theory that corresponds to (i), form is the source of structural unity in matter, and form serves as a basis for identification of an individual. In the Stoic theory, which corresponds to (ii), formal qualification is derived from the material identity, and not the other way around.

Now, the difficulty of the postulate of prime matter is that in the process of destruction of a hylomorphic compound of the elemental type, the prime matter should behave in a way described by (ii), because the prime matter cannot perish. Moreover, we know from Aristotle that elemental transformations are two-way processes, so that when one of the elements comes to be, another one necessarily passes away: one might say, the same ‘lot’ of prime matter is transferred to a new possessor. In principle, the mechanism of elemental transformation leaves open the possibility of recovering the identity of a given hylomorphic compound. The same drip of water can conceivably undergo the full cycle of transformations only to become the same drip of water: the same in form as well as in matter.

This is not the reading of the sentence that Alexander himself chooses. He talks of the elements in terms of form and matter, whereby form differentiates matter:

But since the fire as well as any other body has its being what it is from both the underlying matter and the form which is in it, it is what it is due to the form. For that due to which each of the things has its difference from the rest of them, is that due to which each of them is a “this something” (τάδε τι). For it is due to the proper form (το οίκείου εἶδος) that each has its difference from all the rest, if only the matter, i.e. that which underlies, is the same in all of them. For each of them is what it is due to the form. (6, 25-29 Br.)

Moreover, in his critique of the Stoic theory of mixture he demonstrates awareness of the problem, when he argues against the Stoics that the water which is separated from mixture with wine with the help of an adsorbing material is token-different from the one that was poured in as ingredient. 64 This implies that ‘token’-water is not preserved in a mixture, as this should be according to the Stoic theory. But that means that the same form and the same (prime) matter are not sufficient to account for the identity of an individual; whereas with the living substances, for example, the same form and the same matter cannot but correspond to the same individual. We shall see in the next chapter how Alexander is trying to cope with this kind of problems in his hylomorphic theory of

64 This might be a reference to the Peripatetic view.
form-substance. For the moment it will suffice just to indicate the tension that exists between the strict hylomorphic ontology of the Metaphysics and the hylomorphic theory of the elements that involves the postulate of prime matter.

Conclusions for 3.2:

The application of hylomorphic principle to the simple bodies is one of the most important adjustments made by Alexander in Aristotle’s doctrine. We have seen that this step requires the postulate of prime matter. The formal part of a hylomorphic structure includes three components: two ‘active’ qualities constitute a body, and a ‘resultant’ or ‘emergent’ quality accounts for the properties of a body which, though dependent on the primordial qualities, are not expressible in terms of such qualities. The primordial qualities directly account for the ‘tangible’ properties, which involve acting and being acted upon, but the ‘resultant’ properties are the ones which cannot be directly regarded as instances of activity or passivity. They have to do with form of movement, and as we shall see below, it is this structural moment that is used by Alexander to put forward the non-reductivist theory of the soul. In the following two sections we are going to consider the way in which this minimal structure is worked into the structure of higher-level entities.

3.3. “Bodies act upon and are acted upon by bodies by way of incorporeals”(7, 9-14).

In this section I am going to consider Alexander’s theory of interaction between bodies. This theory is important because it can explain the mechanism of constitution of composite bodies by simple ones. Ultimately, as we know from a review of his Aristotelian agenda, Alexander will have to explain how this elemental composition can be made compatible with the ontological commitments of the theory of form-substance. He will need to find some intermediate step which will allow the elemental composition to converge on the model of substance that corresponds to the third kind of generation described in the previous chapter. The solution that Alexander proposes

65 de mixtione 15: 231, 22Br. Alexander here offers a rival explanation to the phenomenon of adsorption that was used by the Stoics as evidence for their theory of mixture, according to which all ingredients were preserved in mixture unchanged and can be separated with the help of an adsorbent.
is that the elements transmit their properties through the hylomorphic structure to the composite body. He prepares this solution by introducing the principle ‘bodies act and are acted upon by bodies by way of incorporeals’. The expression ‘by way of incorporeals’ translates the κατὰ τὰ ἀσώματα of the Greek text: strictly speaking, it means that the interaction between bodies is in accordance with their incorporeal aspects.

The vocabulary of ‘incorporeals’ is not actively used by Aristotle himself, but by Alexander’s time it is a technical term in the school literature, and some doxographical sources attribute the tenet close to Alexander’s principle to the Peripatetic school in general. The history of this tenet within the Peripatetic school before Alexander might be a subject of a separate research, but several most important developments have to be noticed here.

First, as a technical term, ἀσώματον seems to be of Stoic provenance: Stoics were the first to attempt a theoretical distinction between the bodily and the incorporeal. Alexander is apparently aware of this distinction. In the Stoic system there are four kinds of incorporeals: void, place, time, τὰ λεκτά (‘sayables’, predicates). The predicates, according to their teaching, do not possess any causal efficacy: the point that will be important for comparison with Alexander. The doxographical assertions of claims about the incorporeals to Peripatetics are often parallel to the reports on the Stoics.

Second, in the course of the school polemic against the Stoics there seems to have evolved another almost technical meaning of the term ‘incorporeal’, which does not have much to do with the Stoic technical meaning proper, although it might owe its origin to this latter. In this second sense the term ‘incorporeal’ signifies the property of a body as opposed to the body itself possessed of the property. This meaning is exploited by Alexander

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61 As is clear from his critique of the Stoic ‘common genus’ in in trop. IV. 301, 22-23 W.: ἀλλ’ ἐκεῖνοι λογοθετησάντες αὐτοῖς τὰ τὰ κατὰ σωμάτων μόνον λέγεται διαφέρεισθαι ἐν τῷ ἡπορημένον διὰ τούτο γὰρ τὸ τί γενέσθωσαν αὐτῶν φαν ἐστι, κατηγορούμενον ὧν κατὰ σωμάτων μόνον ἄλλα καὶ κατὰ ἀσώματαν.

62 Listed in Sext. math. X 218 B. For discussion see LSJ, 163-165.

63 The Stoic view is reported by Sextus along with the two others, in the course of his analysis of the notion of cause. math. IX 211 M.: (ο) Συνοδεύοντες μὲν τὰ άτομα σώματι λόγω τῶν ἀσώματος τις αἰτίαν γίνεσθαι, οἷον σώμα μὲν τὸ σμίλος, σωματίκτερον, ἀσώματος δὲ τὸ τέμενσαι κατηγορήσατο, καὶ πάλιν σώμα μὲν τὸ πῦρ, σωματίκτερον, καὶ τῷ ἔλεος, ἀσώματον δὲ τῷ καλεῖσθαι κατηγορήσατο. The following reported view, math. IX 212 M.: οἱ ἀσώματος ὑποθέσει τῶν κόσμων, οἷον καὶ τὸ πάντα διοικώσανθε καθούταν, τοιούταν ἀσώματον σώματος λεγόμενον ὑπάρχον τὸ αἰτίαν is comparable with Alcinous did. XI H 166, 28 Whittaker 1990, cited below in note 85.

in his arguments for the incorporeality of the soul, some of which we shall consider below in chapter five. This second meaning might have originated in the interpretation that the first meaning got in the anti-Stoic polemic.\(^7\)

This second meaning seems to have been established as technical in the course of the critique of the Stoic notion of corporeality of qualities. This critique, based on assorted, mostly dialectical, arguments, probably helped to promote the conception that qualities are ‘incorporeals’ in a technical sense.

We are going to see how Alexander uses this technical conception in his ‘elemental’ theory of form. But before that we have to consider the Aristotelian authority for this kind of a thesis, which is found in Aristotle’s theory of mixture.\(^7\)

Aristotle’s explanation of the mechanism of mixture can be summarised as follows. The process of mixture takes place when the bodies which are in contact act and are acted upon by each other.\(^7\) The acting and being acted upon happens by means of the opposite qualities, which interact in the same way as do the positive qualification and the privation in the “replacement” model of generation. The mechanism of “replacement” is immediate prevalence, ἐπικρατεῖν, the same as in the elemental generation (Genesis II of the previous chapter). But whereas in generation we have one element overcome by another to complete extinction, which is the “replacement” of form in the broad sense, in mixture neither of the opposites has enough power for absolute dominance,\(^7\) and as a result, there comes about the equilibrium of forces, in which both opposites are changed to some extent, but so that neither turns into another, and both end up on some common middle ground.\(^7\) Aristotle’s analysis of mixture is in terms of δυνάμεις, rather than in terms of form and matter. The δυνάμεις are understood both as potentialities (distinct from actualities) and as powers.

The body of mixture is homogeneous,\(^7\) so one has to assume that the interacting opposite “powers” have material nature. They probably are understood in the same way by Theophrastus and Strato\(^7\). But in the doxography of Alexander’s time they are almost invariably represented as ὀσώματοι λόγοι. The examples are, apart

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\(^7\) For the re-interpretation of the Stoic terms in the course of polemic, see Todd 1976, 65-88, Todd 1973. One example of such re-interpretation in case of the ‘incorporeals’ is provided by Plut. comm. nor. 40: 1080 D

\(^7\) The main source for it is GC I 10. Alexander expounds it in de mixt. XIV-XV.

\(^7\) GC 10: 328a18-22.

\(^7\) GC I 10: 327b1-6.

\(^7\) GC I 10: 328a28: ὅταν δὲ ταῖς δύναμεσιν ἴσασθι πως, τότε μεταβάλλει μέν ἕκαστον εἰς τὸ κρατοῦν ἐκ τῆς αὐτοῦ φύσεως, οὐ γίνεται δὲ θάτερον ἀλλὰ μεταβιβάζει τῷ κοινῷ.  

\(^7\) GC I 10: 328a10sq.

from Galen’s reports cited above, the physical fragment attributed to Arius Didymus78 and the text of Ocellus, which may go back to earlier sources. 79 This may have influenced Alexander’s theory of ‘forms’ of the elements, and the description of the product of their interaction as a “complex form”, by which the elemental ingredients are assimilated and made into one. The Aristotelian source for such use of the notion of form might be DC III 8: 306b15, where Aristotle concludes his critique of Timaeus’ geometrical theory of “shapes” of the elements saying that rather than shapes, it is perhaps the nature of the elements that pertains to their account. But this source probably could only be established as such when the framework for its theoretical application has already been prepared by the dialectical method.

As has been noticed, the specific claim that the interaction of bodies happens by virtue of incorporeals is also found in the doxographical literature. In the same group of physical fragments attributed by Diels to Arius Didymus we read:

And the bodies act and get acted upon by virtue of the incorporeal powers. For the natures of things both active and passive are accomplished due to the differences in these [powers]. 80

This can be compared with Alexander’s de anima:

7. 11-14 Br.: Not only the being of each thing and its difference from the other beings is from form, but also the differences among the bodies with respect to acting and being acted upon are due to the forms. For the things acting and acted upon in the bodily manner have the [ability] of acting and being acted upon in the particular way from form. For each of these two is also due to the difference in form. So that it is reasonably said that the bodies act and are acted upon by way of incorporeals.

AD give a useful cross-reference to Alexander’s commentary on de sensu 4, where he cites the same principle as a moral which he draws from Aristotle’s discussion of the sense of taste (441a3-442b26). Aristotle there deals with what may be compared to our problem of the ontological status of qualia. Aristotle is different from contemporary philosophers of mind in that for him there is no sceptical question of the objective status of qualia-percepts. He thinks that the qualia that our sensation abstracts are a part of natural design; the mechanism of abstraction is based on the transmitting capacity of adjacent elemental milieux. But there is an aspect in which he shares the objectivity problem with the moderns: he wants to demonstrate how the qualities perceived by senses as qualia are derived

79 Ocellus lists the following conditions of sublunary generation: (1) the body predisposed for contact (τὸ πρὸς ἀφὴν ὑφίσχουσιν σῶμα) (16, 1 Harder); (2) the opposites (καὶ ἵνα ἀντιπαθεῖς ὀσταὶ μὴτε κρατῶσιν εἰς τέλος αὐτῶν ὑπ’ αὐτῶν) (16, 12-5); (3) the substances of which these latter are powers, i.e. fire air water earth. For these are different from powers. For substances are locally destroyed by one another, but the powers are neither destroyed nor generated. λόγοι γὰρ ἀσώματοι περιχάρουσιν τοῦτον. (16, 17-20).
80 Cited above in note 64.
from the elemental qualities that ‘glue together’ the things and the milieux.

First he establishes the proximate genus of the sense of taste, saying that it is a kind of “touch”, which characteristically comes about in the liquid milieu. Then he reviews three ancient theories of taste: the Empedoclean, according to which all the tastes are contained in water imperceptibly because of minute dispersion\(^1\); the Anaxagorean, according to which water contains the seeds of all the tastes, but the tastes come to be from different parts of it; and the third one, on which the tastes are elicited from water by the action of some active force, like heat or the sun.

Aristotle criticises all the three, but adopts the principle of the third theory: water is affected by something. Heat is not the principal cause in the formation of tastes, but acts as a catalyst\(^2\): the “heat” theory does not explain the “thickness” of flavoured substances. On the other hand, it was observed long ago that water often has a taste of earth through which it passes: it easily picks up the sweet and sour tastes from the soils which contain salt and acids. Not unnaturally, says Aristotle, the genus of flavours is best represented in plants.\(^3\)

At this point of his explanation Aristotle uses some general principles, on which Alexander comments.

Aristotle says: 441b8: “For the moist, like everything else, naturally is affected by its opposite, which is the dry. For which reason, by the way, it is also affected by the fire. For the nature of fire is dry. But the distinctive quality of fire is the hot, while of the earth the dry, as has been said in the book on elements. For neither of these can produce any action or be affected by anything insofar as it is fire or earth, and such is the case with all else. But they produce whatever they produce and suffer whatever they suffer to the extent, to which each of them contains a certain opposition.

b16: So, just like those who steep the colour or flavour in the liquid make water possess them, in the same way the Nature uses the dry and the earthy, and by straining it through the dry and the earthy, and stirring it up with heat, she procures the moist of a certain quality.

b19: And that is flavour, the property that has been generated by the mentioned dry in the moist, and which changes the sense of taste from the state of potentiality to that of actuality.”

Alexander in his commentary gives a systematic summary of Aristotle’s reasoning. He says that Aristotle is not discussing at this point flavours as potentially present in the earth, but only insofar as they are brought to actuality by the action of heat and water\(^4\). Prior to the analysis of acting and being acted upon, he discusses the principles of elemental constitution. Particularly interesting is his statement of the unequal value of the two primordial qualities

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\(^1\) 441a5-6
\(^2\) 441a29-30: συναιρετικόν ("contributory cause", Hett).
\(^3\) 441b7-8.
\(^4\) 72, 4-17 Wendland.
with regard to the form of an element per se, and their equal value with regard to acting and being acted upon.\textsuperscript{85}

Alexander follows Aristotle in stating that the elements have the properties of acting and being acted upon not as elements, but as possessors of these qualities. The elements do not act on one another as elements, because they are substances, and no substance can be opposite to another substance\textsuperscript{86}. Alexander points out that Aristotle’s sentence applies not just to the case of the elements but also to the case of any body\textsuperscript{87}.

It is at this point, by way of summary of Aristotle’s reasoning, that he introduces the principle “bodies act upon one another by incorporeals”:

“One could learn from this text Aristotle’s opinion on things agent and affected. For neither does he think that it is the bodies that act and are affected, as is the opinion of the Stoics, nor again that it is the incorporeals, as the Platonists believe (τοῖς τερπὶ Πλάτωνος), but that <the simple bodies do that> due to their inherent opposites, which are incorporeal”. (73, 18-21 Wendland)

Alexander raises a difficulty: if being water consists in moisture and coldness, and being fire in heat and dryness, then how is water not the contrary of fire, insofar as the former is water and the latter fire? This might be a challenge to his thesis of substantiality of the first bodies. His solution involves both the notions of prime matter and ‘emergent’ property, which in this case is supposed to mark the difference between a substance and a sum of qualities that constitute this substance.

Perhaps even though each of them is informed to the greatest extent by these [qualities], still the fire and the water are not these [qualities]; for there are not only the forms, but also something underlying them, which has these qualities, with which [underlying] the former is water and the latter fire. At any rate their natural impetus (ὀσμῆ) is not the primary contraries [in their kinds of contrariety]. For it is not the case that as the fire is the lightest, so the water is the heaviest. But also their being is with matter, which is the same in all of them. (73, 21-30)

We may notice that corporeality is accounted for by both the underlying prime matter and an emergent property which characterises a simple body in a distinct way.

\textsuperscript{85} He says that the moist is affected by its opposite, which is the dry, and notes that the dry is constituent of the two elements: the fire and the earth. He cites Aristotle’s explanation that the earth and the fire are “dry” in two different ways: while earth is dry dominantly, fire is so “recessively”. Alexander uses the term εἰδοποιημένου (72, 23) to characterise the relation between the element and its “dominant” quality. So, the constitutive qualities of the elements are like a “tandem”: one is steering, and another is in the “back seat”. But apparently both do the pedalling (fire is said to be both hot and dry to the extreme - 72, 23.) On the theory of “prevalence” of one of the two qualities see Longrigg 1975, 1993.

\textsuperscript{86} 73, 8 Wendland: υσία γάρ αὐτά, υσία δὲ υσίφω αἰών ἔστιν ἐναντία, ἐν δὲ τοῖς ἐναντίοις τὸ ποιητὸν τε καὶ πᾶσχειν. Alexander then characteristically expands the scope of Aristotle’s principle, applying it not just to the case of the elements but also to the case of any body at all.

\textsuperscript{87} 73, 9 Wendland: δὴ καὶ προσέτηχεν ὁδ' ἀλλο ὁδὸν ὁδὸν γὰρ σῶμα, καθ' σῶμα, ποιητὴ πᾶσχει, ὅτι ὑπὲρ ἐναντίον ἐν αὐτοῖς: καθ' δὲ ἐν ἐκάστῳ αὐτὰν ἐναντίον ἐνπάσχει, κατὰ τὸν πάντως ἐστὶν ἄλληλων καὶ παθητικά.
The short digression in *in de sensu* is particularly precious because it spells out the doxographic background of our principle, of which the *de anima* gives only a slight hint (by the use of *εὑρίσκω λέγειν* which indicates some source different from Aristotle: for Aristotle never says such a thing, although he may be understood as supporting this claim). Here the Aristotelian position is characteristically presented as successfully mediating between the two opposite views, Platonic and Stoic.

The Platonic position is stated in the anti-Stoic chapter of *Didaskalikos*, the second-century "Teacher’s Manual of Platonism", which has several affinities with Alexander’s treatise of the *mantissa* entitled "That the qualities are not bodies”. According to it, the agent is described as incorporeal, while the recipient of the action is corporeal, because passivity is a feature of corporeal nature.  

The Stoic position, according to Alexander, is to hold that the interaction of bodies is corporeal. This agrees with the generally materialist character of the Stoic teaching. We also know that the standard way of construing the Stoic theory of interaction in the literature of other schools in Alexander’s time was with the help of the notion of ‘body going through body’. The authenticity of this notion as well as its actual force in the Stoic physics has been questioned by scholars. It may be noticed that Alexander takes a gross approximation of the Stoic theory to construct their position for the purposes of diairetic contrast. Where the Stoics might have had the interaction of corporeal aspects of a whole thing resulting in a state of a thing captured by a particular predicate (incorporeal), Alexander talks about the interaction of bodies understood as distinct and separate bodies. He constructs the Platonic and Stoic positions as a dialectical background for his own mediating solution which establishes that action and being affected are reciprocal, and both are carried out by the incorporeal aspects of bodies.

We may now notice that this solution gives Alexander a very powerful and flexible concept of interaction: it should be applicable on all the structural levels of material things, and it should also work across the levels. This should allow Alexander to explain the transfer of structure from the lower level to the higher one without committing himself to the claim that the higher structure is determined by the lower one. The lower properties

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88 Alcinous *did. XI H 166, 28 Whittaker*: ἐπὶ τὰ ποιοῦντα οὐκ ἂν ἄλλα εἶναι ἡ τὰ ἄσωματα· παθητὰ γὰρ τὰ σώματα καὶ ἑσυχαστα καὶ οὐκ ἂν κατὰ τὰ αὐτὰ καὶ ἐναρξάτος ἔχωντα, οὐδὲ μόνη καὶ ἐμπεδα, ἀ γε καὶ ἐν οἷς δοκεῖ τι ποιεῖν πολὺ πρόθεσιν εὑρίσκεται πάρχοντα· ὃπερ οὐ πέτανε τι παθητικοῦ εἰλικρινῆς, αὐτῶς ἀναγκαῖον τι εἶναι καὶ ἀτρικώς παντητικὸν· οὐκ ἄλλος δὲ εὑρεμεῖν ἄν τοῦτο ἡ ἄσωματον. For parallels between this chapter of Alcinous and Alexander’s *mant.6* see Dillon, p. 113; Whittaker 1990, pp.26 and 108. (For translations of *mant.3 and mant.6*, see Appendix I). For the interpretation of ποιεῖν cf. *ibid.*, XIV H 169, 35 W.: καὶ τὴν ὑφήρην δὲ ἄει οὕσαν τοῦ κόσμου οὐχί ποιεῖν ἡ θεοὶ ἄλλα κατακαθίσαι, καὶ ταύτῃ λέγειν ἂν καὶ ποιεῖν, ἐγείροντες καὶ ἐπιστρέφοντες πρὸς αὐτὸν τὸν σώμα αὐτὴς καὶ αὐτὴν ὑμπερἐκ κάροι ποιεῖν εἰρήθη ἡ ὑπνόων. ὡς πῶς ἀποβλέπουσα πρὸς τὸν ποταμὸν ὑφήρην δέχεται εἰς ἑαυτὰ καὶ τὰς μορφὰς, ἐδειγμένη τῶν ἐκείνου νομιμάτων.

which are involved in the interaction are as incorporeal as are the resultant properties: both are bodily aspects, the agents of equal ontological status. The elemental properties are not privileged with respect to any other in terms of causal power. Causation may take either direction, depending on factors different from just the ontological status of the qualities involved. We shall see in chapter five that Alexander uses his ‘mixture’ theory to refute the theories that attribute the causal function of a compound to just one of its elemental constituents. Having this feature of the mechanism of interaction in mind, we may now consider Alexander’s theory of ‘formal complexity’.

3.4. Simple and composite forms. (7, 14 - 8, 5).

We have seen that in his hylomorphic theory of elements Alexander came up with two concepts of matter, differing not only by the relative position in the structure of the universe, but also, potentially, in the ways of receiving forms. We have said that Alexander resolves the problem of relation between the two types of matter by introducing the two types of forms and establishing the relations between the elements and the composite bodies by means of the concept of form. Now we are going to see the completion of this account in some detail.

Having established the principle of incorporeal interaction, Alexander introduces the notion of simple form as follows:

“(i) those natural things, whose substrate is simple (that is, matter in the principal sense, which underlies the simple and the first bodies, which are the elements of all things), of those form and nature is also simple. (ii) And for that reason for those things nature is the cause of one and simple movement. For if nature is the principle of motion, then simple nature would be the principle of simple motion. And the motion which is simple and principal is one. For which reason any of those (elements) is moved by its nature either only upwards, or only downwards.” (7, 13 - 21)

Part (i) here is new compared to Aristotle. There are some hints in this direction, but they never amount to an explicit statement. We have suggested above that Aristotle must have been undecided about the way in which to apply the notions of form and matter to the elements, because the several schemes that he had were not quite agreeing with one another. In particular, he considered the “traditional” way of treating fire as most formal and earth as most material; the “gravitational”, whereby each element would be characterised by its own form, which is its natural place; and there are some weak hints to the “chemical” interpretation of hylomorphism of the elements, which Alexander took over and developed in the previous part of his argument. At this point Alexander definitely
wants to build on the second of the three ways: each element has its own, one form; the evidence of this is the fact of natural movements. The second part of his short argument is the distinction between the simple movements of the simple bodies vs. complex (mixed) movements of the composite bodies. Alexander introduces the new theoretical postulate as the necessary assumption which is present in the Aristotelian text, though not explicit.

Since in the general introduction the form of each element was described as consisting of at least three constitutive qualities, all of which were described as forms, Alexander now has to explain in what sense this form that he has just introduced is “simple”. The reason that he gives for treating it as simple, apart from the simplicity of movement, is the simplicity of the underlying matter. The form is simple because the matter that underlies it is simple. So it seems that the “emergent” properties will after all be more characteristic of the elements as substances.

The composite forms are defined accordingly:

(i) But those natural bodies, whose underlying subject is not simple, but is rather itself a composite body (and of such kind is in fact every composite body), in those entities the form, too, is more motley and more accomplished, and their nature is also such. And this is reasonable: for in the case of those, the form that is inherent in matter and in the subject contributes something to the form of the whole thing.

(ii) And this is even more so, if the underlying body is not just one, as is necessary in the case of the natural and complex bodies, for none of these has as its substrate just one of the simple bodies. (7, 21- 8,3)

So, the natural body has one main form and many lower forms which characterise the different ingredients of its material substrate. These lower forms contribute something to the main form, so, the more diversified the substrate, the more differentiated and the more accomplished is the main form. At this point Alexander seems to introduce the notion of some sort of a numerical characteristic which corresponds to the complexity of a composite substance, and as we shall see presently, he is going to build on it. This numerical characteristic is supposed not only the number of the elemental components but also the number of their different combinations within a composite body. Given the role that the notions of “proportion” and “regular mixture” play in this part of Alexander’s treatise, it is possible to suggest that we are here dealing with a real vestige of the Peripatetic “harmony” theory, which shows also some affinity with Xenocrates’ teaching of “moving numbers”. But of

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91 DC I 2: 268b28.
92 I owe this point to the discussion with Prof. Sorabji.
93 8,2: τῶν φυσικῶν τε καὶ συμβέτων συμμάτων: it is likely that φυσικά σώματα refers to the inorganic natural compounds (metals, minerals and homolomorous parts of the organisms, like tissues) and συμβέτα refers to the organic compounds.
94 This teaching is commended if not warmly, then at least with understanding, by Andronicus ap. Them. paraphr. in de an. 32,24: αριθμῶν γάρ ἐκάλουν (scil. Xenocrates), φησὶν τὴν ψωφήν, ὅτι μεθὲν ξενον ἐξ ἀπλοῦ σώματος, ἀλλὰ κατὰ τις λόγους καὶ ἀριθμοῖς κοινέτας τῶν πρῶτων στοιχείων. Σχεδὸν οὖν ταύτα ἀπεφαίναντα τὰς ἀρμονίας αὐτῆς τιμημένης, πλὴν ὅσον σαφέστερον οὗτοι τῇ προσθήκῃ τῶν λόγων ἐποίουν, οὐ πάντα ἀριθμῶν, ἀλλὰ τὸν κινοῦτα ἐαυτὸν τὴν
course all the numbers have their foundation in the real combinations of the elements:

(iii) "So that if there is going to be some natural body composed from the simple bodies, there should be several (πλείον  ) simple bodies underlying it"96, which number is the number that comes from the variety of forms that are in them, and for that reason such bodies are compound"96. (8, 5-8 Br.)

But the complexity and differentiation really depend on the formal component of the underlying bodies. As we have seen above, the active and passive powers, or the opposites that bring about the mixture by acting on one another, are forms and as such incorporeal. So is the Aristotelian "intermediate" (μέταξόν), chemical equilibrium that results from this tempering. It is a form:

Now, the nature and form of that which has as its underlying, along with matter, several different forms, is necessarily also more intricate and accomplished, since each of the natures that are in the bodies underlying it, contributes something to the form which is common to them all. For this form somehow becomes the form of the forms and the perfection of the perfections. (8, 8-13 Br).

This is the most controversial part of Alexander’s theory, which earned it a title of “generation of the soul” with the early Moraux. AD in their commentary at this point give a detailed reply to Moraux’s charges of materialism and mechanism.97 Many scholars have shown that this theory does not contradict Aristotle.98 But all this still does not answer the question about the source of this theory, and the reason why Alexander wanted to introduce it here. Particularly unclear is the Aristotelian background of the concept of “contribution” of the lower forms to the upper.

The close parallel to it, however, is found in the Stoic theory of mixture, in which Alexander, as we know, was very interested. This theory, as has already been mentioned, assumed that bodies mix by their whole volumes, hence the phrase “body going through body” in the doxographic sources. The correctness of doxographic reports has been challenged by Prof. Todd in his study of the sources: he thinks that the Stoic ἀντιπαράκτασις referred primarily to the specific type of pneumatic movement, for which the dispersion of small quantities in the large volumes of

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96 reading with Bruns τούτων for τούτων Va
97 AD understand the sentence in a more general sense (“Sicché se deve esserci qualche corpo naturale composto oltre i corpi semplici, bisogna che questo abbia a sostrato più d’uno dei corpi semplici (una pluralità, questa, dovuta alla diversità delle forme che sono in essi) e a causa di questa pluralità siffatti corpi sono composti.” p.9)
98 AD, pp.115-7. Their argument includes the points that (1) the contribution of lower structures to the higher is that of form to form and not of matter to form, and Alexander never says in de anima that the organism is sufficiently accounted for by mixture of the ‘raw’ bodies. They cite in meteor. 226, 16-23; 219, 20-21, as well as in metaph. 103, 4-17. (2) the use of the verbs γίγνεσθαι and ἐπηγίγνεσθαι with respect to soul as form may be sanctioned by the similar use by Aristotle in Meta. Z 8 and does not mean violation of the principle according to which the form is not generated; (3) The use of the same expressions in the other places of de anima (5, 5-6; 24, 23.28; 26, 27.29) is in the course of compositional rather than genetic analysis and so does not entail the generation of form. It may be noticed that for the (1) to be valid, the sense of contribution of a lower form to a higher one has to be demonstrated.
99 See above chapter one.
substance served as an analogue. This “analogical” reasoning is, according to Todd, what the Stoics mean by the “common notions”. We certainly need not assume that the tenet itself as it appears in the doxographical literature and in the quotations is anything stronger than a manageable abbreviation of the theory. Alexander criticised this teaching, perhaps tendentiously, and suggested how to replace it with Peripatetic doctrine of form and matter. We are interested at this point not in the accuracy of Alexander’s description of Stoic teaching, but in the way in which the “replacement” of Stoicism with Peripateticism affected the latter.

Thus, Alexander refutes the Stoic case of heated iron as the paradigm of mixture, by first citing the counterexample of burning (the extreme case of heating) which does not involve mixture, and then explaining the relation between fire/heat and the material as that between form and matter. He uses the same strategy in dealing with the Stoic notion of pneuma (224, 27: they attribute the function of unification to pneuma, not being able to distinguish between form and matter); and with the Stoic notion of God pervading matter.

The Peripatetic theory of mixture, which he suggests as the alternative to the Stoic one has it that the mixed bodies share in the same matter, while differing in forms and accidental qualities. The “tempering” of the ingredients of mixture takes place in virtue of contrariety of the active and passive properties, i.e. when one opposite takes over the other, but not to the complete extinction of the latter. But some features of the scheme to which Alexander wants to apply this analysis seem to remain Stoic. This pertains, first of all, to the manner of co-presence in the mixture of the qualities of different ingredients. The physical fragment 28 of Ar.Did., which Alexander closely paraphrases in chapter 3 of his treatise, says:

The term συνεκφαίεσθαι is rendered by Prof. Todd as “being manifest together”. This is the way in which the

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98 In agreement with GC I 10: 327b10-13, but probably taking ἑλη in the technical sense of ‘matter’ rather than ‘wood’ is not intended by Aristotle.
99 222,36: άλλως οὐδὲ τῷ πῷ τῷ σιδηρῷ, καθαρὰ φασι, μίγασθαι, ὄσπερ οὐδὲ τοῖς χρυσοῖς οὐδὲ τοῖς ξύλοις. ἄλλως γάρ ἀτοπον τῷ ἑλη τῷ ἑδέ μὴ ταχθήναι λέγειν, κτλ.
100 226, 10: “the implication of their statements seems to be that God is the form of matter; for if, according to them, God is mixed with matter as the soul is with the body among animals, and God is the power of matter (for they say that matter is characterised by the power in it), they would in a sense mean that God is its form, as the soul is of the body and the potentiality of that which is in potentiality” (Todd transl., slightly modified).
101 Todd 1976, pp. 54-55.
properties of wine, honey, water and vinegar co-exist in the mixture, and this is how they affect the properties of the mixture: they are partly present in it “in person”. Alexander criticises the theory of corporeal integrity of the ingredients within the mixture\textsuperscript{104}, but seems to adopt the notion that the qualities of the ingredients are, to a limited extent and modified and tempered, but \textit{all} present in the mixture\textsuperscript{105}. Prof. Todd gives a useful reference to the passage later in \textit{de anima}, in which Alexander seems to borrow not only the concept but even partly the wording of our fragment, when formulating as the principle of his own system that the ingredients should be preserved in a blend:

\[\text{άλλ' οίδε οἶλον τῇ τῶν τεσσάρων τὶ σωμάτων ἐκ τῆς τῶν καταλημμένων γενόσθαι μίξεως, εἴ \gamma \text{ δὲ} \text{ μὴ συνεκφαίνοισθαι τῷ ἐκ τῆς μίξεως τῷ ὑπὲρ πάσας τῶν δυνάμεις τὰς ἑκείνιν}, \text{εἴ \οι \καὶ} \text{ μεμικταί παύειν τὰ} \text{ ἀτόμα ἀτόμος μίξεις διανέει, ὅτι μὴ ἀκλήνεις ἢ τῶν μεγεμένων ὀθονᾶ.} \text{19, 31-4.}\textsuperscript{106}

If the relation between the lower forms and the form of the whole thing is that of the qualities of mixing ingredients, then it is possible to regard the \textit{συνωθω} of the lower forms as a close parallel to \textit{συνεκφαίνοισθαι} of the qualities of the ingredients in the Stoic theory of mixture. Since the Peripatetic and the Stoic theories of mixture were often regarded in parallel in the doxography of Alexander’s time\textsuperscript{107}, it would be also natural if they were supposed (by the doxography, and even by the proponents of the teachings themselves) to have the same “factual” basis (facts like separating of wine from water with an olive-oil soaked sponge). Both schools might have had it as a basic fact about mixture that all the properties of the ingredients have \textit{some} appearance in the properties of mixture, but offered different theories to explain the nature of the appearance. Stoics accounted for it on the basis of their theory of total mixture. Alexander wanted to give a hylomorphic account of the same fact, so he developed the notion of the “common form”, to which the lower and partial forms contribute. To rid it of traces of materialism, he used the theory that bodies act upon bodies by way of incorporeals, thus making the interaction between the partial forms in the mixture into a ‘formal’ rather than material process.

This should raise some questions: first, does this really follow from the Aristotelian theory of mixture, with its emphasis on potential presence of the properties of ingredients in the mixture, and next, how did Alexander hope to make this “mixture” account of form agree with the Aristotelian theory? The answer to the first question is that the

\textsuperscript{104} It is at this point that he adduces the notion of token-identity of the element, saying that the wine collected by the sponge soaked in the olive oil is not token-identical to the ingredient wine, but is type-identical to it.

\textsuperscript{105} πάσας τὰς δυνάμεις in the quotation below; cf. also the \textit{enwesi}. \textit{II} \textit{20} to be discussed below: \textit{άλλ' εἴ \text{δὲ} \text{ μεταξύ μετέχον ἀπασαν τῶν ποιητών τὰ καὶ δυνάμεις τῶν εἰ τοῖς ἀπλάδις σώμασιν ὑποκειμένων (64,26).}

\textsuperscript{106} The last clause indicates that Alexander cites this as his own principle, even though the context is the refutation of the \textit{pneuma}-style theory of the soul. This shows also that Alexander probably well understood the \textit{συνεκφαίνοισθαι} of the doxographical source, and \text{οἵ} \text{σύκειν} probably renders not it but the \textit{διαμένουσι} of the source (\textit{pace} Todd).
isomorphism between the properties of ingredients and the properties of the mixture is probably a fair corollary from Aristotle. The properties are determined by the interaction of opposites, so each of the active and passive properties should somehow contribute to the set of properties of the “intermediate” state. But the treatment of these opposites as incorporeal reflects a new context. Its purpose can be explained by the answer to the second question, which will lead us to Alexander’s view of relation between mixture and generation.

Apparently Alexander regarded mixture (or ‘combination’, in Joachim’s translation) as the mechanism of generation of the composite natural bodies. Aristotle in GC I 10 draws a distinction between the two types of processes as follows:

Now it is interesting to see how Alexander explains this distinction in de mixtione XIV:

Now common to both processes is their participation in matter, in respect to which both passing away and blending similarly occur, as well as alteration caused by interaction through contrariety. Peculiar to blending in relation to coming-to-be and passing-away is that with the latter one thing completely changes into another and takes in exchange the contrarieties by which it was acted on in completely losing its former properties, while with the constituents of blends there is a different process. When several bodies with the potentiality for the reciprocal action are compounded with one another and are in the state where one cannot exceed the other by its contrariety so as to destroy it and change it into its own nature, then by the equality of the powers by which they interact these bodies are in turn acted on by one another in the same way, and advance to the point where they lose that superiority in their contrarieties by which they differed and were opposite, and create one quality from all the powers (μιαν δύναμιν πως διάμειαν γεννήσα μονότητα), while the matter underlying both or all of them is unified and becomes one. (230.20-34 Br., Todd transl.)

Aristotle draws a principal distinction between generation and mixture mostly for the case of the elements: generation and corruption is extinction of some elements and emergence of some other, while mixture is partial extinction of some and partial emergence of other, and rather some intermediate stability, in which all the elements retain their properties potentially, but actually there is something different from all. Alexander wants to include the composites in the account and says that generation of the elements to some extent predisposes them for particular combinations, and these combinations bring about intermediate stability, which corresponds to the being of a composite thing, and then the extinction of some elements upsets the combination, and brings about destruction of both some of the elements and the composite thing.

That such is his view is confirmed by his treatment of generation and mixture in quaest. II 20: “How that which changes into something in accordance with the potentiality that it possesses, preserves the potentiality even after

107 Cf. the quotations of Galen above.
changing into that into which it changes”. Alexander considers in this treatise the reversibility of substantial changes in different classes of substances. He regards such reversibility as a necessary condition of a generable substance. But it has to be noticed that the reversibility about which he talks here is reversibility with regard to the antecedent matter. So he says that the artefacts, upon destruction, do not become matter from which they were made, because their matter was not a product of art and was not the opposite of the product that came to be. The natural things, to the contrary, return to the matter out of which they came:

For it is by having become this, but possessing the potentiality also for being in the opposite [state] to this, that, keeping the potentiality, it (scil. the prime matter) sometimes also changes into that; and for this reason none of the simple bodies that come to be is imperishable. (64, 22 Sharples transl.).

We have seen that Alexander’s treatment of the elements in their relation to the prime matter is in general in correspondence with what Aristotle says about transformations of the elements in GC. Next he says, that from these simple bodies the composite bodies come to be, in accordance with a certain mixing and blending and proportioning of their potentialities, according to which change comes about not into a particular one of the simple [bodies], but into something intermediate which shares in all the qualities and potentialities which underlie in the simple bodies. But the simple bodies possess the potentiality also for being separated from one another again, and so they are dissolved and separated from the mixture of this sort. (64, 24-30, Sharples transl.)

The composite body then perishes through disintegration. In case of the living creatures the antecedent matter is itself a product of mixture. They do not return to their antecedent matter, but rather go to the more basic state, and their passing away is described as coming about not from disintegration, but rather from the violation of proportion among the constitutive elements, when a certain one of them takes over the others, and the intermediate state loses the balance that it had. There seem to be no qualitative difference between the case of composite bodies and the living beings: the latter are more complex, but the nature of complexity is the same, in both cases it is the elemental combination.

So, the “composition” theory after all does have to do with generation, though not with generation of form (form cannot be generated separately from a sensible substance), but rather with generation of a whole composite, in the course of which form is built up from the forms of the constituents. Again, the process of “building up” the form is not the process of its generation. In order for such building up to take place, form has to be already present in the beginning. The process between the beginning and coming to be of a new substance with its own form is ‘governed’ by form, as in

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108 Sharples, 1994, p.17 notes that the question is misleadingly put, because the ἄλημα which is preserved when A has turned into B is not the ἄλημα of being B, but rather that of becoming A again. It might be an attempt to render the notion of preserving the quality potentially.

109 63, 33: “And it becomes that thing again, as Aristotle says concerning the world, if it is a thing that has come to be: for on account of this, he says, it will also pass away.” (Sharples transl.) The reference to Aristotle might be to DC I 10: 279b27.
the third of the generation models considered in the previous chapter. That Alexander is committed to this view has been made clear from the fragment of his commentary on Physics II. The ascending process that he describes with the help of the Stoic scheme of co-presence of the ingredient qualities, corresponds to the process of material causation and is within the constraints laid down by formal cause.

Now we have to turn to the notion of “common form” of the composite body, which, Alexander says, is like the “form of forms and perfection of perfections”. The expression “form of forms” is used by Aristotle in DA III 8:432a1-3, where the hand is said to be the instrument of the instruments, and the soul to be analogous to the hand insofar as the mind is “form of forms” and the perception is the “form of the perceptible objects”\(^\text{10}\). Alexander’s use of ἔκς ἑκάτων is only superficially parallel to this Aristotelian use.\(^\text{11}\) The difference consists in the way in which the relation between the forms and the “form of forms” is understood. In Aristotle “form of forms” is mind, whereas perception, e.g., is “form of perceptibles”. In both cases we are dealing with the cognitive forms. The relation that Aristotle has in mind is that of homomorphism between the cognitive capacity and its objects.

Alexander apparently regards the relation between his “form of forms” and “forms” as that of a real inclusion. “Form of forms” refers to the real form of a thing. This real form is interpreted as the “common form”: it covers the forms of all the elements that constitute this thing and is sensitive to the combinations in which these elements appear.

In accordance with the rule of ‘representational completeness’ of a composite form, implied by the Stoic principle of “co-presence”, each element will somehow ‘percolate’ to the level of the common form, probably modified, but still represented directly. The presence of the elements in the common form is to some extent similar to the presence of the elements in a chemical compound, where none of the elements may be seen, but each does its work and accounts for a distinct set of physical properties of a compound (sodium, which is grey and soft, and oxidises so quickly it cannot be kept in the open air, cannot be ‘seen’ in the salt, which is the white crystals; but it colours the flame yellow, so we can still learn about its presence).

This seems to be an elaboration on the Stoic idea of co-presence of the qualities in the mixture, which Alexander re-formulates in the hylomorphic terms. The major difference from Aristotle is the introduction of the real relation between higher and lower forms.

The “form of the forms” can get some further explanation with the help of the passage from Alexander’s commentary

\(^{10}\) ἡ γαμήλια ἀκόμα στις καὶ τὰ ἐν τοῖς ἐγκατεστήσεσιν ἐστιν ἐγκατεστημένος, καὶ ὁ οὐς ἐνδος ἐιδών καὶ ἡ αἰσθητικὴ εἶδος αἰσθητικῶν.

\(^{11}\) Contrary to what Papadis, p. 100f., seems to assume.
on Phys. II, cited above in chapter two.\textsuperscript{112} The form of the whole thing, according to Aristotle, teleologically necessitates the matter. The form that is responsible for the initiation of the process of generation determines the stages of the process, hence determines the intermediate forms that lead on to the end-state. The form that emerges from the process can be regarded as the effect of the whole chain of the intermediary forms, but in fact the form that is in the beginning defines the order and nature of the intermediary stages. Aristotle in his discussions of teleological necessitation underlines that it is the doctor who fixes the mixture of substances. It is not characteristic for Aristotle to separate the process of production from the process of the actualisation of matter, so it is impossible to find in his works the equivalent of the notion of "contribution of the lower forms to the higher". In Alexander, the teleological language is played down. Form produces the first intermediary in the chain of generation, and that one behaves in accordance with its physical properties: nourishes and grows, which leads to the production of the next intermediary, and so on, all the way up until a complete being with the complete form emerges. In this regard the expression τελείωσις τῶν τελεστήματων is of interest\textsuperscript{113}. Apparently here τελείωσις is to be understood in accordance with Alexander’s definition cited above, as the end-state of a particular process of becoming. It has nothing to do with the theory of natural places as natural perfect states of the elements (i.e. the places where they can be found in pure state in bulk). Any stable place of an element in the combination can be regarded as its τελείωσις.

Instead of conclusions for 3.4, some problems:

The theory of simple and complex forms seems to provide a complement to the teleological necessitation of matter by form. In this way Alexander wants to bring together the two divergent accounts of generation, found in Aristotle, making them work in one scheme. The order of ascension in this scheme should correspond to the material causality, which works ‘from bottom up’ under the guidance of the formal cause.

The difficulty of this ‘combination’ theory of form is that when it is taken without qualifications, as a view of composite forms as continuously evolving from the mixture of simple forms, there is nothing in it to prevent the conclusion that any elemental mixture has a specific form, by virtue of being mixture. This will be difficult to reconcile with the notion of form-substance. Alternatively, we may assume that simple and complex forms belong to different ontological types. The ingredient form belongs to the ontological type defined by the ‘combination’ theory of form, based on the postulate of the prime matter and, ultimately, on the derivation of substance from the

\textsuperscript{112} See 2.2.1.2, p.68.

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primordial qualities. The form of a composite belongs to the ontological type defined by the theory of substance-form, based on the assumption of the primordial character of the higher-level form with respect to the process of generation (whereby the elements play ancillary part). A problem for the synthetic theory, which uses two concepts of form, is to account for the correlation between the two concepts. This would involve explaining how the form of the elemental theory maps onto the form-substance of a particular kind. That Alexander is committed to the idea of correlation between the two types of ontology is clear from his theory of natural variety, which is considered in the next section, 3.5.

3.5. Natural Variety of Forms. (8,5 - 11,13)

We have considered Alexander's doctrine of hylomorphic structure of the simple bodies, his theory of incorporeal nature of active and passive properties of bodies, and the theory of formal constitution of the composite bodies. In this section we are going to see how Alexander applies the main principles of his doctrine in his account of natural variety. This is an important part of his theory because it shows how hylomorphic theory of the soul relates to the real hierarchy of nature. The most important principles of Alexander's hylomorphic theory that we have seen so far are: the principle of elementary hylomorphic structure, with the formal principle constituted by two types of characteristics, those that possess immediate causal efficacy (acting and being acted upon, like hot and cold) and those that are causal indirectly, as a tendency or propensity (like weight and lightness); the principle of combination (Aristotle's principle of interaction of the opposites); and finally, the elemental composition of the composite bodies. Now we are going to see how these principles are used to account for the natural variety of forms.

I begin by considering the principles of Alexander's scala naturae, and continue by a closer consideration of his arguments concerning the hierarchy of living beings, in case of plants and animals.

3.5.1. Scala naturae.

In Aristotle himself we find several different approaches to systematisation in the realm of the natural things. The most conspicuous cases, some of which have already been mentioned above, are: (1) the hierarchy of the elements based on

113 8, 12 Br.
the idea of a universal formal principle (GC), or (probably in conjunction with the just-mentioned principle) on the theory of natural place (DC IV 3)\footnote{Discussed in Algra 1995, pp.217-221.}; (2) the classifications of living beings in the biological works, based on the principles of differentiation of organs within the species;\footnote{See Granger 1985 for the problem of continuity in such hierarchies.} (3) most notably, the hierarchy of natural faculties in conjunction with the classification of the types of soul in DA II 2-3; (4) ‘teleological’ classification of the types of motion in the universe, based on the distance from the supreme end (DC II 12)\footnote{Discussed in Sharples 1976.}. Aristotle never attempts to put together these different classifications.

The Stoics are probably the first to attempt a systematisation of the whole of nature based on one principle. The Stoic hierarchy of nature has its origin in the idea of cosmos as a single living being, the realms of nature being functional parts of this cosmic organism. The central principle of the cosmic structure, its λόγος, corresponds to fire, which is regarded as the agent principle of the structure of the whole. As such, it is opposed to the passive principle of matter, which is more manifest in less active sublunary elements. Each cosmic entity is thus a product of dynamic balance between the active and the passive. The active principle corresponds to the soul of living beings. The early Stoic models of cosmology assigned psychic functions to the four elements.\footnote{See Hahn 1977, pp. 96-102.} In Chrysippus, we seem to have an attempt at a systematisation by means of a single method: his hierarchy of nature is based on the notion of pneumatic pervasion of the cosmos. The levels of the cosmic gradation are established by the degree of involvement of the agent principle in their constitution. The sources report that the Chrysippean scheme consisted of four main states of the pneuma: ἐνεργός, φύσις, φύσις and λόγος.\footnote{Philo, leg. alleg. II.22-3, quod deus sit immut. 35-36 (SVF II 458), discussed in LS I 47 (pp.280-289).} The main characteristic of the state of ἐνεργός is cohesion: this is a manifestation of the minimal degree of involvement of the agent principle. The distinct feature of nature (φύσις) is the phenomenon of life: nature is the state of the pneuma that accounts for the processes of living and for the corresponding functions in living beings. The most significant feature of the ‘soul’ state is perceiving (the element that corresponds to the function of perception is the air): ‘soul’ is possessed by animals (not by plants) because they are endowed with the powers of perception. The ‘rational’ state that corresponds to the cosmic λόγος and to the soul of the “sage” is characterised by the coincidence of the internal and external principle. The lower structures have to be somehow present in the higher structures.\footnote{Discussed in Sharples 1976.} It has been noticed by scholars that the Stoic scala naturae depends on Aristotle, differing only in the degree of commitment to the systematic spirit.

It may be noticed however, that from the types of systematisation sketched by Aristotle, the Stoics chose only the
ones that have to do with the most general realms of the cosmos, ignoring the biological systematisations based on the principle of differentiation of genus by the species. This is an interesting circumstance because Alexander's approach to the scala naturae is characterised by the same basic feature. The tendency which can be seen here is the one toward the explanation of the higher levels of behaviour with the help of the more basic principles of the system: thus, Alexander, like the Stoics, tends to take the system of the soul's faculties and bring it to correspondence to a certain single material principle.

But as distinct from the Stoics, Alexander does not explicitly mention the single supreme agent principle as underlying his classification, although, as we have seen in chapter two, the agent principle is among the first principles of his system, and as we shall have the chance to notice, its precise function in the cosmic system adduced by Alexander might be, apart from all else, to serve as a source of the primordial forms. But in outlining his hierarchy of the sublunary natural things Alexander explicitly builds only on the principle of elemental combination.

The idea of combination of forms and of contribution of the lower forms to the form of the whole body is basic for Alexander's theory of variety of species within broader natural kinds. He says that one should not be surprised at the diversity of forms in natural bodies, as the causes of this diversity are laid out clearly in the diversity of the forms in the substrates of these bodies and the variety of mixtures of these substrates.120 The causes are, he explains further, the multiplicity of the forms in their underlying bodies and the varied combination of these forms. If only four primary qualities, dryness, moisture, heat and coldness, in conjunction with the simple substrate, are able to produce such a rich variety of things as fire, air, water, earth, all having distinct properties and possessing in addition 'gravitational' properties which are not conspicuously derivative from the active properties, then how is it not reasonable that the bodies which come to be from a qualified combination and blending of these elements should differ from one another even more considerably, with respect to their forms and kinetic capacities? This is the framework in which he is going to treat the cases of plants and animals.

3.5.2. Plants. (8,25 - 9,26).

Alexander argues against unnamed opponents that plants do have soul. Of course, that the plants do not possess

119 On the problems of 'subsumption' of lower levels by the higher, see Inwood 1985, pp.21-41.
120 8, 13-17 Br.
soul, but instead have nature (φύσις) is an attested Stoic view⁴². But on the other hand, in Alexander’s time it is apparently also a commonly accepted view, or at least a commonly accepted way of talking about things, as Galen indicates in the beginning of his treatise de facultatibus naturalibus:

So Alexander must be going against not only the Stoics, but also to some extent, pedantically, against his ‘age’.

This is a really small doctrinal discrepancy, and Galen regards its subject as purely verbal. However it may reflect a bigger problem with the Aristotelian conception of the soul. As we have seen above, for Aristotle soul as the form of a living body was responsible for the very structure of this body. In GC he gives a series of difficult examples to show how it is impossible to ostensibly separate in a living body what is soul’s and what is bodily proper. This difficulty was regarded by Aristotle as a genuine theoretical problem which he tried to solve with different versions of the hylomorphic method. It has also made his system particularly elusive for the distinction between mind and body as it is commonly drawn in contemporary philosophy of mind.

The Stoic system apparently attempted to take a clearer stance on the soul-body distinction, treating the more passive part of a compound as ‘body’ and the more active part as ‘soul’.⁴² By the logic of this approach, plants may be said to be living and yet soulless: they consist mostly of earth and water, as Aristotle also recognises,⁴³ and they do not have the power of perception which has to be present in ensouled beings, and the possession of which involves also the presence of the power of representation and volitive impulse.⁴⁴ The Stoic soul was not associated with the lower form of life, as the Aristotelian soul, but curiously enough it was often described as a living being on its own⁴⁵. The Stoic position to some extent overlapped (not coinciding) with a kind of ‘folk psychology’ construing the soul as the principle that basically involves a kind of subjective activity.

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⁴² SVF II 708-713; 714, 715, 718.
⁴⁴ See above, 3.3. note 80.
⁴⁵ Cf. Philo quod deus sit immut. § 35 vol.II, p.64,1 Wendl. = SVF II 458, p.150, 10 von Arn.: ψυχή δὲ φύσις τριών διαλαττομαχέον τὸ ποιητό ἐποίησε ἀληθεία, φαντασία, ὁρήσι. Τὰ μὲν γὰρ φυτὰ ἄμμονται, ἀληθεύουσα, ἀληθεύουσα ἀμέτοχα, τῶν δὲ ζώων ἐκαστὸν ἄκρων μετέχει τῶν εἰρήμενων. This implicational dependence of appetite and image-building capacity on perception is also a feature of Aristotelian theory of the faculties, see DA II 2: 413b22-4.
Probably it is this kind of distinction that is reflected in Galen’s observation on common usage. It is to be noted that Galen himself admits that there is no substantial difference between the Aristotelians and those who abide by the common usage as regards the claims they make about the plants. Both parties recognize that plants have nutritive, vegetative and reproductive faculties, and even, as Alexander says in his treatise, can move in all the three dimensions, as opposed to the inorganic natures, whose movement is essentially one-dimensional. The only difference is that the Aristotelians call it “soul”, while the majority prefers to use the term “nature”. 126

It might be that contemporary dissatisfaction with Aristotelian philosophy of mind, of the kind registered by Prof. Burnyeat in a recent publication,127 and the miscommunication between it and the ancient ‘folk psychology’ have something in common. Namely, both ancient ‘folk-psychology’ and the philosophy of mind assume that there must be a way to draw a line between ‘psychic’ (‘mental’) and bodily (‘physical’), so as still to be able to get some kind of a complete account of each side in its own terms. This is the assumption that Aristotelian psychology resists. This is not to say that Aristotle’s theory does not allow for such partial accounts to be to some extent valid, but in order to be valid separately they would still need an underlying account of a living being, and it is in this underlying account that the distinction between the two partial accounts (so, between soul and body) is not to be drawn. We are going to see what Alexander has to say in defence of this difficult position.

Alexander’s argument for the ensouledness of plants is constructed of two premisses, as AD seem to point out: the plants have form and that plants are living128. It is characteristic that the demonstration of form involves comparison of the faculties of plants with the elemental motions.

8. 25 - 9. 4: “For that reason also the trees and the plants, which are all natural and complex bodies, are to a very great extent different from the simple bodies in their moving powers. These latter, namely, have in themselves the principle of one and simple movement, while each of the former has in itself in addition also the principle of nourishment and of the motion in all the directions (διαστάσεις) by virtue of growth. Also, each of these has a power of begetting its like.”

incurret ex quacunque parte, de proximo sentiat, sic animae principale, postum in media sede cordis, sensuum exordia reirete, ut cum nuntiabant de proximo recognoscat”.

126 This is actually a feature which Neo-Aristotelianism seems to share with the Neo-Platonism, the difference being that the Platonic psychology admitted as an independent principle within a living body. Themistius describes the Aristotelian position with regard to plants as a gold mean between the extremes of the Stoa’s denial of soul to plants and the equation between plants and animals drawn by the Platonists. 45, 16-18H.: μέσος τούτων Πλάτωνος καὶ τῶν ἀπὸ τῆς Στοιχείης Ἀριστοτέλης, ἐμφανὰ μεν τὰ φυστὰ λέγον, ζωα δὲ μη’ ἐκεῖνων δὲ ο μὲν ἁμέω, οἱ δὲ οὐδέτεροι. The reference may be, as Todd notes, to Tim.77ac, cf.1: παν γαρ οὐ οὐπερ ἀν μετάρχη τῷ ζυγιῷ, ζωα μὲν ἄν ἐν δικῇ λέγοντι ὀθόντα. But the later Platonism seems to have come up with a ‘subjectivist’ interpretation of the vegetative principle (as corresponding to a specific intrinsic state of a subject cf. Philop. in de an. ...), while Aristotelianism made no such promise.

The parallel between the elemental motions and the motions of growth and nourishment suggests that there is some transmission of the kinetic powers of the elements to the complex elemental compounds.

9. 4 -11: And again, the plants, though they have all these in common, differ from one another by form (κατ’ έλασσας) to a great extent, because they are different in matter and in blend and mixture of their underlying matter. For the trees are very much distinct from one another, and still much more so from herbs, even though these are also plants, and natural and complex bodies. But we can also see that the difference of these (herbs) from each other is huge, of which the cause is none other than the aforementioned.

AD notice in their commentary that the difference in έλασσας between two trees, between the tree and the herb, between the two herbs, is not a difference in kind.\textsuperscript{129} The difference between the lower and the higher animal species is constituted by some additional faculties that the higher species have and the lower ones do not have. But plants do not differ in the number of faculties, all having the functions of nourishment, growth and reproduction. It is characteristic of Alexander's argument that it intends to establish a correlation between the form taken in the functional sense and the underlying mixture. The underlying mixture constitutes a continuous aspect of the scala naturae, whereas the distinctions between the tiers are determined by functional differences. This is the way in which Alexander proves, against the Stoics and the 'folk psychology', that the form of plants is the first faculty of the soul, since plants are living beings and whatever lives does so due to the soul:

9. 11-14: And such form and such perfection is already the first faculty of the soul. For if every living being lives due to the soul, and the plants do live, if, at any rate, being fed and growing by one's own capacity is living, then the plants should also be regarded as having soul, and their form should be regarded as their soul.

This argument shows the theoretical nature of the concept of soul. It is based on the conception of soul of Aristotelian biology, which regards the functions of nutrition, growth and reproduction as faculties of soul. The next step is 'scholastic', but very much in the spirit of the Aristotelian theory of substance: if a being displays such functions, then it is ensouled, and its form is soul. The vegetative principle here plays the role of sufficient condition for the soul.

The next passage, 9, 14-26, explains that form should be understood not as the activities, but more as potentiality (δύναμις) antecedent to the activities. Alexander explains that weight is the form of the earth not just when it is moving downward, but also when it rests. He distinguishes between the form understood as potentiality and the

activity in accordance with form, which is the perfection (τελειότης) of the underlying potentiality.

9. 14: “And just as with the simple bodies form is not by way of actuality that comes from the potentiality, but rather by way of potentiality, from which proceeds the actuality (for the nature of the earth was not defined (ὅπως) as being moved downwards, for it was no less earth even when it was resting, but the potentiality, from which it had its being moved downwards, which was the heaviness, and though each of the two is perfection (τελειότης), the heaviness, given that it is form, and the activity in accordance with it, given that with the potentialities and dispositions the activities that stem from them are perfections, yet still in the things in which both are found, the perfection by way of disposition and potentiality is prior or antecedent in time to the activity that proceeds from it), in the same way it is also with the composite bodies.”

AD note that Alexander in this passage tacitly transfers Aristotle’s theory of first and second actuality to simple bodies and plants. They suggest that the incoherence of the exemplification and the imperfect tense (which he understands as an allusion to the doctrines known to the school) may indicate that Alexander alludes to some earlier systematisations of this doctrine, with which his audience was familiar. They give a cross-reference to the fragment of Alexander’s commentary on DC II 1 preserved by Simplicius, which is worth quoting. Alexander discusses there the nature of the heavenly bodies:

ήμεις δὲ, ἐφοσον ὁ Ἀλέξανδρος, ἐπικεφαλέως δεικνύοντο τοῦ θείου σώματος οὐκ ἄλλην μὲν τὴν φύσιν ὀδύσαι, ἄλλην δὲ ὄφρην, ἀλλὰ ὡς ἡ δαυκτής τῆς γῆς καὶ τοῦ πυρὸς ἡ κομψύς· ὡς γὰρ ταῦτα λέγοντες φύσιν κατέχουσα κατὰ τὰς δυνάμεις ταύτας κυριεύει λέγειν, καὶ οὐκ ἄλλη τις αὐτῶν παρὰ τὴν κατὰ φύσιν ή κατὰ τὰς σκιές δυνάμεις κίνησις ἔστιν, δύον καὶ τὴν φύσιν τοῦ θείου σώματος εὐλογον ἐφαίνοτο εἶναι καὶ τὴν δύναμιν τὴν ψυχήν· τὶς γὰρ ἀν ἄλλη παρὰ ταύτην εἰς ψυχῆς αὐτῶν· τελειοτσά γάρ φύσεως ὡς ὄφρης, εὐλογον δὲ τοῦ τελειοτέρου σώματος καὶ τὴν φύσιν εἶναι τελειοτέρων, καθ’ ἣν φύσιν τε καὶ ψυχήν ἐστιν κυκλοφορητικόν. (in de cael. 380, 29-381,2 Heiberg)

Simplicius criticises this interpretation of heavenly bodies, noting that the general strategy which underlies this identification of soul with nature is based on the notion of inseparability of the entelechy from the body. But this interpretation may be misleading. 131

Alexander here says that the form and nature of the divine body is soul, because it is its perfection, by the same logic by which weight is the form of earth and lightness of fire. But several qualifications should be noticed. While the force of the ‘inseparability’ thesis in the case of the elements equals to that of a claim that weight and lightness cannot exist on their own, in the case of the divine body, ‘inseparability thesis’ amounts to the denial of any other nature than form for this type of body. This is seconded by Alexander’s note in de anima that souls of the divine bodies are spoken of homonymously: they are not ‘souls’ in the same way as the souls of the natural living

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131 See discussion in Accattino 1992, p.45. Prof. Sharples points out to me that Simplicius never misses a chance to present Alexander as obsessed with denying the separability and hence the immortality of the soul, e.g. in phys. 964, 15 (discussion in Rashed 1997, pp. 183–6), 1261, 37 sq.
beings. But in the case of plants the common hylomorphic structure should be shared in a literal, non-homonymous sense, so Alexander's approach here is based on systematic considerations: the transfer of the distinction between the first and the second actuality to the elements and plants is done consistently with the spirit of the system. Alexander alludes to the distinction between the two types of actuality as the distinction between the pure activity which is never potential, and the activity which is contingent and can be potential. Elements and plants are, of course, on the 'potential' side, hence the qualification:

παύτη μέντοι ὡ κατὰ τὸν χρόνον προϊδοσταμένη, ἐν ὦς ἄμφω γίνεται, ὡ κατὰ τὴν ἐξίν τε καὶ τὴν δύναμιν τελείτως τῆς κατ' αὐτὴν ἐνέργειας. (9. 20-1).

The application of this distinction to plants is partly dictated by the goals of polemic: failing to show the commonality of hylomorphic structure between plants and animals, Alexander would have to concede to his opponents that plants are in fact different from animals, and this would call in question the use of the common term 'soul' to cover both.

The case of the elements is of course different: here Alexander is under no obligation with respect to the theory of the soul; moreover, there is a difference between the living and the non-living. Yet, the notions of potentiality and actuality apparently are supposed to be applicable on all the levels of the cosmic structure. Such use is authorised by Aristotle, who in his cosmology talks about the elements as possessing their 'form' potentially or actually. But in Alexander's system, where the unity of teleological structure is strengthened by the unity of the material structure as explicitly laid out in his theory of elemental constitution, this teleological principle also gets a much stronger systematic sense, because it is shown how it is applicable on all the levels of natural hierarchy.

3.5.2. Animals and natural variety.

Alexander's discussion of the animal soul follows upon the explanation that form should be understood as δύναμις rather than immediate activity. He says that if the presence of such a nature has been established for plants, in animals it should be present a fortiori.133

This having been agreed upon and established, I don't think anyone should contend that it is not the case that the

133 AD ad loc.: Alexander treats animals as a natural body of a certain complexity, in which the equivalence "soul=form" is established on the basis of considerations similar to those he has already developed for the plants.
animal is natural and composite body, composed of soul and body. 9, 26 - 10,2 Br.

Accordingly, it is possible to formulate the hylomorphic principle for the case of animals, i.e. say that soul is form and body, matter.

Now, if it, being a body, has its being from these, and every body is a composite of matter and form, it is clear that of these, too, something will be the matter of the animal, and something, the form. 10, 2-4 Br.

In the brief argument for this distribution of hylomorphic roles, Alexander appeals to one of the main postulates that he has established in the general section of the introduction.

Now it is clear from what has been said about plants that the soul is form. Moreover, this is obvious also from what has been demonstrated in the beginning of our reasoning. For it was established that that, in virtue of which each thing has its being, is its form and perfection. But the animal has its being an animal due to this particular kind of soul (which is the one endowed with sense perception), for it is because of its differing with this one from all others that are not animals that the animal is animal. 10, 4 - 10 Br.

Here it may be noticed that the term διάφορα does not refer to the process of differentiation of a genus by species, as in Aristotle's biological treatises. Instead, it refers to the process of differentiation within a broader genus. Although Alexander describes the principles of such differentiation as grounded in each case in the essences of the types of being, it is unclear what is the common ground against which the διάφορα so defined would work as a real differentia. The classes of simple bodies and plants and animals do not have common differentiae, so apparently, there is a problem of grounds for differentiation. On the face of it, the scala naturae suggests an easy solution: all these kinds of entities have in common the elemental constitution of their underlying substrates, so the difference in underlying elemental mixture could be a ground for differentiation. But this solution would entail a further difficulty: if all the differentiation is based on the difference of the underlying elemental mixture, there is no way to introduce the essences as factors of gradation between the tiers of the hierarchy of nature. And in fact Alexander explicitly mentions essences, when speaking about differentiation.134 So, there is some tension between the two meanings of difference, which requires additional explanation.

The solution that Alexander sketches is very original in that it involves something like a quantitative account of the distinctions between the different strata of nature. After stating that in the animal, as in everything else, form is form of a body, and hence, soul is form of a body, he outlines the proportion of complexity, and hence perfection, between the generic soul of an animal and that of a plant:

Hence, in the animal the soul is form of a body, if only in all the bodies the forms are forms of the matter which is

134 I am grateful to Prof. Sharples for pointing this out to me.
underlying in them, the soul, as it is a form, is surpassing in perfection the soul of plants to the same extent to which the soul that is in the former surpasses the forms of the simple and first bodies. 10, 10 - 14 Br.

P. Accattino schematically presents the relation as follows:\textsuperscript{135}:

\[\text{anima degli animali: anima degli vegetali} = \text{anima degli vegetali: forme dei corpi semplici}.\]

At the next step, as Accattino says, Alexander wants to extend the network of proportional relations so as to include the differences within the perceptive soul:

And the differences with respect to the perceiving soul, too, would keep the same ratio to one another which the forms of the simple bodies had towards the soul of plants, and this latter toward the perceiving soul. The cause of the proportionate diversity (\(\deltaι\alphaϕορ\α\)) for them is the diversity (\(\deltaι\alphaϕορ\α\)) of their underlying bodies determined by the plenitude, and particular kind of blend and mixture and consistency. 10, 14-19 Br.

Accattino suggests that Alexander might have in mind Aristotle’s gradations of the faculties of animal soul in \(DA II\) 2: 413b1-7; 3, 414b 1-17 and 415a3-7, which imply the existence of species within the genus ‘animal’, which differ in their basic sets of properties (there is animal soul the faculties of which include only two senses: tact and taste, there is soul which has also other senses and the function of locomotion.)\textsuperscript{136} The relation between the types of entities on the \textit{scala naturae} is represented in the following way:

\[
\begin{align*}
\text{form of a simple body: vegetative soul} &= \\
\text{vegetative soul : perceptive soul (generic)} &= \\
\text{simple perceptive soul: complex perceptive soul.}\textsuperscript{137}
\end{align*}
\]

We can see that the uniform treatment of difference is indeed a result of ‘quantitative’ approach to the problem: this approach makes commensurate the units which belong to different ontological levels. Difference within the kind is commensurate to the difference between the kinds, and as we have seen above, they are also commensurate to the first qualitative difference between the elemental qualities:

And this is reasonable: for if the principle is not just a half, but rather the greatest part of the whole (\(\tauο\ ιναρτ\’\),

\textsuperscript{135} Accattino 1995, p.196.

\textsuperscript{136} Accattino 1995, p.196: “Differently from plants, which all have all the three functions (nutritive, growing and reproductive), not all the animals possess all the functions which make accomplished the perceptive soul. On the basis of this fact he proposes a new \textit{άναλογία} according to which the different species of the perceptive soul have among themselves the same relation as exists between the different grades of forms of the bodies considered so far.”

\textsuperscript{137} \textit{Ibid.}
then the difference within the principles, even if it is short, would conceivably make a cause of a great difference (διαφορά).

And this is clear from the way in which the roads fork. For in those forks the little difference (παραλλαγή) is often the cause of movement to the places which are to the greatest extent removed from one another. 10, 19-24.

This is possible because there is a continuity of presence of the elemental constituents of a body on all the higher organisational levels, which we have discussed above: the continuity of the Stoic συνεκφαίεσθαι or Peripatetic συντελεῖν. Alexander emphasises the dependence of form on matter:

But the matter which is proximate to every particular generated thing is also a kind of a beginning (ἀρχή). So that it is reasonable that the differences (διαφορά) of it should be followed upon by the difference of the forms that supervene on it. For not every matter is receptive of the same kind of perfection.

Thus things whose initial underlying substrate is not a body, of those the form is also simpler. But those, whose substrate is a body, composite and having different parts, so that every different part serves for a different function, of those form, too, has more capacities (δυνάμεων), insofar as it is form and perfection of the organic and complex body. For that reason the form of such a body is already soul.

But soul, too, is simpler, if its organic body is simpler, and it is endowed with more powers and [is] more perfect, if its underlying body, whose form this soul is, is more intricate and more organic". (10, 24-11,5 Br.)

The ontology of soul and body as it appears from this passage is such that the body has parts and organs, while soul has powers or capacities. There is a certain exact correspondence between parts and organs, which are corporeal, and capacities or powers, which are not. Capacities or powers hereby should be understood as processes involving the corporeal parts, considered apart from purely corporeal side.

Conclusions for 3.5. Alexander’s account of variety of nature, like the Stoic scala naturae, attempts to give a systematic approach to the classification of natural things. The most important claim that he makes in this part of the argument is that in every natural thing there is exact correspondence between the bodily mixture and the set of natural capacities. It is this correspondence, which is taken in its most rigorous quantitative sense, that makes the ground for the natural hierarchy. In this claim Alexander uses his idea of hylomorphic structure which he developed for the elements: the form of each thing consists of the qualities which can interact, and their interaction produces a specific and stable incorporeal pattern of ‘mixture’; and of the qualities which cannot directly interact with other qualities but characterise the specific motional pattern of a given substance. In the case of elements, this second class includes natural kinetic propensities like weight and lightness, in the case of a living being it is still kinetic propensities, only having more complex teleological structure. The most difficult question which has to be answered by this elegant theory is of the source of this correspondence between the material make-up and functional complexity of faculties. Conceivably, this theory can be interpreted as deriving the forms of complex composite bodies (living bodies) from their material constituents. In fact, as we have seen in the first chapter, it has been interpreted in this way by a number of scholars. But if it is interpreted in this way, then it will inevitably
contradict Aristotle’s theory of form-substance. This is the way the early Moraux understood Alexander’s theory.

In the next two chapters we are going to consider the way in which Alexander construes the agreement between this theory of form and the Aristotelian theory.

Conclusions for chapter 3.

In this chapter we have seen that Alexander's expository method in the beginning part of de anima is systematic rather than merely paraphrastic, and the doctrine which he expounds has a number of distinct features never found in Aristotle's work. The most notable feature of this doctrine is the hylomorphic theory of elements, according to which hylomorphic structure is present at the very minimal level of the cosmic order. Each element is constituted by two 'active' primordial qualities and one 'supervenient', namely gravitational propensity. Having introduced the principle of interaction according to which bodies act and are acted upon one another by means of their incorporeal aspects, Alexander develops his theory of simple and complex forms, where complex forms are constituted by interaction of simple forms. The properties of simple forms “percolate” to the level of the complex form.

This theory of forms is further used to explain the variety of species departing from the restricted set of basic principles (matter and form, represented by six elemental qualities in combinations). Alexander claims correspondence between the material make-up and the set of natural functions of any natural thing.

The problem with Alexander’s version of the scala naturae is that it is basically built on two sets of principles, namely the complexity of mixture and the difference of natural kinds. The differentiation of mixtures works across the species, because matter is the same in all the species. But such is not the case with differentiation by specific differences, which yields as its infima species a particular type of a living being. Alexander has to account for the relation between these two sets of principles, of which the first one might be shared with reductive materialists, but the second one corresponds to the Aristotelian theory of form-substance which could not be shared quite so easily. Alexander’s commitment to this theory was questioned by his contemporary critics.

In the next chapter I consider if we have grounds to attribute the hylomorphic theory of form-substance to Alexander.
Chapter 4. Soul as "enmattered form": logic and ontology.

Alexander's theory of formal composition, discussed in the previous chapter, raises several problems. The most important problem seems to be that of the ontological status of form: in the theory of mixture, this is the problem of distinction between form and quality. Its solution requires an account of the way in which the lower forms are said to "contribute" to the higher form. The main fault that the commentators found with Alexander's account of form and matter was that it failed to draw a distinction between the form of living and non-living things: we have seen that the distinction between the form of the composite substance and the forms of its elemental constituents is really not quite clear in the "mixture" theory. Moraux argued in his early work that these problems make Alexander's theory of form incompatible with the Aristotelian definition of form, which Alexander introduces in the next part of his treatise, right after the "combination" theory of form. In this chapter I am going to see if this is right by considering the theory of form which is in the background of Alexander's approach to the definition of soul.

The change of the main theoretical motif between the introductory part and 'definition' part (roughly, 11,14 - 17, 8) can be perceived in the change of the vocabulary and the style of reasoning. While the 'mixture' theory is presented in a manner of 'dogmatic' exposition, the definition of the soul is introduced after a series of dialectical investigations into the ways in which things are said to be the components, or to be composed, of other things; and the manner in which soul is said to be 'in' the body. These include the discussion of the meaning of ἐκ τινως, Aristotle's argument 'from the activities of the soul', used as a proof that soul is the form of body rather than a substance on its own; dialectical discussion of the meanings of τὸ ἐν τῷ; exposition of the Aristotelian definition of soul. I begin with these discussions and their Aristotelian background.

Several points of these dialectical investigations and of Alexander's presentation of Aristotle's definition of the soul are more fully developed in the school treatises, mantiissa and quaestiones, where we find evidence of consistent treatment by Alexander of logical and ontological problems of the hylomorphic theory. In the second and third sections of this chapter I present the theory of enmattered form developed in the school treatises: I begin with the problems of subject and substance (section 4.2) and then go on to the logical and ontological problems of 'enmattered form' (section 4.3).
4.1. Aristotelian background of the dialectical proofs. (11, 14-15, 26)

In what may be regarded both as an appendix to the theory of formal composition, and a prelude to the exposition of the definition of the soul, Alexander develops several arguments to prove that soul is the form of body. The arguments differ somewhat in format and accents. Only one is based on the text of Aristotle's DA 13, while two are very expressly 'diairetic': Alexander reviews in them the possible meanings of "of" and "in" in the expressions "body consists of soul and body" and "soul is in a body", both of which he considers as commonly agreed upon. We know that by his time, there are several differing versions of Peripatetic theory of the soul circulating in the writings of the school, doxographic sources and polemical literature. It is to be expected that Alexander, ex officio at any rate, will be reacting to these interpretations. But his polemic is scholarly, that is, directed against the viewpoints, possibly generalised, rather than against persons. He is interested in clearing the ground for the notion of "containment" which would correctly describe the relation of form to matter, and so he emphasises the inadequacy of all the conventional concepts of containment for the description of a hylomorphic compound. On the one hand, he precludes all the construals of soul's containment in the body, except that of hylomorphism; and on the other, he precludes all the "non-theoretical" construals of "hylomorphic containment" itself (this will be particularly obvious in the "in" case).

4.1.1. τὸ ἐκ τιμων: three ways (11, 14-12, 7).

Alexander begins with criticism of several possible construals of soul as constituent of a living body based on different interpretations of the preposition "of" in the sentence "every animal is of soul and body". Alexander considers the sentence itself as the point of common agreement. One might notice the "doxographic" method of arrangement of the discussion, with the word ἀμαλογηταί serving as a sign of juncture, from which the different opinions take their departures. AD note that Alexander uses τὸ ζῷον instead of the expected τὸ ζῶον here, probably because his argument is supposed to be based on the assumptions which are shared by everyone, including the

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1 See Moraux 1942, p.44.
2 11,14: ἀμαλογηταί τὸ ζῷον ἐκ ψυχῆς εἶναι καὶ σῶματος. This has a parallel in the man. 3: 116, 17-18Br., where one of the arguments for the soul's being incorporeal consists just in this: that it is impossible to account for another
Stoics, who denied the equation between living and having soul.

Alexander says that something is said to be “of” something in several ways:

(1) either as of parts, which are preserved in the whole and such, into which it is divided as when we say that the house consists “of” stones; (2) or as something which has been blended from some ingredients, as the honey-water (for we say that is it “of” water and honey, into which the honey-water is not divided, because neither of the two is preserved, nor is their own matter saved after the blend); (3) or like of matter and form, as we say that the statue is “of” the bronze and the shape.

Since “to be “of” something” is said in these ways, the animal would be said to be “of” the body and soul in one of these ways. (11,14-12,1 Br.)

AD notice that this division of possible senses of “being made of something” has a close parallel in the classification of mixtures which Alexander used in de mixtione 3. The role classification plays in both cases is somewhat similar: there, as here, Alexander uses it to set up the polemical framework in which to refute the doctrine he wants to refute. The differences are due to the fact that in de mixtione Alexander has a single theory against which he argues there, while here there are several theoretical positions that he rejects. In the former case the theory is historically attested, in the latter case it is difficult to say whether he has in mind any historical matches for the positions under discussion; they might well be dialectical constructions. The different format of discussion is reflected in the fact that the classifications themselves are different in both cases: the one of de mixtione includes παράθεσις, σύγχυσις and κράσις and is probably going back to a Stoic source, while the present one deals with παράθεσις, μίξις (explained as the Stoic σύγχυσις) and the hylomorphic composition. But in that case, the argument is that one part of the Stoic classification is a result of an untenable doctrine (“body going through body”), and has to be replaced by a correct view (potential presence of ingredients in a mixture), while in de anima the goal of the argument is to show the advantage of the ‘hylomorphic’ scheme over the other two.

AD draw attention to the text from Aristotle’s Meta. Δ. 24, where there is a discussion of the ἐκ, noting that only Alexander’s third case coincides with Aristotle’s third case. But in fact the two cases they refer to are different. The precise formula that Aristotle discusses in Δ. 24 is ἐκ τῶν, and the senses he lists do not include ‘form and matter’

way of a living being’s being made up of soul and body. This account is needed as a ground for the point of common agreement.

3 AD, p.122.
4 AD, p.123.
5 But cf. Todd’s critique of the sources, Todd 1976, pp.50-73.
6 The gamut of meanings discussed by Aristotle is probably generally closer to the English “from” (in the sense of origin) than to “of”. Still the sense of origin cannot be excluded from the meaning of the term in which Alexander is interested. I am grateful to Prof. Madigan for drawing my attention to this problem.
7 AD, p.123 ad 11,15: “I primi due significati distinti da Alessandro sono suddivisioni del primo di Aristotele”.

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in the sense of which Alexander talks in *de anima.* Accordingly, at (3) Aristotle talks not about something made of form and matter, but rather of something being *from* the whole, which is made up of form and matter, in the way in which a word is from the *Iliad* and stones from the house. The second *ἐκ,* in Aristotle’s phrase (underlined under (3) in note 6) does mean the *of of composition,* somewhat misleadingly, because in fact Aristotle does not discuss this meaning among the lexicon entries at this point. Alexander in his commentary on this place understands (3) as Aristotle intends it, i.e. not in hylomorphic sense.  

The case of a bronze statue is invoked in Aristotle’s exposition twice: once under (1) as an example of a statue being made *of* bronze as of matter (form not mentioned at this point), and then under (4), in distinction from (and in parallel to) the *of of formal constitution.* In this sense “man” is said to be made *of* the “biped”, and a syllable *of* the characters. Notably, at this point Aristotle says that just as the composite substance is made of sensible matter, form is made of the matter of the form.  

But despite the closeness of context and examples, and the exhaustive character of Aristotle’s list, the case “matter and form” is not included. Aristotle seems to avoid the “unqualified” treatment of constitution in the case of sensible substances and talks of their material and formal constitution separately.

Closer to Alexander’s discussion of *ἐκ* is, among the passages listed by Ross, the end of *Meta. N 5.* The context is dialectical discussion of the way in which numbers might be constituted by numbers as their first principles; the conclusion of the discussion is negative: numbers cannot be constituted by numbers. The reasoning is as follows:

That *Meta. N 5* is a source of this classification is also indirectly suggested by *mani.* 1. As Bruns conjectured, the final portion of the lacuna at 102, 10 might be occupied by the proof of soul’s being form, conducted by the

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8 *Meta. Δ 5: 1023a25: (1) τὸ ἐκ τινος εἶναι λέγεται ἐνα μὲν τρόπον ἐξ ὀ� ἐστὶν ὡς ὑλής, καὶ τοῦτο διότι, ἢ κατά τὸ πρώτον γένος ἢ κατά τὸ ὑστεροτέρον εἴδος, οἷον ἐστὶ μὲν ἀπανταί τὰ τυχτὰ ἐξ ὑδάτων, ἢ ὧν ἐκ χαλκοῦ ὁ ἄνθρωπος (2) ἐκ τῆς ὑποτέρους κινησινοῦ ἁρμής ὢν τίνος ἡ μάρτυς ἢ καταλαμβάνειν, ὡσπερ ἐκ τοῦ ὅλου τὰ μέρη ἢ κατὰ τὴν ἁλαίας τὸ ἐπάνω καὶ ἐκ τῆς ἁλαίας τὸ ἐπάνω τῶν ἐκ της ἁλαίας τὰ ὑπάρχοντα χωρίς καὶ τὸ ἐκ τῆς ἁλαίας τῇ ὑπάρχοντα χωρίς _καὶ τὸ ἐκ τοῦ ὅλου τὰ μέρη τόσον ὡς καὶ ὡσπερ ἐκ τῆς ὑπόπτωτας ἁρμής πνεύματος μετὰ τὸ ἐκ τῶν ἀρχήν πρὸς τὸν ἑαυτόν, ὡσπερ ἐκ τῇ ὑπόπτωτας ἁρμής καὶ τὸ ἐκ τῆς ἁλαίας τῇ ὑπάρχοντα._

9 *in metaph. 422, 5-14H.* Although Alexander invokes the hylomorphic composition at this point, it is not in connection with *ἐκ τινος* but rather explaining *τέλος.*
familiar method of elimination of the other parts of the trichotomy, which are essentially the same as in *de anima*.\(^\text{11}\)

This is suggested by the conclusion:

102, 12-23: *e dê katâ meîndestpov tōude tōn trōtpov tò úmvo òuivía sîvîteços, katâ tâ trîtâ laîpetai ἀρα. ἦν δ' ὀυτὸς καθ' ὡς ἂν τὸν συγκεκριμένον τὸ μὲν ὑπόκειμένον τε καὶ ὑπὸν, τὸ δὲ εἶδος.*

Immediately after this follows the sentence:

But certainly not, at any rate, as the numbers: for that which is made up of those is incorporeal, while the animal is not such.\(^\text{12}\)

The conclusion of *Meta. N 5*, for comparison, is:

1092a29: *kai ἐπεὶ τὸ ἐκ τινῶν εἶναι ἐστὶ μὲν ὡς ἐνταξιούντων ἐστὶ δὲ ὡς οὕ, ποτέρως ὁ ἁριμός, οὕτως γὰρ ὡς ἐνταξιούντων οὐκ ἐστιν ἀλλ' ἦν γένεσις ἐστιν.* \(^\text{13}\)

We can compare the refutations of both possibilities given by Alexander and by Aristotle (Aristotle’s list of options being also diairetic). Alexander gives two arguments against the first mode of composition:

12,1: But it is impossible for it to be so in the first one (for that will be the juxtaposition of the soul and body, and in this case the body would not be wholly ensouled, and also, if such were the case, the soul would be contributing not to the “quality”, but rather to the “quantity” of the body),

Aristotle’s objections are: the numeric unity by juxtaposition (*σύνεσις*) presupposes position (*Θέσις*), which makes no sense in the case of numbers\(^\text{14}\); multitude and unity will be conceptually distinct in a number: multitude will be one thing and unity another. Alexander’s objection is that soul and body in juxtaposition will be separate entities, so that the body will not be fully ensouled; and the soul will not contribute to the ‘quality’ of the body. The cases are different, but the line of refutation pursued by Alexander is so general (disprove the case of ontological unity made up by two distinct and separate things) that it is close to the reasoning of Aristotle.

Alexander’s argument against mixture is:

12, 4: nor yet is it possible for it to be “of” the body in the second way. For the generation of animal does not happen due to the destruction of both soul and body, as it happens with certain things that come about from the blending.

His refutation is based on the interpretation of mixture as Stoic “fusion”, whereby both constituents are considered to be destroyed in the combination. None of the ingredients is present in a fusion, but what emerges is some third

\(^{10}\)Commentary on *Metaphysics*, vol. 1, p.339, *ad 1023a26-b11*.

\(^{11}\)Bruns’ note for 102, 10: *fortasse <ο> γαρ ὁθερ> μένης τῆς ψυχῆς κτλ.*

\(^{12}\)102, 13: *οὐ γὰρ δὴ ὡς ἁριμός ἁριματείτων γὰρ τὸ ἐκ τούτων, τὸ δὲ ἦν ὡς τοϊκαὶτων.*

\(^{13}\)Cf. also further, 1092b16: *ὅτι δὲ οὐκ οἱ ἁριμοὶ οὐσία οὐκ τῆς μορφῆς αἴτιον, δῆλον ὁ γὰρ λόγος η οὐσία, ἦ δ' ἁριμός ὑλ. οὗν σαμκός οὐκ τοῦ ἁριμοῦ οὐσία οὕτως τρία πώς γάρ δὲ δύο καὶ άει ὁ ἁριμός δὲ ἄν ἄν τινων έστιν, η πόρινος η τοιόν οὐσία το τοιόν έστιν τοις πρῶς δ' εἶναι πρὸς τοσοῦτο κατὰ τὴν μέγαν τούτο δ' οὐκέτι ἁριμός ἀλλὰ λόγος μίξεως ἁριμών συμμετακῶν η ὑποικίαιν.* (κτλ.)
thing, different from the first two.

Aristotle, who is dealing with the numbers, has further objections: not every number is mixed (evidently meaning prime numbers); that which comes about from mixture has a different nature from that of the ingredients; and neither unity nor multiplicity [inherent in number] will be separable [and available for different kinds of operations], as they want them to be. But Aristotle's second objection may be regarded as corresponding to Alexander's objection: the product of fusion is not equivalent to any of the ingredients; so the ingredients are lost in the process, if there is no way to distinguish them.

The conclusion states that the remaining possibility should be accepted:

12.6: so it remains to say that animal is composed of body and soul in such a way, as from matter and form.

It is hard to say whether Alexander had in mind any particular theories when constructing this argument. His aim was likely just to rule out the 'corporealist' interpretations of soul's presence in a body.

From this brief analysis we can see the role that Alexander assigns to the notion that a living being is composed of soul and body, as the point of common agreement, as well as the way in which the common point helps him to set the focus of his own theory of soul. The models that are rejected by him, “juxtaposition” and “fusion”, correspond, respectively, to the theory according to which soul and body are distinct and separate entities, and to the one claiming the lack of any distinction. His own position really appears as a “mean” between the two extremes: he will hold that soul and body are distinct but not separate entities. So far this is only a dialectical statement, but such that clarifies the theoretical grounds quite a bit, and in this way is closely related to the theory.

4.1.2. Argument "from ἐνέργεια". (12, 7 - 13, 8 Br.)

Alexander says that it is also possible to prove that soul is form rather than substance on its own, on the basis of its activities\(^\text{15}\). This argument has a couple of minor peculiarities of locution, which have been noticed by scholars, and which may indicate the difficulties that he had in adjusting the Aristotelian treatment of intellect to his own view of the Aristotelian system.

Alexander's list of soul's activities drawn up to prove his thesis, clearly depends on Aristotle's argument for the

\(^{14}\) Also worth comparing is the passage later in *de anima*, where Alexander sketchily uses the same model to refute the view that *phantasia* is a combination of perception and belief, 67, 25: ἔθλον ὡς οἴδε ἐκ συνθέσεως εὗρῃ ἄυ αἰσθήσεως τε καὶ δόξης, ὡς δοκεῖ τινι.

\(^{15}\) AD, p.124, suggest that Alexander's argument is directed against the Platonists, citing Atticus, fr. 7 des Places and Alcinous, *did. XXV*. On the other hand, we know of several Peripatetic theories according to which soul is some kind of a substance on its own. (On Xenarchus, Stob. *Ecl.* I 49 = *DG* 388b16).
inseparability of the soul in DA 11. AD note in their commentary that Alexander here reorganises and completes
the sequence of soul’s faculties cited by Aristotle at 403a5-12.\(^\text{16}\) Alexander begins with the simple case of
locomotion, and then proceeds in ascending order.

12.7: That soul is form of body and not some kind of a substance on its own, one could learn also from its activities.
For it is impossible for any psychic activity to come about apart from the bodily movement, as neither is the
locomotion so possible, which happens by the natural inclinations (κατὰ τὰς φυσικὰς δυνάμεις), as it is the body that
exercises them in accordance with the potency which is inside itself.

12. 12: For nutrition, and growth and reproduction, by themselves, though are in accordance with the psychic
power, but the movements (changes) in each case are of a body. (αἱ δὲ κινήσεις τοῦ σώματος).
12. 13: But the animal also perceives through the sense organs which are bodies, and the desires themselves clearly
happen when a certain body is changed\(^\text{17}\).
12. 15: For the desires and the spirits and the angers happen in animals in this way. But also in the fears there is
change and contraction of the body.
12. 17: And the phantasia is through the body, given that it depends on the actual perception, as will be shown.
12. 18: And that in the impulses (σωματικά) the moved subject is the body, no one will deny.
12. 19: But also thinking (τὸ φιλοτένι), since it does not happen without the phantasia, would also come about
through the body\(^\text{18}\).

Alexander concludes, much in the spirit of Aristotle:

12. 21: Now, if it is impossible to point out any activity of the soul that would be without a bodily movement, it is
clear that the soul is of a body and inseparable from it.
12. 23: For it would have been separable in vain, not being able to act by itself with any activity that is proper to it.

But there are some differences between the way in which this argument is laid out by Aristotle and by Alexander.

First, while Aristotle seems to link the separability issue to the question of whether there are affections of which we
are aware, but which leave no traces in our bodies, Alexander understands the question more broadly, as asking
whether there are any activities in which the soul is involved, and body not. This might actually explain the
difference in the treatment of thinking.

Aristotle probably thinks about the specific way of being affected by the content of a mental act, rather than by
its corresponding bodily process. In Aristotle the "pre-theoretical" assumption is that this way of affection possibly
characterises thinking, as distinct from all other mental acts, in which both mental and bodily affection are bound
together in a real bodily process. In the case of perceiving, for instance, the exposure to different colour samples,
normally involves a paradigmatic experience, of which a consistent account can be given involving "bodily" terms.
This is how we have "colour"- words. In the case of feeling or imaging, the process of registering bodily states will

\(^{16}\) AD, p.124.

\(^{17}\) 12, 15: τὸ σώματος: AD suggest that Alexander here has in mind the heart, connatural breath and the sinews
(cf. 76, 18). This is probably also the case at the next line, but seems to be different from line 19, where "body"
likely refers to the whole organism.

\(^{18}\) Cf. Aristotle, DA 11: 403a8-10.
be subtler and not as straightforward as in the case of matching perceptions with colours terms\(^{19}\), but there will still be ways to account consistently, with some approximation, for our “ups” and “downs” in terms of bodily processes; this is how we have meaningful terms for emotions. But in the case of thinking this kind of description seems to be substantially missing. E.g. when we are playing chess or doing a math problem, our mental process includes a part (namely, our logic of moving pieces or writing equations) which cannot be consistently described in purely mental terms. This does not mean that thinking is detached from bodily process: we can experience emotions (say, joy when a difficult problem is done, or fear and anxiety when checkmated), and these emotions are caused by thinking, but we cannot consistently describe the process of thinking in terms of these (or any other) emotions. The emotions are not “mapped” onto the acts of thinking.\(^{20}\) We can experience the same joy or fear in a number of different “thinking” situations, where the objects of thought are totally different. An indirect sign of this lack of match between thinking and mental processes is the fact that when we are concentrated in our thinking we do not want to be disturbed by irrelevant emotions.

Aristotle must have noticed this fact very well, as he liked to emphasise the difference between detached thinking and thinking with some practical involvement. He does not have a decisive theory of how this detached thinking relates to its everyday instantiations in the case of humans (in DA he refers to the mind as “the so-called” mind of the soul).\(^{21}\) And he entertains the possibility that in the process of thinking the body is not co-affected with the soul in quite the same manner in which it is co-affected in the other processes. So it might seem, says Aristotle, that thinking is the only proper affection of the soul; but on the other hand, if all thinking involves images - a hypothesis which is certainly difficult to test, but impossible to dismiss, - then thinking too still somehow affects body, in the way we may not notice.

Aristotle’s examples in DA I 1 mostly show that any activity or affection of the soul has a corporeal part, which is co-affected.\(^{22}\) Alexander seems to shift the emphasis of his discussion onto another dimension of this relation,

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\(^{19}\) Wittgenstein’s criticism of the ‘realist’ theory of colour perception (e.g.: “Wir müssen uns immer wieder die Frage vorhalten: Wie lernt der Mensch die Bedeutung der Farbnamen?” Wittgenstein [1951], p.53 et passim) can, I think, be safely disregarded in this particular context, as I mean here not the way in which we learn the colour-concepts, but just a physiological background of such learning (by which such a wave-length will be normally matched with such a colour).

\(^{20}\) The pragmatist account of thinking as problem-solving describes a likely mental setting for thinking, but does not suggest that the contents of a problem can be presented in mental (or emotional) terms. Although ‘problem’ can be regarded as a mental (psychological) concept, the psychological account of thinking will not capture the contents of thinking; thus the immensurability between thinking and bodily functions will not be removed.


\(^{22}\) 403ab: φανεται δὲ τοῖς πλείονοις αὐθέντες ἄνων σώματος πάντως ὑπὲρ ποιεῖ τὸν ἐνότητα, ἐπὶ θεώρησιν, ἐπίθεσιν, ἐπιθυμίαν, ἑαυτὸς αἰσθάνεσθαι. 17: ἐνω γὰρ κἂν τὸ τῆς ψυχῆς πάθη πάντα εἶναι μετὰ σώματός, θυμός, πράσων, φόβος, ἐλεος, θάρσος, ἕτερον πάντα καὶ τὸ φυλεῖ καὶ τὸ μορφήν.
namely, on the body’s being a means of carrying out the soul’s activities, (which is different from its being affected in the course of soul’s activities). He does this by attaching the activities of the soul in question to the bodily organs by which they are carried out, and by putting together the list of these activities in a systematic manner. Hence the addition of the vegetative faculty, the description of sense organs as “bodies” through which a living being perceives, and explanation of desires by movement of some body.

This perhaps allows him to disregard Aristotle’s hesitation in case of the intellect. He is considering the problem not from the “pre-theoretical”, descriptive, viewpoint, which seems to be Aristotle’s approach to the intellect in DA, but rather from a theoretical one, where explanation prevails over description. The theory says that if thinking is not without imaging, then it is also by way of a body.

AD notice the terminological subtlety at this point: Alexander actually does not use the term νοεῖν, preferring to speak about διονεῖν,23 which seems to have more affinities with practical thinking, i.e., that which is connected with acting, as opposed to contemplative thinking, for which Alexander usually reserves the term νοεῖν. We also know that Alexander’s treatment of φαντασία is different from Aristotle’s in that he does not use it in the description of the exercise of the theoretical intellect, restricting its use to the “developmental” context. The last occurrence of the term in a lengthy exposition of the theory of intellect is at the beginning: “man is born having senses, acting in accordance with which he acquires the images”24 On the other hand, φαντασία is made into a factor of ‘maturation’ of the intellect. The most developed stage, at which the intellect can do without the support of senses,25 can itself only be achieved after a long exercise of thinking with the help of phantasia. There is absolutely no possibility of uncultivated intellectual intuition. This way of including thinking into the set of bodily activities is facilitated by moving the focus in the soul/body problem from being co-affected to being in relation of activity and instrument.

Of course, the developmental view of the intellect might be suggested by the end of Posterior Analytics, which shows how the mental capacities follow upon one another.26 But the genetic account is not made explicit in the de anima, where Aristotle concentrates more on the analysis of the act of thinking rather than on the origin of intellect as a separate faculty.

In Alexander we find the theory of intellect as a faculty: it is not an unknown quantity within the soul, rather it is a system of activities and dispositions, based upon the soul’s resources, which, when properly developed, can lead to the acquisition of the transcendent intelligible principle. What seems to be lost, is the feature of spontaneity and

23 AD, p.125.
24 83, 2 Br.: γενήται γάρ ὁ ἀνθρώπος αἰσθήσεις ἐχων, καθ’ ὑπὲρ ἐνεργῶν φαντασίας λαμβάνει.
25 85, 24 Br.: χωρὶς τῆς αἰσθητικῆς ὑποθέσεως.
relative independence from all other activities that Aristotle was probably trying to capture by his pre-theoretical questioning. On the other hand, Alexander, by using in his account of intellect as a faculty the term for practical thinking, probably indicates that this is not the full story, and that the complete treatment of the intellect has to step over the boundaries of pure psychology and enter metaphysics.

The argument from ‘activities’ shows that Alexander envisages a hierarchy of soul’s functions, which are all grounded in the bodily processes. Notably, the psychological mechanism of this grounding is not reductive:

Alexander says that the exercise of the higher activities takes place by means of the ancillary vehicles provided by the lower. In this argument Alexander exploits the hylomorphic theory of soul.

4.1.3. τὸ ἐν τίνι: nine ways. (13, 9 - 15, 26)

While earlier Alexander considered the ‘containment’ from the point of view of constitution (how can a thing be ‘made up’ of some things?), now he wants to consider the same problem from the perspective of ‘inherence’ (how can a thing be said to be ‘in’ another thing?)

4.1.3.1. Alexander’s list. (13, 12 - 14, 5)

Alexander’s method here is again dialectical. AD notice that it is an Aristotelian method of reduction.27 Alexander lists all the possible ways in which something can be said to be in something, and then eliminates all the unsuitable cases, leaving only one, which correctly describes the soul’s way of “inherence” in the body, i.e. that of form in matter. But the details of the “list”, and Alexander’s method of compiling and “destroying” it are of some interest, because of the use he makes of Aristotelian material in the relatively independent argument. He sets the framework of his argument in a typical way, establishing the point of common agreement (“the soul is in the body”):

13, 9: It is also possible to show that the soul is form of a body, by the fact that while it is commonly agreed that it is in the body of a living being, and the “being in something” is said in many ways, the soul’s being in28 the body cannot be in any other sense of “being in”.

26 II 19: 99b26-100b17.
27 AD, p.125. They cite as the examples of Aristotle’s use of this method EN I 10: 1099b9-26; II 4; VI 6.
28 13,12: I read ἐν τῷ σώματι with Bruns and AD.
The list of meanings of “in” follows:

13, 12: For something is said to be “in” something,
(A1) either as species in genus, like “man” in “living being”;
(A2) or as genus in species, as “living being” in feathered, land and water animal (for it is from the species into which the genus is divided that the genus, that is so divided, has its own being);
(A3) or as a part in a whole, like hand in the body
(A4) or as whole in its parts: for the whole of the human body is said to be in the head, and in the throat, and in the chest, and in the other parts, by which the body is constituted.
(A5) Something can also be “in” something as in a container
(A6) or in a place, as we say that Dio is in the marketplace, and the wine is in the jar.
(A7) And the incidental properties of things are said to be “in” them, as the white is said to be “in” the white body;
(A8) and also the ingredients of a mixture are said to be “in” the mixture made of them, as the honey and the wine in the “honeywine”.

13, 23: Apart from the mentioned ways, “being in something” is also said as form in matter. For that due to which something which is a composite of some things (ἐκ τοιν τύπων διον), has its being itself, is in the remaining part as form in matter. (τούτον ἐστι οὐκ εἰσὶν ἐν ὅλη τῷ λαμπρῷ).

The presence of form and matter is illustrated by two examples familiar from the earlier part of the treatise:

14, 1: In this way it is with such and such a shape in the sculpture, which is “of” bronze and shape, and also with the weight, which is in the earth, that consists “of” matter and weight.

AD give a useful reference to Aristotle’s Phys. IV 3 as the possible source of this list of meanings. Aristotle there also lists all the conceivable meanings of “in”. The modes of being “in” that he distinguishes there are the following: 29

(Arst.1) In one way, namely, it is like a finger “in” the hand, and generally like a part in a whole.(= Al. 3)
(Arst.2) In another way, it is like a whole in the parts: for the whole does not exist apart from parts. (=Al.4)
(Arst.3) Yet another way is the one in which “man” is in “animal”, and generally species in genus. (= Al.1)
(Arst.4) Another one, in which genus is in species and generally part of species in the definition. (=Al.2)
(Arst.5) Also, as health in things warm and cold, and generally as form in matter. (=Al.9)
(Arst.6) Also, as in the King the things Greek, and generally in the first mover. (Not in Al.)
(Arst.7) Also, as in the good, and generally in the end; and that is that for the sake of which. (Not in Al.)
(Arst.8) But the most important of all is as in a vessel (=Al.5)
(Arst.9) and generally in a place. 210a15-24. (=Al.6)

First of all we need to consider the changes that Alexander made to the list. Aristotle’s goal is certainly different from that of Alexander: he is trying to outline the “principal” sense of “in”, which is that of being in place.

Alexander uses Aristotle’s list in order to demonstrate that form is not in matter in any of conceivable (conventional) senses. The sense he is interested in corresponds to (Arst.5): “as form in matter”. But we notice that there are some more adjustments made by Alexander. Aristotle’s senses (Arst.6) and (Arst.7) are not mentioned is his list, and two new meanings (Al.7) and (Al.8) are added, which are not in this Aristotle’s list.

Aristotle’s list with these two additions was broadly transmitted, as a list of meanings of “being in”, in the later tradition of the Aristotelian commentaries. We find two slightly different versions of it in Simplicius’ commentary on Categ. 2 and 9, respectively, each containing time, in addition to Alexander’s changes, and each said to consist of at least eleven items. The first version is followed by a discussion in the course of which the twelfth meaning, ὁ ἐν ὑποκειμένῳ, is added. Both the presentation of the list by Simplicius and his discussion of ὁ ἐν ὑποκειμένῳ show some influence of Iamblichus’ commentary.

But it is very likely that the two additions (Al.7) and (Al.8) are originally the work of Alexander. Both of them undoubtedly, reflect his major theoretical interests: (Al.7) is in parallel with his critique of the Stoic doctrine of total pervasion as a mechanism of soul’s presence in a body; (Al.8) is connected with his attempts to give a coherent account of the ontological status of enmattered form, which will be discussed below. But it is not clear that these additions were made by him in his commentary on Physics.

We possess Philoponus’ testimony about the additions to Aristotle’s list made by Alexander. Philoponus in his commentary on Phys. IV 3 says:

ο δὲ Ἀλέξανδρος καὶ ἦτερα σημαίνομενα τοῦ ἐν τινι παρατίθεται, καὶ ἐν μὲν ὡς τὰ ἀμα ὡμοίοια γινομενοι, λέγω δὴ τά κατά τός ἐπιφανείας ἀπόσμενα ἀλλήλων λέγοντο γάρ ἀν ταῦτα ἐν ἄλληλοις εἶναι. ἀλλὰ δήλουν ὅτι τά ἀμα πάντως ἢ ως ἐν ἐρχόντων λέγονται εἰναι ἢ ως ἐν τόπων τά ὁν ἀλλήλων ἀπόσμενα, ὡς ἐν τόπω λέγονται ἐν ἄλληλοις μέρος γάρ εἰσιν αἱ ἐπιφανείαι καθ’ ὃς ἀποται ἀλλήλων τοῦ περιεχόντος αὐτά τόπον. ὡς τε οὐκ οὕτως τούτων σημαίνομενον τοῦ ἐν τινι παρά τών ἀπεριβηγμένων τόπων. (528, 12-19 Vitr.)

καὶ ἦτερον δὲ παρατίθεται σημαίνομενον οὐκ ἄκουμεν. Λέγεται γάρ, φησιν, ἐν τινι καὶ ως ὑποκειμένου ἐν συμβεβηκότι, ὡς τε φαίμεν ἐν καλοῖς εἶναι τοῦ δεῖνα, ὅ ἐν κακοῖς πράγματι εἰμι, ἐν τούτοις οὕτως τὰ καθ’ ἡμᾶς· φαίμεν γάρ οὕτως τὸ ὑποκειμένου ἐν συμβεβηκόσιν. (528, 19-22 Vitr.)

These additions apparently have no exact matches in our list, as the late Prof. Blumenthal rightly noticed. Also, of course, we do not know the degree of Philoponus’ familiarity with Alexander’s commentary: Vitelli’s index nominum has nine entries for Alexander, which does not inspire confidence in its being first-hand. But fortunately, we also have Simplicius’ commentary, where Alexander’s commentary is definitely in the background, so from this combination we can get some idea of how Alexander treated “containment” in the commentary.

30 46, 5-14 Kalbfleisch: πολλακιως γάρ λέγεται τό ἐν τινι καὶ τό γε ἐλάχιστον ἐνδεκακοῦς (S1-1) ἢ γάρ ὡς ἐν τόπω ὡς τό ἐν Δωκειοι, (S1-2) ἢ ὡς ἐν ἀγγείῳ ὡς ὁν εν τῷ ἀμβοτεί, (S1-3) ἢ ὡς ἐν χρόνῳ ὡς ἐν τῇ Ολυμπίᾳ τάς Πελαςποισακάς, (S1-4) ἢ ως μέρος ἐν ὅλω ὡς ἡ χείρ ἐν τῷ ὅλῳ σώματι, (S1-5) ἢ ὡς ὁν ἐν τοῖς μέρησιν, (S1-6) ἢ ὡς ἐν τῷ γένει τό εἶδος ὁ οὐν ἐν τῷ ὅλῳ ο ἄνθρωπος (περιέχεται γάρ ἐν αὐτῷ), (S1-7) ἢ ὡς ἐν τῷ εἴδει τό γένος (μετέχει γάρ τό εἶδος τοῦ γένους, οὐν ὁ ἄνθρωπος τῷ γένει), (S1-8) ἢ ὡς ἐν τέλει ὡς ἐν ὁικείῳ ἀγαθῷ πάντα, (S1-9) ἢ ὡς ἐν ὁικείῳ ὡς ἐν τῷ εἶδει τῷ ὁλω ἐν τῷ χαλκῷ ἢ τῷ ἄνθρωπος μορφῇ, (S1-10) ἢ ὡς ἐν τῷ κοινωτι, (S1-11) ἢ ὡς εν τῷ ἄρχοντι τϊς τῶν ἀρνημένων.
31 46, 15-17: ὡς μὲν οὖν θεοί 'Ιάμβυλοι δοκεῖ λέγειν, τό ὡς ἐν ὁικείῳ ὡςτιν τό ἐν τῷ ὑποκείμενῳ. Λέγει δὲ τούτῳ τῷ Ἀριστοτέλει κατακαλουθέν τοις κτλ.
32 Blumenthal 1968, p.255.
The first of Alexander’s “additions” mentioned by Philoponus refers apparently to his commentary on the passage of Phys. IV 4: 211a23-34, where Aristotle discusses the way in which something is said to be “in the cosmos” as in place. Aristotle says that a particular thing is not immediately “in the cosmos”, rather it is in the air, which, as a whole, is “in the cosmos”, but a particular thing is not in the whole of the air, but only in its most proximate part, which is in contact with the surface of its body. If (a) the surface is considered as continuous with a thing’s body, then the thing is in it not as in place, but as a part in a whole.\(^3\) If (b) the surface is not continuous, then the body is in it as in its immediate place. Such is the standard interpretation of the passage\(^5\), with which Alexander apparently had a problem, because he interpreted the (a) clause as saying that the surfaces which are continuous with the bodies they circumscribe are not in a place \textit{per se}, but only as parts of the whole,\(^6\) the interpretation which Simplicius criticises. Alexander apparently also thought that the way in which surfaces are in the bodies is not described by any of the meanings of \textit{en tevi} of Aristotle’s list.\(^7\) It might be that in this he was following Aspasius who interpreted this passage in the light of Aristotle’s discussion of the way something is said to be “in itself”.\(^8\) This is not a part of Alexander’s list in \textit{de anima}, but in the course of his refutations he distinguishes this as one of the two senses of “being in a place”.

The second of additions reported by Philoponus must be one of the “conventional” meanings of \textit{en tevi} mentioned by Simplicius in the end of his comment. Simplicius says there that Aristotle’s original list contains eight or nine items (depending on how one counts), but the commentators of the Categories have the list of eleven items, which is explained by the distinction between the two senses under (Arist. 5), and the distinct treatment of “in place” and “in a container”, and by the addition of some new items, e.g. “in time”. Other possible additions include “the subject under some circumstances” (τὸ ἵππουκείμενον ἐν τῷ συμβεβηκότι), as we speak of “a body in illness” and “a

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\(^3\) This is different from the way in which Philoponus refers to Alexander’s commentary on \textit{de anima} in his own commentary: in that case there is more evidence of a closer source.

\(^4\) \textit{Phys.} IV 4: 211a30: ὅταν μὲν οὖν μὴ διηθομένον ἢ τὸ περίχοο ἄλλα συνεχεῖ, οὐκ ὡς ἐν τόπῳ λέγεται ἐνεὶ ἐν εἴκειν, ἄλλ’ ὡς μέρος ἐν ὅλῳ.

\(^5\) \textit{E.g.} Wicksteed-Cornford.

\(^6\) \textit{Simpl. in phys.} 569. 22 Diels.

\(^7\) \textit{Ap. Simp. in phys.} 569, 39-570, 7: μᾶλλον οὖν ἐν τῷ αὐτῷ ἀκοινωτέρον αὐτὶ τοῦ ἄμα, ἐν τῷ αὐτῷ γὰρ λέγεται ἐνεὶ καὶ ταῦτα, ὡν μὴ ἔστι μεταβ. καὶ οὐκ αὐτὸς ὁ τόπος τοῦ ἐν τῷ παραλείποντα ἐν τῇ ἀπαραλείποντα τῶν τοῦ ἐν τῷ σημασιοουόντων. Τὸ γὰρ ἐσαρμοζότα ἄλληλοι καὶ μὴ ἄλλα ἄλλοι ποιοῦντα μὴ ἔστι τι μεταβ. ἐν τῷ αὐτῷ ἔστιν. ἐν γὰρ γίνεται τὸ ἀμφότερος ἐπὶ τῶν ἀπαραλείποντων ἀπαραλείποντα ἄλλων διὰ τὸ μὴ ἔγειρν ἐπ᾽ ἐκεῖνο διάστατα. ὁπερ ἐπὶ τῶν συνεχεῖς ἀπόλλυται καὶ τὸ ἔν. Συνεχεὶς γὰρ ἔστιν, όν ὡσὶν ἔστι μεταβ. πέρας ἐνεῖς. 

\(^8\) \textit{Simpl. in phys.}, 570, 9-12 Diels: δὲ ἡ Ἀστάσεως ἐν τῷ αὐτῷ μὲν ὡς ἐν τόπῳ ἀκοίνει, οὕτω μὲν τοι ὡς ὁ ἀμφορεῖς τοῦ ὅποι ἐν ἐναντίῳ ἑλέγητο, διότι μέρος ἐν μέρει, ἣ ἐπιθανεῖα τοῦ ἐν τόπῳ ἐν τῷ τόπῳ μίας ἴσος ἤδε τοῦ ἐν αὐτῷ ἐν τῷ διά τὸ ἀμφοτέρου. This is also to be compared with the terse quotation from Eudemus, taken by Simplicius, probably, from Alexander’s commentary (at note 40 below).
man in peril".\textsuperscript{39} This might come from Alexander's commentary on which Simplicius clearly draws in many ways. It remains a question whether in Philoponus' commentary this could also be a contamination with the meaning \textit{ἐν ὑποκειμένῳ} of \textit{de anima}.

According to Simplicius, Alexander thought that (Arst.5) was not specific enough, namely that Aristotle used as an example of form being in matter the case "health in a body" which actually illustrates something being "in a subject". But what is "in a subject" is not a part of a substance, as Aristotle himself said in the \textit{Categories}, whereas form is part of substance:

\begin{quote}
κατάδειξις ὅτι τὸ ὑποκειμένου παραδείγμα τὴν ὑγείαν παραθέμενος ἐντήχη καὶ ἕλος τὸ εἶδος ἐν τῇ ὑγείᾳ ὡς τὸ εἶδος ἐν ὑποκειμένῳ δυτικό, καὶ τὸ μὲν ἐν ὑποκειμένῳ ὡς ἕστη μέρος τοῦ συμβείου (ὡς αὐτὸς ἐν ἀγαθοφυσίᾳ αὐτοῦ), τὸ δὲ εἶδος μέρος ἕστη τοῦ ἐξ ὑγείας καὶ ἐντήχης. (552, 18-24 Diels)
\end{quote}

From this report it is clear that by the time of writing the commentary Alexander already had his theory of form as being not "in a subject".\textsuperscript{40} but it is unclear that he wrote in the commentary that the mode of being "in a subject" is an additional way of being "in", apart from the ones mentioned by Aristotle. This is different from the case of \textit{άμα} reported by Philoponus and confirmed by Simplicius in direct quotation which says that it is another addition to the list of \textit{Phys. IV 3}.

Simplicius' commentary also shows that the problem of the ontological status of form was realised by the Peripatetic exegetes before Alexander, and quite early on. But the way in which it was formulated by them seems to have been different from the approach of Alexander, who built on the theory of the \textit{Categories}. It appears that the early Peripatetic commentators formulated the problem as that of a distinction between the respective modes of inherence in the substrate of \textit{πάθη} and \textit{ἐξες}. In particular, Simplicius tells us that Eudemus, commenting on this place (Arst.5 of our Aristotle's list) in \textit{Phys. IV 3}, noticed that there is a difference between the way in which properties (\textit{πάθη}) and states (\textit{ἐξες}) are in matter, and raised the question of the manner of presence in matter of shape, and generally, form. Simplicius writes that he seemed to regard "form in matter" as one kind of a generic being "in a subject", the genus being based on a common nature of that which is formative.\textsuperscript{41} From this report,

\textsuperscript{39} Simpl. \textit{in phys.} 553, 8-10 Diels.
\textsuperscript{40} We shall see it in detail in the next section, but now several points of this report are worth noting in this respect: treatment of being \textit{ἐν ὑποκειμένῳ} and being enmattered as related but distinct modes of being; reference to the \textit{Categories} definition of \textit{ἐν ὑποκειμένῳ} (as we shall see, it contains interpretation); the notion that form is not in matter as in a subject, juxtaposed to the \textit{Categories} definition. these are the main points of reasoning that we find in the \textit{manitissa} 5, and, as I am going to show, this reasoning is not found ready in Aristotle.
\textsuperscript{41} 552, 24 Diels (=fr. 77 Wehrli): καὶ Ἐυδημός δὲ τούτοις παρακαλούσας καὶ εἴπων "ἄλλως δὲ τὰ πάθη καὶ αἱ ἑξεσ ἐν ταῖς οὐσίαις" ἐπηγαγεν "ἐπισκεπτέον δὲ εἰ σώτως καὶ τὸ σχῆμα καὶ ὅλος ἡ μορφὴ ἐν τῇ ὑγείᾳ" καὶ αὐτὸς δηλοίται τὴν διαφόρων
which Simplicius most likely got from Alexander's commentary, it appears that Eudemus is looking for a single account which could give a theoretically grounded distinction of different modes of being in a substrate of different types of qualifications. This problem is different from the problem of *Categories*, but it is potentially related to it as a problem of instantiation of different categories. It is possible that Alexander was looking for a solution of Eudemus' problem of inherence of shape: this is suggested by his attention to the case of "being in itself" (which seems to have only an expository value in Aristotle himself). So, there are no strong reasons to suppose that the ἐν ὑποκειμένῳ is added to the list in the commentary itself. However, the hylomorphic theory of ἐν ὑποκειμένῳ is already in the background of the commentary.

One addition in the *de anima* list that is not reported in the commentaries is (Al.8): mixture. We know that it could come from Alexander's critique of the Stoic theory of mixture and is addressed perhaps to its Peripatetic enthusiasts. But it may be derived from the treatment of body as forming a single thing together (ἄμα) with its shape; so it may be related to the commentary in a general way.

Omitted from Alexander's list are (Arst.6) and (Arst.7): 210a21: ἐτί ὡς ἐν βασιλεί τὰ τῶν Ἑλλήνων καὶ ὂλως ἐν τῷ ποιότῳ κινητῷ αὐτ ἀριστε οὐ καὶ ὂλως ἐν τῷ τέλει τούτο ἐστι τὸ ὁμώνυμα.

For these two cases the parallel with "soul in body" would not work, since the expected direction of dependence in both cases is rather opposite: form is defined as that on which the being of a composite depends. So, Alexander technically could still eliminate both of these cases, (arguing that matter is neither a prime mover nor the end of the form) But he probably had reasons for withdrawing them from quite straightforward application of sic et non method. True, body is not the prime mover of the soul, rather soul is the prime mover of the body, and this statement Alexander perhaps would want to keep. But then the logic might commit him to convert the phrase so as to say that body is in the soul as in its prime mover; and this he probably did not want to do. So the dubious cases were suppressed, although their content was probably partly incorporated in the doctrine of form.

From this brief analysis we can see that Alexander somewhat adjusted the Aristotelian list of meanings of 'containment', constructing the dialectical framework for the discussion of the problem of containment in a hylomorphic theory. This adjustment consisted in including only the meanings which could be relevant for the proof by method of elimination. So he deleted the less clear cases and added the cases which he could effectively

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\[\text{ἐνδεικτικόν: ἐσχήν οὐκ ὡς ἐν λαμβάνειν τὸ τῇ ὡς ἐθως ἐν ὑπη καὶ τὸ κοινός ἐν ὑποκειμένῳ κατὰ κοινήν τινα φύσιν τοῦ μορφώτητος. ἠμφατὸν ὃς μορφωτικά τοῦ ὑποκειμένου ἐστι.}\]

\[\text{Cf. Sharples forthcoming in RUSCH 11: "Wehrle in his commentary notes that at Phys.IV 3: 210b25 Aristotle refers to health being in what is hot as a hexis and heat being in a body as a pathos, while in 210a20 itself he refers only to the single case of health being in what is hot and cold. Once again, Eudemus is precise and systematic.}\]
disprove on the basis of his own theory. The case of mixture was probably added also because Alexander wanted to
distance his own "mixture" account of formal structure from the Stoic theory. We have also seen that the problem
of distinct way of form's containment in matter was raised by the early Peripatetics (Eudemus), but Alexander
contributed to giving a new direction to its solution, that involved its distinction from being "in a subject". This
development is reflected in his commentary on Physics and solidified in de anima.

4.1.3.2. Alexander's refutations. (14, 6 - 15, 26)

In this section I am considering the main arguments by which Alexander refutes the possible 'conventional' ways
of construing soul's presence in body. Many of Alexander's refutations are familiar from the other parts of his
work, particularly from his polemic against the Stoicising tendencies in current school philosophy. But of course
we need not suppose that he literally associates the modes of containment of Aristotle's list with any position in
particular, although the possibility of his alluding in this way (by the arguments he uses) to the historically attested
positions of which he is aware should not be discarded.

14.3: According to these ways of speaking about something "in" something (for the steersman would be "in" a boat
in one of the aforementioned ways\(^1\)), soul, which is "in" a body,

14.5: (Al.3) (a) neither is "in" it as its part (for in that case it would be a body, since part of a body is body, and it
would contribute to the quantity rather than to the quality of a living being; (b) also it would follow that not the
whole of the body is ensouled, but each of the two (i.e. soul and body) would be separated\(^2\) from one another,(c)
unless the body is assumed to be able to penetrate and go through body, the view difficult to hold\(^3\);

It is to be noted that Alexander here uses "part" in the mereological sense. For the sake of keeping the dialectical
framework he does not invoke his own theory of bylomorphic parts (which will be discussed in the second part of

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where Aristotle is less so, and once again he achieves this by drawing on a passage of Aristotle other than the one
with which he is immediately concerned". I am grateful to Prof. Sharples for communicating this to me.
\(^1\) AD, p.126: Aristotle, DA II 1: 413a8sqq. Cf. further 15, 9-26; 20, 26. For the origin of 'steersman' case in
Alexander's discussion we have to consider the following: Alexander does not seem to consider this case as
properly belonging to this list of meanings, as he says that this case is sufficiently described by other cases present
on the list. So the 'steersman' may be received as part of a school version of the list, or else it is proposed by
someone, or constructed by Alexander for the examination of the relation between soul and body.
\(^2\) 14,8: κεχώριστον δι' κεχώριστον AD. At 14, 8-9, AD register the anti-Stoic polemic (to be repeated at 20,7) and
compare the argument with Aristotle's critique of Xenocrates in DA I 5: 409b2-4 as a possible source (ἐπετε γάρ
ἐστιν ἡ ψυχή ἐν πάντι τῷ αἰσθανομένῳ σώματι, ἀναγκαίον ἐν τῷ αὐτῷ δύο εἶναι σώματα, εἰ σώμα τι ἡ ψυχή), to be
repeated at 20, 7. Cf. de mixtione 217, 32 and mantissa, passim.
\(^3\) AD, p.126: repeated argument from 12, 1-4.

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this chapter). The arguments (b) and (c) remind us of the division of cases in the discussion of ἐκ τῶν ἔξω considered above.

14, 10: (Al.4) nor yet is soul some kind of a whole, parts of the body being parts of the soul, so that the soul would be like a whole “in” its parts.

In fact no explanation is offered. It is unclear whether Alexander had in mind any particular theory of the soul ‘encompassing’ the body, of the kind we find in the contemporary Platonising literature or we are dealing here with a purely dialectical result.

(Al.1) 14, 11: But neither is soul in body as a species in a genus. (a) For the body, in which the soul is, is not its genus: for each of them is some kind of a numeric unity, while the genera and the species are common and universal; (b) also soul would be body.

(a) the distinction that Alexander draws is between universals and particulars: universals cannot possess numeric unity, while particulars can. It is remarkable that Alexander says that soul and body, each, possess numeric unity (he uses the word ἐκάτερα). This may indicate a weaker notion of numeric unity, which does not involve separate existence. (b) is a typical reduction.

(Al.2) 14, 15: Nor is soul in body as genus is “in” species, (a) for the reason mentioned above, and (b) because, if the soul were said to be genus of a body, it would follow that each body is soul, as each man is a living being.

(a) i.e. form and matter are not the universals; (b) is a reduction: each body would have to be soul.

(Al.6) 14, 17: Nor yet is body the place of the soul; (a) for in that case soul would be a body (for every thing that by itself καθ’ αὑτό ὃ occupies place is body), (b) and also body would be place. (b’).And in this case the body should either be some empty distance, (b’’) or a limit of the encompassing mass: for these are the theories of place. (c) Also, that which is “in” a place contributes nothing to this place’s being such, while the ensouled body has from the soul its differences with respect to the other bodies.

The last argument is based on a specific (hylomorphic) theory of soul, while the first two are dialectical. From the wording of the last argument it appears that if soul were related to the body as a thing to a place which it occupies it could not fulfil the differentiating function which soul fulfils with respect to the body. Alexander mentions this

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46 Cf. Alcinous did. XIV H 170, 4 Whittaker. Cf. his references in note 271 (Posidonius, fr. 149.9-10 EK: οὕτω τὰ σώματα τὰς ψυχὰς συνέχει, ἀλλ' αἱ ψυχαὶ τὰ σώματα; and Maximus of Tyre, Diss. 9.5, p.106.3-4 H.: ἐν γρόν τῇ συντάσει τὰ μὲν σώμα συνέχεται, τῇ γὰρ ψυχῇ συνέχει), with a remark that this use of συνέχει is borrowed from the Stoics.

47 For Alexander on genus and species, see below, in section three.

48AD. p.126, note that the first theory is similar to the definition of the atomists mentioned in Phys. IV 6: 213a27sqq.; the second is the definition of Aristotle himself: Phys. IV 4: 212a5-6.
function in his initial set of principles.

(A1.5) 14, 23: But neither would it be like “in” a container; for container is a place for that which is in it, differing from place only in that it can be carried over together with the things that are “in” it.

This case is fairly close also to the ἀμα, of Alexander’s Physics commentary, but it does not need a separate argument when applied as a model of soul’s being in a body.

(A1.7) 14, 24: But neither is the soul in a body as “in” a subject and accidentally. (a) For the soul is substance and is receptive of the opposites; but no accidental property is a substance. (b) Also that which is “in” a subject is not a cause of being for its subject; for it can be its subject even without it. But for the organic body, “in” which is the soul, its being organic is from the soul.

These arguments are considered in detail in the next section. As mant.5 shows, the opposites of the (a) argument are vices and virtues. We can also see in (b) that the conception of body assumed in the argument is hylomorphic in the Aristotelian sense of Metaphysics rather than in the sense of a mixture theory.

(A1.8) 15, 5: But neither is the soul in a body as the ingredient in a blending. (a) For none of the things that are “in” something in this way still preserves its own nature: neither the wine, not the honey are preserved in the ‘honey-wine’, but the soul and the body both persist in a living being. (b) Also, every blending is of the bodies, so that the soul should have been some sort of a body.

This is also familiar from the discussion of ἐκ τῶν. Characteristically, again, there is one ‘generic’ argument that soul should be a kind of a body; and the analysis of “blending” is along the lines of σύνθεσις.

The analysis of Alexander’s refutations of different modes of soul’s being in body shows that his strategy is mostly dialectical, based on reduction to the following claims that contradict common agreement: strong identity of soul and body; (the distinction between soul and body taken as a point of common agreement, the Stoic doctrine understood as a claim (perhaps not quite well substantiated) of weak identity) (Al. 3a, 1b, 2b, 6a, 8b); “body going through body” (Al.3c), identity of body and place, which are commonly agreed to be distinct (6b); destruction of both body and soul in the fusion, while it is commonly agreed that they persist together (Al.8a).

Apart from the dialectical reductions on common grounds, there are arguments that employ specific theoretical viewpoints. These are reductions to the statements unacceptable to Alexander on theoretical grounds, which are in disagreement with either general points of Aristotelian theory, or with his interpretation and development of Aristotelian theory (the boundary between the two cases being often vague): “the whole body should be ensouled” (Al.3b), “the soul is not to body like whole to parts” (Al.4), “soul contributes to body’s being of such and such a

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⁹⁰ AD refer to Categ.5: 4a17sqq.
kind" (Al.6c, 7b), "soul is substance and receptive of opposites" (Al.7a), "soul and body are numerically distinct, while genus and species are not" (an assumption of Al.1a: we should understand that the distinction between form and matter is stronger than the distinction between genus and species: this point is developed in several school treatises as we shall see soon).

4.1.3.3. Plotinus' testimony (Enn.IV 3.)

The question of relation between Alexander and Plotinus' Enn. IV 3.20-21 was discussed some time ago, in connection with a debate over a more general question of Alexander's presence in Plotinus' writings. Schwyzter in his article in RE listed Enn. IV 3.20.15-16 as one of the three parallels between Alexander and Plotinus that can be regarded as certain. More recently, Armstrong has suggested that Plotinus is using Alexander's de anima. AD in their commentary say that it is unclear whether Plotinus used Alexander's text, or both authors used the same source.

The late Prof. Blumenthal examined the text of Enn. IV 3.20-21 in detail, comparing it to Alexander's discussion of the meanings of ἐν τίνι in de anima. His answer to the question of whether there are reasons to talk about Alexander's influence on Plotinus, or at any rate of Plotinus' knowledge of Alexander, is a cautious "yes". In what follows I review some of his factual and methodological qualifications, not reviewing the substance of this main conclusion. The question he was dealing with was of the methodology of Plotinus' Quellenforschung, while I am interested in Plotinus' text as a part of Alexander's Rezeptionsgeschichte. So the question "did Plotinus read Alexander?" is for me here primarily not the question, to what extent did Plotinus assimilate some doctrines of Alexander in his own teaching, but the question: what can Plotinus' text tell us about Alexander's position, what kind of position does it ascribe to Alexander, and, anticipating a little bit, does it confirm our reconstruction of his position made on the basis of the primary, or, in case of the school treatises, near-primary sources? For that reason I am less interested in cross-occurrences of separate key terms, sharing Prof.Rist's scepticism about the possibility of "tracking" Alexander, or indeed anyone, by this method in such a rich literary tradition as that of Greek

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54 Blumenthal 1968. I am grateful to Prof.Strange for drawing my attention to this article.
philosophy of the second and third centuries. But I do not think that this is the only method at the disposal of
Quellenforschung. In particular, with regard to our passage, I suggest paying attention to the arguments that
Plotinus uses and to the views that he reacts to. It is true that he is a very original thinker, as Rist and everyone else
point out, but it is also true, that he is extremely well steeped in the school literature of his time, as Merlan points
out.55 and his originality most often manifests itself in the original way in which he interprets and solves the
antinomies brought forth in the current school debates.

Here is Plotinus’ argument of Enn.IV 3.2056:

(Plot.1) (Al.6)? Now we must say in general that neither any of the parts of the soul, nor the whole soul are in
body as in a place. (a) For place is something encompassing (περιεκτικόν), and encompassing body, and where each
divided part (μεισθέν) is, there it is [and nowhere else] so that the whole is not [as a whole] in any place;57 (b) and58
soul is not a body, and no more encompassed than encompassing. (20.12-15, Armstrong trans., slightly modified).

(Plot.2) = (Al.5) It is certainly not in body as in a receptacle either. (a) For body would be soulless, whether it
encompassed the soul as a receptacle or as a place, unless perhaps [it was ensouled] by a sort of transmission from
the soul which remained collected together in itself, and then the amount of which the receptacle partakes will be
lost to the soul. (b) But place in the strict and proper sense is bodiless (άδωματος) and not a body: so what need
would it have of soul? (c) And body would come near to soul with its limit (πέρας)59, not with itself. (20, 15-22,
Armstrong trans., slightly modified)

Plot.3 = (Al.6) And many other objections could be made to [soul’s being in body] as in place. (a) For place would
always be carried along with it, and body itself would become something carrying place60 itself about. (b) But even
if place is taken to mean interval, soul would still less be in body as in place. For an interval (διάστημα) must be
void; but body is not void; though that in which body is may be, so that body is in the void. (20, 22-28)

Plot.4 = (Al.7) But soul will certainly not be in body as in a substrate, either: for that which is in substrate is an
affection (πάθος) of that in which it is, colour and shape for instance, and soul is something separable. (20, 28-30)

Plot.5 = (Al.3) It is certainly not, either, like a part in the whole: (a) for soul is not a part of body; (b) if someone
were to suggest that it was like a part in a living creature (ὡς ἐν ἀληθείᾳ μέρος τοῦ ζῶντος) first of all the same
difficulty would remain about how it is in the whole: for it is not, presumably, (b’) as the wine in the jar of wine. or
(b”) the gallon in the gallon jar, or (b””) in the way in which some one thing is in itself. (20, 30-34)

Plot.6 = (Al.4) But neither is it in body as the whole is in its parts: for it would be absurd to say that the soul is a
whole and the body its parts.

Plot. 7 = (Al.9) But neither is it present as the form in matter: (a) for the form in matter is inseparable, (b) and it
comes afterwards to the matter which is already there. But soul makes the form in matter and is other than the
form.

Plot. 7” = (Al. 9’) But if they assert that it is not the form which comes to be in the matter (εἰ δὲ οὐ τὸ γενόμενον εἴδωλον,
but the separate form, it is not yet clear how this is the form in the body.

56 Plotinus does not have a separate list of meanings. The cross-references to Alexander reflect the sameness of
items discussed, not of the arguments.
57 The argument (6a) is strong enough to prevent not just soul but anything at all from being in a place.
58 Instead of Armstrong’s “but” for δὲ, assuming that these are two different arguments (a) based on the
assumptions about whole and part; (b) on the assumption that soul is not body.
59 Instead of Armstrong’s “edge”: πέρας could have a technical sense.
The two cases that Plotinus discusses separately are the "steersman" and, as I am going to suggest, the "mixture" (Al. 8). The latter gets a more specific treatment, and follows upon the theory of soul-"steersman".

Though the scope and detail of Plotinus' argument differ somewhat, his list of meanings of ἐν mostly repeats Alexander's: the meanings of τέλος and ἄρχων/μέτων κινητικῶν of Aristotle's list are missing, and the meaning of ἐν ἰπόκειμένῳ present. Plotinus omits the cases of genus and species. Of some note is also the fact that Plotinus, like Alexander, uses this list in the aporetic function in the theory of the soul. This is not suggested either by Aristotle's text, or, as far as one can see, by the pre-Alexander commentaries on Physics.

Plotinus sets out to consider "the question whether these and the other so-called parts of the soul are in place (ἐν τόπῳ καὶ ποῦ), or whether these are not in any way in place, but others are, and where they are, or whether no part of the soul is in any way in place". This corresponds to Aristotle's characterisation of "local" as the principal sense of ἐν, and in particular to Alexander's remark that Aristotle used ἐν τόπῳ in the general sense of ποῦ.

With respect to Plotinus' second argument, Blumenthal notices that the objection (a) which is matched by Schwyzner with the text of Alexander's mantissa 3, is not specific enough, and supplies some evidence for the occurrences of "vessel" metaphor for the soul/body relation in the pre-Plotinian literature outside the Peripatetic tradition. It can, however, be compared with Alexander's treatment of being ἐν ἰαιτίᾳ in the Physics commentary. With respect to (b), Blumenthal says that the notion of place as incorporeal is a Stoic doctrine, apparently, implying that it needs not to be traced back to Aristotle.

On (Plot.3b) Blumenthal plausibly says that it might be an expansion of Alexander's distinction between the two theories of place in (Al.6). διάστημα κεφῶν does look like a catchword: the notion that an interval must be void does not come from any specific theory.

On Plot. 4, Blumenthal does not comment, except noting that Plotinus uses χωριστῶν where Alexander has αἰσθήμα. I think that the presence of this meaning in Plotinus' list, distinct from the Plot.9 ("form in matter"), indicates

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62 For "space".
63 Pace Blumenthal 1968, p.256.
64 Blumenthal 1968, p.256: "...A3 and A4 <...> have no real local reference and so are less to Plotinus' purpose. While their relevance in Alexander is perhaps equally questionable, their presence could well be due to the Aristotelian precedent mentioned above (Phys.IV 210a18-19)." It might be that Plotinus is treating the genus/species relation, in Platonist spirit, as a variety of part/whole relation. In Alexander's theory the contrast between form's being in matter and in genus is quite instrumental, as we shall see below in this chapter.
65 Simplicius mentions the transfer of the list from Phys. IV 3 into the Categories commentary, but we do not know about de anima.
66 Enn.IV.3.20, 1-4, Armstrong transl.
that he is familiar with the Peripatetic literature (perhaps more specifically, with Alexander’s writings) beyond the *Physics* commentaries. The distinction between *ἐν ἵπποκεμένῳ* ἐν ὁμίλη is present in the later commentaries, but it cannot be quite securely traced back to any Peripatetic commentary, including Alexander’s: Simplicius mentions it under the rubric “form in matter” in Aristotle’s list, but we know that he most likely at that point drew on Iamblichus’ learned commentary which could contain some interpretation; Philoponus does not seem to identify it. As for earlier commentaries, the evidence that we have suggests that the distinction between the two ways of form’s being in matter was treated there as the distinction between the manner of presence in the substrate, of *ἐξίς* on the one hand and *πάθη*, on the other, while the expressions *ἐν ἵπποκεμένῳ* and *ἀπὸ πάθος ἐν ὁμίλη* were, apparently, used as synonyms. In Alexander’s *de anima*, on the contrary, the distinction is very clear, and it is made even clearer in several school treatises, as we shall see shortly.

One might say, of course, that a sharp exegete as he was, Plotinus could get to this distinction by his own wit, on the basis of leads that he himself had gathered in the Aristotelian corpus. But the evidence does not support this; in fact it shows that he either did not understand or neglected the difference between the two ways of ‘containment’. If we look at Plotinus’ argument against this construal of containment and the one in Plot.9 (a,b), we shall notice that he does not really distinguish between the two types of “being in”. So he would not need to construct the two distinct meanings himself.

On the other hand, we know that in the Peripatetic literature which was available to Plotinus, Alexander was the most conspicuous proponent (if not an originator) of this distinction. So the occurrence of this distinction in the list of Plotinus, without the corresponding distinction in the argumentation in two cases, might indicate that the meaning is borrowed from Alexander.

There still remains the possibility mentioned by AD in their commentary that Alexander and Plotinus used a common source; and this is generally plausible, especially with regard to the presence of the ‘steersman’ figure in the end of the list. But even if there was another source, it would require a strong argument to show that the distinction between *ἐν ἵπποκεμένῳ* and *ἀπὸ ἵπποκεμένου* could be derived from there. From what we know, this distinction does not appear in the tradition of *Physics* commentary before Alexander, and Alexander himself probably discusses it in the context of Peripatetic problematic of *ἐξίς* and *πάθος*. This last point gets some support from Plotinus’ argument, where “being in a subject” is regarded as a characteristic of *πάθος*. So we can provisionally assume Alexander’s authorship of the hylomorphic version of this distinction, until some better evidence turns up.

With respect to Plot.5 (=Al.3), Blumenthal discusses the term *ἀμφορεύς* which is not present in Alexander’s *de
anima. Blumenthal also argues that the term is not sufficient evidence of Plotinus’ use of the Physics (or even generally Aristotelian) context. But this term may situate itself better if we pay attention to the argument (b), which is directed against those who say that soul is a part not of a body, but of a living creature. This scholastic refinement of hylomorphic theory was argued by Alexander several times, as we shall see shortly. Plotinus here raises difficulties into which this theory might run. The example around which the difficulties are raised seems to be taken from Aristotle’s Physics IV 4, or even from Alexander’s discussion of this place reported by Simplicius that was mentioned above. That the resemblance at IV. 3.20.34 “may be a pure chance” as Blumenthal says,66 is very unlikely, because all the three possibilities cited by Plotinus coincide fairly accurately with the three possibilities considered by Aristotle.67

The case of “mixture” is not directly present in Plotinus’ list, but it is possible to suggest that his analogy between the presence of soul in body and the presence of fire in the air in Enn. IV 3.22 may be a reflection of the “mixture” case of Alexander’s list. The wording of his description is somewhat reminiscent of the Stoic “pervasion”68, even though of course, Plotinus interprets this mode of being as incorporeal. Several structural features of this description remind of the Stoic mixture theory: first, the nature of the ‘corporeal’ simile (it is fire in the air: physical constituents of pneuma, according to some descriptions); the presentation of the manner of presence with as δ’ ὄλου does not necessarily imply Stoic association, but can point to it in combination with other features; the character of presence “in” the air, whereby the light does not get mixed with the air, preserving its own nature; the possibility of “bilateral” description of this inherence: as light being in the air and as air being in the light (the kind of balance which the Stoic theory of pneumatic pervasion probably upheld). Apparently, Plotinus was looking for the “corporeal” images to illustrate his ontological claims.69 Finally, we know, that later he changed from the example of light to the simile of “heat in the air”, which is even closer to the Stoic illustrations of

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67 Aristotle discusses in Phys. IV 4: 210a30 the meaning of “something being in itself”. He says that “containment” can either be said of something on its own account, or incidentally, by some kind of weak transitivity (as a part of something which is contained in a container). ‘If, then, a whole should chance to consist of two parts, one of which is the ‘content’ and the other the ‘continent’, then that whole, in virtue of the contained part, may be said to be ‘in’ that same whole, in virtue of its containing parts. For example, though neither the flask, nor the wine can be said to be ‘in itself’, yet the ‘flask-of-wine’ can. For the wine-content and the flask-continent are both of them parts of the same whole’. (Wicksteed-Cornford trans.).
68 Enn.IV.3.22.1-8: ἄρ’ οὖν αὐτῷ φατέον, ὅταν ἅρμα τούτοις σώματι παρῇ, παρεῖναι αὐτῷ ὡς τὸ πῦρ τιν τῆς ἀερίου· καὶ γὰρ αὐτὸ καὶ τότε παρὰν ὧν παρεῖται καὶ δί τοῦ παρὸν ὃς ἐπέφερεν καὶ ἑτέρους μεν αὐτό τῷ τῇ παραστρέφεται καὶ ἐναὶ ἐξ ἔχειν γενόμενον τοῦ ἐν τῷ φύκῳ, απράξμων ὁμών ἑκομήν, ἐκ τῆς ἐκείνης ἑνὸς ἰδίως, ἐκ τῆς ἐκείνης ἑνὸς ἓκεν, ἡμὲν δὲ ἐκείνη ὑπὸ τὸ φύκῳ, περικείμενοι, ὅτι ἐσθῖν εἰς τὸ ἀερίον ὑπὸ τοῦ ἐκείνης ἑκουσίας ἑκείνης, ὡς ὁ ἄρος ἐν τῷ φύκῳ, ὥστε τὸ φύκῳ ἐν τῷ ἀερίῳ.
69 Prof.Todd has argued that such was also the Stoic method of constructing the proofs from ‘common notions’, not to be confused with the ‘common notions’ as shared tenets of schools. See Todd 1973.
We know that Plotinus was familiar with both Stoic and Peripatetic mixture theories, and in his discussion of both suggested that corporeality (σωματερή) might be a kind of form different from qualities, on the one hand, and underlying matter on the other hand.

Finally, there is the “steersman” example, suggested by the text of Aristotle’s DA II 1413a8, where Aristotle says that it is unclear whether the soul is entelechy of body in the way in which the sailor is of a ship. Alexander in his de anima considers two interpretations of this simile:

15. 9: (10) But neither is it possible for the soul to be “in” a body in the same way as the pilot is “in” a boat. For if (i) someone understands the “pilot” in the sense of the art of a pilot, then soul would be “in” body as some disposition (ἐστί) and form in matter (for it is in this way that the dispositions are “in” things of which they are dispositions; for they are both incorporeal and inseparable from the things in which they are). If however (ii) [one understands the pilot] as the pilot who himself has the disposition, then the soul will be a body (for the pilot, for one, has a body), and it will be in some part of the body, separated (ἀποκεκρυμένως) as in a place, so that the body will neither as a whole be in possession of a soul, nor be ἐμπλωθεὶς ἐνωτίῳ nor will have the συναίνοντος. Also, the body would be moved by force?; moreover, the soul because of its being such, and separable from the body, could re-enter it, so that the same body could be at times ensouled, and at times not.

And what is the cause by which the soul, being such, enters the body, and what is the method of entrance? And what is the cause of its persistence, and also, first of all, what is its substance and nature? For if the soul is the pilot, and that not in the sense of the art of navigation, it would be itself, too, of some form and matter, which form would in fact be the soul, if only from what it has its being “pilot”, from that it has its being the soul. For each thing has its being what it is in virtue of form. So, it is from the form, not from the matter, that the pilot has its being a pilot.

Plotinus’ distinction between κυβερνήτης (steersman who guides the ship) and πλωτήρ (sailor who does not guide it) seems to be an accurate paraphrase of Alexander’s distinction between the entelechy as ἔστιν and ἐλθόν of a ship and the person of steersman who has a ἔστιν at de anima 15, 10 sqq., as Blumenthal notices. The ‘steersman’ is a function performed by a man with respect to a ship. But the man who performs this function is also a sailor.

The comparison of the entelechy of a body with art in an instrument, that follows after this distinction in Plotinus’ text, is also found in Alexander, several pages later, where he discusses the inseparability of the soul (21, 1-3, 21, 9-10). Plotinus criticises in this theory exactly the side which Alexander accepts:

This is a good comparison as far as the soul’s ability to be separate from the body goes, but would not supply very satisfactorily manner of its presence, which is what we ourselves are investigating. For the steersman as a voyager

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70 Enn. IV.14.2-10, see also discussion in Blumenthal 1971, p.19. Of course, the Stoic illustration of containment of soul in body was “heated iron”, but the idea of the presence of some energy after the source of energy has been detached, that attracted Plotinus, seems to be the same in this example.
71 ἔτι δὲ ἄνθρωπος εἰ ὄντας ἑντελέχεια τοῦ σώματος ἡ ὄσκλη νύστερ πλωτήρ πλοίου.
72 AD 129: cf.79, 20 (the rower).
74 Pace Blumenthal, p.260, who, interestingly, characterises the simile in Plotinus as “The translation into terms of Platonic dualism”. The problem of dualism is certainly present in the mant.2. Blumenthal also pays attention to the frequency of the verb μαθέων in Plotinus’ description of the manner of presence of the steersman on a ship. This is to be compared with Alexander’s quaest. I 21, where we find a technical definition of μαθέων as the mode of being of light in the air: the meaning which is central in Plotinus.
would be present incidentally in the ship (ὡς μὲν γὰρ πλοιτήρα κατὰ συμβεβηκὸς ἦν εὖ ἐν αὐτῇ ὁ κυβερνήτης), but how would he be present as steersman?" (Enn. IV 3.21, 6-11, Armstrong transl.)

On the other hand, what Alexander finds unsatisfactory in the theory of soul-steersman, i.e. the incidental character of its presence in body, is appealing to Plotinus. The notion of incidental being here is Peripatetic. Further, Plotinus, like Alexander, notes that the steersman taken as a person would not be all over the ship, as the soul is supposed to be in body.

Finally, Plotinus rejects the idea that steersman is entelechy like an art, found in Alexander:

Are we then to say that it is present as the skill is in the tools, in the rudder for instance, so that if the rudder was ensouled the steersman’s skill which moves it according to the rules of his art would be within it? But the difference is this, that the skill comes from outside.

If then, according to the model of the steersman who has got into the rudder, we stated that the soul was in the body as in a natural tool - for this is how the soul moves the body in whatever it wants to do - should we gain any advantage from the next point of view of our investigation? We shall again be in a difficulty about how it is in the tool, though this is a way of being in the body different from those mentioned before <…> (Enn. IV 3.21. 12-21, Armstrong transl.)

We have seen that the analogy between the entelechy and the art was developed by Alexander. Later in de anima Alexander compares the soul to the shape of the ship.75 We know that Alexander might have had as his target the doctrine of the Peripatetic Xenarchus, who taught that soul is both substance on its own and entelechy.76 The simile of a steersman, which allowed an ambiguous interpretation, would be suitable for the statement of his position, but we do not know whether Xenarchus actually used it. At this point it is important to notice that Alexander and Plotinus disambiguate this position in two ways which are diametrically opposite. This suggests polemic on behalf of Plotinus.

The question that should be at least pondered at this point is who made up the interpretation of pilot as a εξος. We know that Alexander explicitly uses it in de anima, moreover, the later sources seem to credit him with this interpretation.77 Since Plotinus prefers the “personal supposition” for the steersman, the reason why he should mention the other interpretation is either that it he came to it by himself, even without approving of it, because it is so natural; or that he found it in some source. In the latter case, which seems more likely, it is highly probable that Alexander is the author of the simile as an interpretative tool. It would also agree with the tendency to give a more rigorously systematic interpretation to the Aristotelian material than Aristotle did himself.

75 21.8 Br.
76 Stob. Ecl.1.49 (DG 388b16): Ξέναρχος ὁ Περιπατητικὸς καὶ τινὲς ἔτεροι τῆς αὐτῆς αἰρέσεως τὴν κατὰ τὸ εἶδος τελείοττα καὶ εὐτελέσιαν καὶ ἑαυτὴν ὀδοὺς ἄμα καὶ μετὰ τοῦ σώματος συντεταγμένην.
77 Simpl. in phys. 268, 15.
From this analysis we can see that there are several points of structural coincidence between the arguments of Plotinus and Alexander. There are also several doctrinal points of the Peripatetics that Plotinus reproduces (they have to do mostly with the hylomorphic theory of soul): association of property, that is “in” a subject, with πάθος (Plot.7, Plot.4); soul as part of the whole animal rather than body (Plot.5); the evidence of interpretation of ‘steersman’ as ἐξος in the source and the diametrically contrasting position taken by Plotinus himself in the ‘steersman’ case. All of this indicates that Plotinus probably knew a contemporary version of Aristotelianism, which had some features of post-Aristotelian systematic development of Aristotle’s doctrines.

4.1.4. Aristotelian definition of the soul (15, 26 - 16, 18).

Alexander concludes from his discussion that the only way in which the soul can be said to be “in” a body, is as form in matter:

But if the soul cannot be in a body in any of the ways mentioned above, then it should remain for it to be “in” it as a form, given that the form of each thing is that in virtue of which it is what it is, and it is in virtue of the soul that a living being is living. 15, 26 Br.

This is how he introduces the definition of the soul:

Now, since the soul is form, as has been shown, and unmattered form (ἐνδος ἐνωλαν) (for it is of a body, and of a natural one; for it is not of an artificial one, as of a sculpture; and not simple natural, like the fire, but composite and organic), but the form has been shown to be perfection (τελειοτης) of that of which it is a form, and it is Aristotle’s habit to call perfection entelechy, because it is the cause of “being-at-the goal” of a thing of which it is [the entelechy], he reasonably gave it the following formula: “the first entelechy”. (15, 31-16, 7 Br.)

For the perfection was twofold: one disposition (ἐξος) and potentiality, another the activity proceeding from the potentiality, from which the potentiality was first and the form was the perfection in the sense of a potentiality. So, it is the first entelechy of the natural organic body. 16, 8 -10 Br.

The explanation of ἐντελέχεια as “perfection” seems to follow the distinction between ἐνέργεια and ἐντελέχεια.

drawn by Aristotle in two places in Meta. Θ. Bonitz notes that Aristotle apparently neglects this distinction in

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78 16,1: post ἐνεργητα [ἵν καὶ τελειοτητα καὶ ἐντελέχειαν ἐνδος ’Αριστοτελει λέγειν] athetised Bruns, followed by AD.
79 AD: 6,29 sqq.
80 AD refer to DA II 1: 412a10-11; 22-23, noting that neither ἐξος nor δύναμις is directly used by Aristotle in DA as an explanation of the first entelechy, although the latter interpretation may be derived by inference from DA II 5: 417a21-b16; II 1 412b28 and Phys. VIII 4: 255a30-b3.
81 Meta. Θ 3: 1047a30; 8: 1050a23. The recent revision of this “standard” interpretation of the notion of soul as entelechy is to be found in Charlton 1980, where the author argues that the distinction between the first and second
other places where ἑντελεχεία and ἑνέργεια are treated indifferently; this is particularly characteristic of the psychological contexts, where ἑντελεχεία is opposed to δύναμις. Alexander clearly intends ‘final state’ as focal meaning of ἑντελεχεία, and uses Aristotle’s distinction between the first and the second entelechy to account for the cases where the word is used synonymously with ἑνέργεια.

For that which already has accomplished soul can do and undergo many things by virtue of it: feed, grow, bear offspring, perceive, desire, reason, speak, act and be healthy and sick. For those things are nevertheless ensouled, even if they do not act, but are able to; and the added “potentially” is explicative of the first entelechy. 16, 14 Br.

Alexander, further, explains the meaning of expression “body that potentially has life”:

16, 11: For the organic body is the one that has numerous and diversified parts capable of assistance (ὑποτελείονθαι) to the psychic powers. For that reason he says that the organic body has life potentially, using the “having life potentially” instead of “capable of living in actuality”.

AD cite mant. 1: 104, 11 to show that Alexander understands ‘having life potentially’ as explicative and not as a part of definition. The notion of ancillary role of organs with respect to the psychic functions is very important in Alexander’s theory of faculties and the seat of the soul developed later in the treatise.

AD note that the expression ἐνδος ἐνυλον that Alexander uses to explain the Aristotelian notion of the soul does not occur in Aristotle. Indeed, Aristotle in DA I 1: 403a25 uses the expression λόγοι ἐνυλοι for the affections of the soul, and this seems to be a unique occurrence of this adjective in the whole corpus. But in Alexander ἐνδος ἐνυλον is a keyword in his interpretation of Aristotle’s theory of soul. With its help he attempts to solve not only the ontological problem of substantialism vs. attributivism in the interpretation of the soul, but also the problem of the logical form of the concept ‘soul’, thus trying to provide a rigorous foundation to his ontological solution. In what follows we are going to consider his solutions of both ontological and logical problems.

But before that, there is yet another problem concerning the definition which Alexander notices in his treatise, and which seems to have influenced his thinking. It is known in the tradition as the problem of “analogy”. After the exposition of Aristotle’s definition of the soul, Alexander says:

This is the essence of the soul, to comprise in one account several souls, which are not of the same kind with one another, and have an order with respect to one another, so that a certain one of them is less complete and first, the one after this one is more complete than it, in virtue of having received, in addition to those faculties <possessed by entelechy is purely contextual, (referring to the order of speech in a particular instance of DA II 1: 412a27-29), and has no broader systematic implications. Cf. also de Corte 1939, p.492f.

Bonitz, 253b 46-51 cites DA III 7:431a1, 3; GA II 1: 734b21, a30, 35.
16, 16: ἐνδος: change of number (AD 131 mildly suspect the text, but suggest the “construzione a senso”).
AD, p.131.
Bonitz, 257a36; and so also the TLG.
the preceding soul> yet another faculty of some kind, and after this one, the third one, which has in addition to those faculties <just mentioned> also some other faculties.

For it is impossible in case of things which are related to one another in this way, that the common account should be clear (σαφή), because the definition of certain things should be applicable to all of them; but in such an account it is impossible to express anything which is of more complete among them. For <if the definition expressed anything of the more complete>, the less complete entities would not be included.86

For which reason the common account of the soul, being simpler and more common, is not indicative of any of the soul’s capacities which seem to be the greatest. For such an account is from something which is inherent in all of them commonly. (16, 18 - 17, 8 Br.)

This corresponds to Aristotle’s explanation of the nature of the definition of the soul in the end of DA II 3: 414b20-15a14). Alexander at this point seems to be more interested in the methodological issues.87 But the notion of hierarchical series has a prominent role in his psychology. We have already seen that in the argument “from activities” Alexander was presenting the soul’s capacities as ‘stacked’ one on top of the other, so that the higher capacities could be regarded at some point as evolving from the exercise of the lower capacities. The goal of such presentation is not the reduction of activities to the lower kind of activities, but rather the presentation of the whole set of soul’s activities as based on a single ancillary system of the body.

A little bit later in de anima Alexander returns to the problem of faculties, again introducing the teleological dimension into the explanation of hierarchy. He says that it is the difference of faculties and not merely ‘a certain organic body’ that distinguishes different kinds of living beings from one another,88 and argues that in the natural hierarchies the higher levels ‘govern’ the lower levels: nature makes everything for the sake of something, and where there is an ordered series, the first member of the series always is related to the second member. Soul, too is nature, and there is a certain natural order of its faculties: there is one of them which is ‘ultimate’, and all those that are prior are for the sake of it.89

The hierarchical series recurs in de anima also in the discussion of the faculty of sensation;90 in the theory of the seat of phantasia91 and intellect92 and in the theory of the seat of the soul.93 In each case Alexander is interested in proving the specific teleological unity of soul’s functions within a living being. This shows that the notion of έντελέχεια first introduced by dialectical method, is still a theoretical concept.

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86 I am grateful to Prof. Madigan for suggesting to me the translation of this sentence, which I have adopted.
87 On the problem of the relation of analogy to the problem of universals in Alexander see the final section of this chapter.
88 27, 15 Br.: ἦν τε πάς οὖκ ἄτομον τὸ τῶν ἀνθρώπων λέγειν τῶν βασιλέων καὶ τῶν τοχαῖς ζώων διαφέρειν μὴ τῇ τῆς ψυχῆς δυνάμει. ΄ἄλα ὀργανικὴ τιν σώματι;
89 28, 8 Br.: ἦν πάντα ἡ ψυχή ἐνεκα τοῦ ποιεῖ, καὶ ἐν αὐτῇ τὸ μὲν πρῶτον έστιν, τὸ δὲ δεύτερον, ἀκέ το πρῶτον ἐπὶ τὸ δεύτερον ἔχει τὴν εἰναδύσειαν. ἄτο ψυχή ψυχῆς καὶ ψυχῆς τε καὶ τάξης τῆς ἕστι τῶν ἐν αὐτῇ δυνάμεων. ἐστιν ἀρα τῆς ἐν αὐτοῖς τελευταία, ὁς χάριν αἱ πρὸ αὐτῆς.
90 40, 4-19 Br. (hierarchy of senses)
91 70, 19 -73, 14.
92 85, 20-86, 6: (μετάβασις from the potential to the actual intellect.)
Conclusions

Alexander’s introduction of the Aristotelian definition of the soul is prepared by the dialectical discussion of several possible modes of soul’s being in body, with some elements of hylomorphic theory appealed to in the arguments. That Alexander used dialectical setting of the exposition in his works, was noticed by the scholars. We can see now that there is a connection between dialectical and specifically theoretical motives in Alexander’s methodology. He assumes that a good theory should fail no dialectical scrutiny on any of the ‘commonly accepted’ views. In some way this strategy mirrors the strategy of the Pyrrhonists: just as there the goal was to show that only the sceptical stance can win all the cases, Alexander wants to show that only the Aristotelian theory provides good grounds for all the principles that are commonly agreed upon. In some cases he does that by drawing on the theoretical arguments, and in some cases by default, that is by showing that any different viewpoint is self-contradictory or unacceptable in some other way. Dialectical reasoning and good theory should converge on the same set of beliefs.

It may be noticed that the common principles to which Alexander refers usually have to do with the recognised conceptual distinctions, which are to be maintained by theoretical means. Hylomorphic theory is regarded as methodologically the best solution of all the antinomies of the mind-body problem, also because it is made to save all the ‘common concepts’ (distinction between body and soul, distinction between body and place, etc.) and in moderating the extremes of the opposite theories.

The most significant concept of hylomorphic theory, which Alexander assumes in all his dialectical arguments and which he himself have extracted from the Aristotelian theory, is the concept of enmattered form. In the dialectical arguments we have seen that this concept is methodologically preferable to all others as a model for the soul-body relation. In the next two sections we shall see the elements of the positive doctrine of enmattered form as developed in Alexander’s school treatises.

4.2. Form-substance in the school treatises.

Mantissa and quæstiones are treatises of uncertain authorship, but they reflect the activity of the school of Alexander, as can be seen from the considerable number of affinities in the doctrine and style between these

92, 12-94, 6 (summary on the types of souls); 94, 7sq. (theory of the central organ).
treatises and the attested works of Alexander. We have seen that in one of his dialectical arguments Alexander invokes the notion that soul is not in body as 'in a subject'. This doctrinal point is developed in several school treatises to such an extent that we get a clear outline of a theory of form substance. In this section I consider Alexander's treatment of the problem of a 'subject' within the hylomorphic theory and the way in which he introduces the notion of form-substance. I am attempting to show that Alexander perceived the tension between the 'elemental approach' and the 'ontology of form-substance', and tried to solve it on the basis of the latter. I begin with a brief review of the distinction between the two types of predication in the Categories.

4.2.1. The problem in the Categories (ἐν ἵποκειμένῳ vs. καθ’ ἵποκειμένῳ).

In the following I am attempting an ontological interpretation of the distinction in the way in which Alexander might see it. I therefore disregard the logical aspects of the problem and omit a number of otherwise important technical details.

In the second chapter of the Categories Aristotle says that some entities are always said 'of' an underlying subject, not being present 'in' any such subject, and some are 'in' a subject but are not said 'of' any subject. 'Entities' (ὄντα) is a difficult word to translate here, because Aristotle uses it to refer, in both cases, sometimes to logical terms, and sometimes to real objects. In this he does not experience any epistemological difficulty, because his epistemology is based on the correspondence theory of truth. This means that he can describe the truth-conditions of the sentences using the same terms as are used to build the sentences. It is the same thing to say that '(this) white' is said about 'the snow' and that the snow is white. 'Being said of' of the first clause is semantically equivalent to the 'being' of the second clause, and there is no trouble if both relations are expressed with the same

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95 On Alexander's school and literary activities, the comprehensive analysis of evidence is to be found in Sharples 1990a.
Moraux in his early work tended to draw clear lines between what he thought was Alexander himself and what could be a student or an epigone. Re-evaluation of the sources brought about the tendency to disregard the stylistic differences and see more doctrinal unity in the treatises, and this seems prudent. But this does not mean that the question of authorship should be regarded as altogether 'closed': there are some stylistic differences that characterise the school treatises, and systematic study of these begun by Bruns and Moraux may still bring us interesting results. Cf. also Merlan 1969, Sharples 1980.
The school treatises were studied as a whole by Bruns 1892,2, who classified them by genre into six groups (problems proper, ἐκκατάλειπται, ἔμδρωμα, fragmenta; minores commentationes (mostly in mantissa); hypomnemata (collectanea argumentorum); Moraux 1942, pp.19-28; Sharples 1987, pp.1189-1195, and his notes to the three volumes of translations of quaestiones (1990, 1992, 1994).
term, e.g., the verb, 'to be'. Paraphrasing the early modern thinker, we could describe this system with the principle: *ordo et connexio verborum est ordo et connexio rerum*.

Ackrill is right in saying that Aristotle's distinction between entities 'in a subject' and 'said of a subject' is not a distinction between, respectively, real entities and linguistic objects. Still arguably a distinction between the mode of being and the mode of signification is assumed in each case. This will eventually explain some asymmetry in Aristotle's treatment of the two kinds of predication, *καθ’ ἵπποικεμένου* and *ἐν ἵπποικεμένῳ*.

Both types of being and predication are established in relation to the 'subject', by which we have to understand both logical subject of predication and real subject, that takes on real qualifications, just as it takes on predicates in a sentence. There are two main modes in which qualifications and predicates may pertain to it. An example of the first type of a predicate is "man": it can be predicated of some individual, e.g., Socrates, but not of any aspect or property of Socrates. In the sentence "*x is (a) man*", *x* must be (a name of) a real person: "Socrates" or "Kallias". It cannot be anything "in" Socrates or Kallias, any property or aspect of either; it must be, so to speak, a "whole man". This is what Aristotle means when he says that "man" is not in a subject. "Man" is not a property of Socrates, but it is what Socrates is.

An example of the second type is "a certain knowledge of grammar": it is contained in the soul, but cannot be said "of" any subject, because there is no adequate subject. A good sentence with this term would be "Socrates is literate", where the term is used in the oblique construction. The direct construction: "*x is Socrates' literacy*" is impossible, because the separate thing that is required by it in place of *x* does not exist. Socrates' literacy is neither a separate thing nor a universal term; it is an aspect of Socrates, and it cannot be predicated "of" a thing, as though it were a name of a thing or a kind.

Aristotle says that there are terms that are predicated 'of' a subject and are in a subject, they are generic terms in the categories other than substance, e.g. 'knowledge'. It is a property in the soul, just as "the knowledge of grammar", but the sentence "literacy is knowledge", in which "knowledge" is predicated of a literacy as of a subject is well formed, according to Aristotle, apparently because it is a kind-term. Finally, there are object-expressions, which are neither in a subject, nor predicated of a subject. These are individual substances. Evidently, sentences of the form "*x is Socrates*" are impossible. ("Socrates" is not a property of anything, and there is no

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96 1a20-25: τῶν ὄστων τὰ μὲν καθ’ ἵπποικεμένου τινὸς λέγεται, ἐν ἵπποικεμένῳ δὲ οἶδεν ἐστιν, ὅτι ἄνθρωπος καθ’ ἵπποικεμένου μὲν λέγεται τοῦ τινὸς ἂνθρώπου, ἐν ἵπποικεμένῳ δὲ οἶδεν ἐστι τὰ δὲ ἐν ἵπποικεμένῳ μὲν ἐστί, καθ’ ἵπποικεμένου δὲ οἶδεν ἐστί.

97 Categ.2: 1a29-b3.

98 Categ.2: 1b2-6; 5.2a11-13.
further substance which it could subsume, it is not a kind-term). But in this way sentences like “This is Socrates” somehow seem to be endangered (even though there is no predication of terms here).

Now, having in mind the principle of correspondence between mode of being and mode of signification of entities (terms), we may notice in the Categories two distinct types of a procedure of ‘fixing the reference’ of a particular entity (term), corresponding to the two types of predication. Aristotle never explicitly formulates them, yet he is quite consistent in using them. The first type is based on our knowledge of distinction between things and properties. The procedure involves reference to the experience, and could be called ‘ostensive’ reference for that reason (analogously to the “ostensive definition”). It is more obvious in case of entities ‘in’ a subject. E.g., we know that ‘white’ is a property, and ‘snow’ is a thing, so we know that if ‘white’ is said of ‘snow’, it means that there is some snow (e.g. the snow on the roof of my house on a given day) that has a property ‘white’ in it. Usually in simple cases the experience serves us well.

But in cases of entities which are said ‘of’ a subject, it may be sometimes difficult to produce a match between words and things in quite natural way. E.g. when “man” is said of “Socrates”, we can still have a mental picture which puts a certain bald and troublesome character in a sort of “sameness” relation with a paradigmatic biped rational living being, by acknowledging some vague ‘resemblances’, but we may not be as certain about the meaning of this mental picture and the ‘resemblances’ as we were in case of last season’s snow. It will be even more difficult if we want to predicate ‘animal’ of Socrates. In this case we will not even have a paradigmatic creature, because the genus animal covers so many different species. We probably have to look for another method of establishing that an expression is said of something as ‘of’ a subject. This second method involves analysis of logical form. To amplify the distinction a little bit, the first method seems more natural for real properties, and the second for general concepts. It may be noticed also that in case of καθ' ἑποκευμένου Aristotle tends to cite the examples of predication and invariably uses the verb λέγεται, while in case of ἐν ἑποκευμένῳ his examples are practically always of real inherence and the verb that signifies the relation is ἐστι.

The logical method is based on several rules that Aristotle formulates. First is the rule of substitution for the καθ' ἑποκευμένου predication: the definition of a predicate should also be predicated of a subject, as well as its name: we call a particular man “man”; and a particular man is also man and animal. To the contrary, in case of entities ἐν ἑποκευμένῳ mostly neither the name nor the account of the predicate can be substituted for the subject of their predication; the name can be substituted in some cases, e.g. we can refer to a white body as to ‘the white’ (in the

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79 Categ. 5: 2a19-27.
Greek language it is possible to use adjectives as substantives), but we can never apply the definition of ‘white’ to a white body.\textsuperscript{100}

Aristotle then outlines an ontological parallel to the logical distinction. He says that while the first substances are true subjects, all else is either predicated about them καθ’ ὑποκειμένου or is in them as ἐν ὑποκειμένῳ.\textsuperscript{101} It is to be noticed that the first substances are ‘complete’ subjects for both types of predication, ‘of a subject’, as well as ‘in a subject’. In both types of relation there is ultimate dependence on the first substances. But while the latter type of relation could be illustrated in the simple cases by ostension, the former type needs a theory, which Aristotle also outlines. It is a theory of secondary substances (species are related to genera as first substances to the species\textsuperscript{102}; taken apart from genera, species have no difference among themselves in respect to substantiality;\textsuperscript{103} only species and genera qualify for the title of second substances: words like ‘white’ or ‘runs’ cannot provide a sufficient account of an individual substance\textsuperscript{104}; but the first substances are substances in the most proper sense\textsuperscript{105}). The secondary substances are supposed to contain some theoretical account of the first substances. Ackrill says:

After this Aristotle says that the common feature of all the substances is not to be “in a subject”: the first substances are neither in a subject, nor are they predicated “of a subject”. The second substances are clearly not in a subject:

For man is said of the individual man as subject but is not in a subject: man is not in the individual man. Similarly, animal also is said of the individual man as subject but animal is not in the individual man. 3a10-15, (Ackrill transl.)\textsuperscript{107}

This argument suggests that another reason for putting the distinction between two types of predication in terms of “in” and “of” was Aristotle’s wish to distance himself from the straightforwardly realist interpretation of the second

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\textsuperscript{100} Categ. 5: 2a28-34.
\textsuperscript{101} Categ. 5: 2a34-36.
\textsuperscript{102} Categ. 5: 2b17-22.
\textsuperscript{103} Categ. 5: 2b23-29.
\textsuperscript{104} Categ. 5: 2b30-38.
\textsuperscript{105} Categ. 5: 3a1-6.
\textsuperscript{106} Ackrill 1963, p.75.
\textsuperscript{107} ο γάρ ἀνθρώπου καθ’ ὑποκειμένου μὲν τοῦ τινός ἀνθρώπου λέγεται, ἐν ὑποκειμένῳ δ’ οὐκ ἄστιν· οὐ γάρ ἐν τῷ τινι ἀνθρώπῳ ο ἄνθρωπος ἄστιν. ἡσαίτως δὲ καὶ τὸ ζῷον καθ’ ὑποκειμένου μὲν λέγεται τοῦ τινός ἀνθρώπου, οὐκ ἄστι δὲ τὸ ζῷον ἐν τῷ τινι ἀνθρώπῳ.
type of predication, namely from the claim that the universals might belong to things as their properties in a real way, verifiable by some analogue of ‘ostensive reference’. (This is the kind of realism with which he was in the habit of charging the Platonists). The following argument mentions the logical test, just introduced: in case of the predication of the second substances, both their definition and name can be substituted for the subject.\textsuperscript{108} Thus the logical rule for ‘not in a subject’ seems to be this: real entities must be (complete) substances, and the terms must apply to (complete) substances, either.\textsuperscript{109}

So, the ontology of the \textit{Categories} seems to assume the central place of primary substance which is an \textit{υποκείμενον} both in sense of a logical subject of predication (incidental as well as essential), and of a real subject in which the properties (accounting for the incidental predication) can inhere. The problem evidently must arise of the ontological interpretation of the logical account of correspondence between the primary and the secondary substances. Aristotle rejects the realist assumption of isomorphism between the two types in the interpretation of this correspondence, adopting instead the unity of the logical account. But this unity itself is expected to be grounded in a certain ontological theory. The problem with this theory, put in modern terms, is that while it assumes the means to know the meaning of the sentence “This is white”, which is experience,\textsuperscript{110} it does not seem to assume anything equal for knowledge of the meaning of the sentences “This is a man” or “This is an animal”. The hylomorphic ontology is supposed to provide such means, that is provide a ‘real’ interpretation to the essential type of predication.

4.2.2. Form and the problem of “subjecthood”.

Prof. Ellis has argued in a recent article\textsuperscript{111} that Aristotle’s treatment of the problem of subject in both \textit{Physics} and \textit{Metaphysics} provides grounds for solution of the problem of ontological distinction between accidental and essential being, which was raised in the tradition of \textit{Categories} commentaries. Ellis distinguishes the following features of Aristotle’s approach to the problem, to which the ‘friendly’ reading should be sensitive: (a) the

\textsuperscript{108} \textit{Categ.} 5: 3a17-21.
\textsuperscript{109} Aristotle says that specific differences are not ‘in’ a subject, either. 3a22-27, the point concerning which Alexander raises several difficulties, see Dietrich 1964 and Simpl. \textit{in Categ.} 99, 19 Kahl.: ‘Αλέξανδρος δὲ ἀποτείχισε, ὡς εἰ ποιότης ἔστιν η διαφορά, ἐν ὑποκειμένῳ τῇ οὐσίᾳ ἐστιν καὶ οὐκ ἐστὶ καθ’ ὑποκειμένῳ αὐτῶς λέγεται.
\textsuperscript{110} And a theory thereof, which is realist. (Let us adduce a simpler version of Husserl’s ‘eidetic variation’ (see e.g. Husserl [1938], pp.410-420) as a means of dealing with (Wittgenstein’s) problem of ostensive definition: think of someone who is exposed to the same object coloured each time in a different colour, and told, after a series of consecutive presentations, that what has been different each time, is colour).
differences between artefacts and composite substances, and the different role of matter in each case; (b) the different character of predication in each case is due to the fact that matter cannot be independently specified once it is informed; (c) the different sense of "underlying" in the case of matter as opposed to the composite substance.\textsuperscript{112}

He then goes on to show that Alexander's theory reflects all these points. In particular, he says that although Alexander does not explicitly distinguish between the two senses of the "subject", "his emphasis on the necessary credentials for any subject underlying accidents obviously relies on Aristotle's distinction, viz., ... the subject for accidents is already τόδε τη, while the subject for the form is not".\textsuperscript{113}

*Mantissa 5* begins with the statement of an exegetical problem: in the *Categories* Aristotle says that nothing is opposite to substance, but at the same time he says that natural form, which is substance, has privation as its opposite. Does this mean that Aristotle treats form as incidental property which is "in" a subject?\textsuperscript{114} Alexander says that there must be some other way of being "in" a subject, apart from that of incidental inherence. The distinctive feature of a subject that can underlie an incidental property is that it is already a τόδε τη. If it lacks this kind of determinacy, it cannot take on properties, as we have seen Aristotle say in the middle books of *Metaphysics*.

Alexander announces the main point of his solution in the beginning: anything can be a τόδε τη only by virtue of form, so the subject that underlies form is not a τόδε τη; hence form is not "in" a subject.\textsuperscript{115} So, natural form is not in a subject, because its subject is not a τόδε τη; this in contrast with an artefact, whose form is in a subject, because the subject is a τόδε τη even prior to the process of production.

\textsuperscript{111} Ellis 1994 I am grateful to Prof. Sharples for drawing my attention to this article.

\textsuperscript{112} He documents his points with the following Aristotelian texts: (a) *Metaph. Z* 3, 1029a20-4: "For there is something of which each of these <categories> is predicated, so that its being is different from each of the predicates: for the predicates other than substance are predicated of substance, while substance is predicated of matter".

(b) *Phys. I* 7 191a7-12, where the hylomorphic composition is illustrated by the analogy of a bronze statue. The analogy is ambiguous, because the shape of the bronze, which plays the role of form in the example, can be regarded as its individual property, and then the statue will be defined as "bronze so and so modified"; but a living thing cannot be regarded as a "body so and so modified to display life", because it contains nothing that does not belong to its full design, and no part of it could properly be a part of another design. (c) *Meta. Θ* 7, 1049a27-b2, where Aristotle draws a distinction between the two types of substrate: substance as a subject of incidental predication and substance in the sense of matter as the subject of essential predication (when εἴδες τι καί τόδε τι τό καταγγέλλομενον α35).

\textsuperscript{113} Ellis 1994, p.76.

\textsuperscript{114} 119, 28-31 Br.

\textsuperscript{115} This is how I reconstruct the sentence 119, 32-120,2 Br.: 1. (119, 32-34): Form cannot be in matter as in a subject, if at least that is "in" a subject, which is not separable from that in which it is, not being its part. 2. (119, 35, remove parentheses). For the subject that underlies what is in a subject must be a τόδε τη. 3. (119, 35): But without a form nothing is relevant for the being a τόδε τη in actuality even of that thing "in which" the form is said to be. I am grateful to Prof. Sharples for careful discussion of the passage, which saved me from a number of errors. The faults that remain are of course my own.
On the other hand, says Alexander, the soul does not come to be in an unqualified way (ὅμολογος). If it did, it could come to be also in the simple bodies, as in fire, air, water, earth, which is impossible. But its underlying subject is the organic body, which cannot exist apart from the soul.

This is the difficult position which Alexander (as well as Aristotle) needs to maintain: the subject of essential predication should not be a τὰ ἀνατολεῖς, as is the subject of incidental predication, and yet it should not be just any chance subject, but it must be somehow suited to the form which grounds the essential predication. The matter of a living body should be, on the one hand, suited for this kind of form (not any chance matter); on the other hand it should not be a τὰ ἀνατολεῖς.

We have seen that according to the ‘mixture’ theory an element was considered to be a τὰ ἀνατολεῖς due to the primordial qualities which qualified the prime matter, and the elemental qualifications were transmitted to the mixture, somehow contributing to the common form. Conceivably, the status of τὰ ἀνατολεῖς could be ‘transmitted’ by the same token.

Alexander is perhaps aware of this problem, as in his solution of the problem of the subject in manti. 5 and in quasst. 1 17 he tends to distinguish very explicitly between the two types of enmattereded forms: the primordial qualities, which are the elemental forms, and the forms of the composite substances. There are some parallels in the manner of presence of form in matter in each case (again, as in de anima, Alexander insists on the analogy between the manner of presence of soul in body and weight in bronze), but here more interest is shown in detecting the difference than we have seen in de anima. His example of burning coal that he introduces to illustrate the relation of soul and body in a living being deserves some attention. Alexander writes:

But neither is the fire in the coal as in a subject. For the fire which is so called in the primary and principal sense is neither in the coal nor in the firewood nor in any other matter of this kind (for it has subsistence on its own, just as do air, earth and water). But the fire that we use (τὸ δὲ διακομικὸν πῦρ τὸ μακροθύμων), although it needs matter, still is not in the underlying firewood or coal as in a subject, but rather each of these latter is matter of the fire.

For when the fire has come about, this (ταῦτα) is neither coal, nor wood; rather it is then fire in actuality, but coal potentially, in such a way, that if it were then coal (εἰ γε ἔστω τὸτε ἄνθρωπος), then fire would be in it as in a subject.

But that it is not coal is clear because it does not have the properties of coal. And that, which has something [in itself] as in a subject, has it while preserving its own nature. (120, 17-27 Br.)

Notable features of this example are the following: (1) Sharp distinction between pure elements and sublunary elements made functional in the hylomorphic theory, in a way that we have not yet seen either in Alexander himself (the hylomorphic theory of elements in de anima emphasised the unity of hylomorphic structure across all the

116 120,11 Br.
natural kinds, including the elements), or in Aristotle. Aristotle does distinguish between ordinary and elemental fire in GC II 3: 330b25, but he does not provide any ontological ground for this distinction. He says that the ordinary fire is an excess of the heat which is constitutive of living and natural things, comparing its relation to heat with the relation of ice to water, but he does not invoke the notion of matter in either case as Alexander does, saying that the difference between the two types of forms is that the forms of sublunary elements need for their existence matter other than just prime. It is not clear from the text, but possibly Alexander still means by the “pure” elements the elements insofar as they are present in the natural compounds. Even though in that case we are dealing with mixture, still each particular action of tempering within the mixture has as its cause the “pure” elemental state.

(2) But the form of the sublunary element is not in this matter as in a subject, because this matter is, so to speak, made into matter by this form. Τοῦτο refers to the whole compound whose matter is coal and form, fire. Alexander says that the “coal” part of the “burning coal” is not the same as coal which is not burning. While in the compound, coal does not exist except potentially. If the whole thing could still be regarded as “coal”, then fire would have been its property and would have been in it as in a subject. But the whole thing does not possess the properties that coal normally possesses.

Prof. Ellis has noticed that Alexander here provides a solution to the problem of ‘two bodies’, mentioned in chapter two: namely, the ‘second’ of the two bodies, underlying the Aristotelian compound, according to Alexander, perishes when the ‘first’ one comes to be. But it seems that the case of composite is different from that of the simple bodies taken in their elemental state, in that in the simple bodies there is a complete “replacement” of one form by another, in the same piece of prime matter. In a composite the first body perishes only as a completely separate entity, but it must remain as a distinct, even if not separate, entity in order for a compound to subsist. When it perishes completely as a distinct entity, the compound perishes too. When the coal is

118 120, 12-13 Br.
119 120,18 Br.: τὸ μὲν γὰρ πρῶτος καὶ κυρίως πῦρ λαξάμενον οὐκ ἐστιν ἐν τῷ ἄθρακι οὔδε ἐν ἔμπλον ἡ ἀλλὰ τοῦ τοιαύτη τῆς ἐγχέις (καθ’ αὐτὸ γὰρ ἡ ὑπόστασις ἐκείνη, ὡσπερ ἄρη τοῦ καὶ γῆ καὶ ὕδατι), τὸ δὲ διακοινοῦν πῦρ τὸ τῆς παρὰ ἰχθυὸς βάλεις 
120 ἐνθέρμασιν οὐδὲ αὐτὸ ἐν ὑποκειμένῳ τοῖς ζώοις ἐστιν ἢ τῷ ἄθρακι, ἀλλὰ ἐστιν τούτῳ ἐκαστόν ἐγχέις τοῦ πῦρ.
117 120 12-13 Br.: τὸ μὲν γὰρ πρῶτος καὶ κυρίως πῦρ λαξάμενον οὐκ ἐστιν ἐν τῷ ἄθρακι οὔδε ἐν ἔμπλον ἡ ἀλλὰ τοῦ τοιαύτη 
118 120,18 Br.: τὸ μὲν γὰρ πρῶτος καὶ κυρίως πῦρ λαξάμενον οὐκ ἐστιν ἐν τῷ ἄθρακι οὔδε ἐν ἔμπλον ἡ ἀλλὰ τοῦ τοιαύτη τῆς ἐγχέις (καθ’ αὐτὸ γὰρ ἡ ὑπόστασις ἐκείνη, ὡσπερ ἄρη τοῦ καὶ γῆ καὶ ὕδατι), τὸ δὲ διακοινοῦν πῦρ τὸ τῆς παρὰ ἰχθυὸς βάλεις 
120 ἐνθέρμασιν οὐδὲ αὐτὸ ἐν ὑποκειμένῳ τοῖς ζώοις ἐστιν ἢ τῷ ἄθρακι, ἀλλὰ ἐστιν τούτῳ ἐκαστόν ἐγχέις τοῦ πῦρ.
119 120 12-13 Br.: τὸ μὲν γὰρ πρῶτος καὶ κυρίως πῦρ λαξάμενον οὐκ ἐστιν ἐν τῷ ἄθρακι οὔδε ἐν ἔμπλον ἡ ἀλλὰ τοῦ τοιαύτη τῆς ἐγχέις (καθ’ αὐτὸ γὰρ ἡ ὑπόστασις ἐκείνη, ὡσπερ ἄρη τοῦ καὶ γῆ καὶ ὕδατι), τὸ δὲ διακοινοῦν πῦρ τὸ τῆς παρὰ ἰχθυὸς βάλεις 
120 ἐνθέρμασιν οὐδὲ αὐτὸ ἐν ὑποκειμένῳ τοῖς ζώοις ἐστιν ἢ τῷ ἄθρακι, ἀλλὰ ἐστιν τούτῳ ἐκαστόν ἐγχέις τοῦ πῦρ.
121 See above chapter two.
122 Ellis 1994, p.78. “Given the analogy between the two cases, Alexander’s view must be that the change from an inorganic or soulless body to an organic one involves the perishing of the soulless body. The soulless body may be present potentially during the life of the organism, but that sort of existence will not, presumably, allow the soulless
burnt, the fire will be extinguished.

Apparently in distinguishing the two cases Alexander wants to capture the distinction he drew in *de anima* between the matter which is without any quality and matter which is already with some form. The ‘burning coal’ is an example of a compound, whose matter is not prime, but already has “some form”, according to the *de anima*.

The principle by which form of the compound is related to its matter is similar to the principle of ‘overriding’ of form (ἐπικατάστασι), which is used by Aristotle in his accounts of growth, mixture and elemental genesis in the *GC*. The difference is only that in all those processes ‘overriding’ accounts for the processes of transformation, while in Alexander’s example it seems to account for the stability of a compound: the dynamic structure is adapted to the account of substance. In this we can see Alexander’s tendency (of which we shall see some more examples shortly) to keep in his account of form the theory of mixture along with the strong ‘hylomorphic’ ontology of form-substance. We have to notice that the ‘overriding’ element of the example is of the same principal nature as the underlying elements, except that under this set of conditions it takes over and becomes form. (But we shall see in the next chapter how this account is modified in the case of soul).

It has to be noted that this account of hylomorphic composition does not draw a clear line between substance and accidental unity. For the accidental unity, e.g. ‘musical Socrates’, also ceases to be an accidental unity when Socrates loses the accidental property of musicality due to not practising. We can say in some sense that the Socrates that stopped practising is not the same as ‘musical Socrates’ playing the cither over there, just as we say that the coal that is burning in a furnace is not the same material as the one that is stacked in the barn.

The way in which Alexander himself uses the ‘fire’ examples shows that he is not quite firm on the ontological status of ‘overriding’ and uses these cases only to illustrate some, but possibly not all, points about the hylomorphic compounds. The notion of fire as the form of burning (or heated) compound is exploited by Alexander in *de mixtione* 9, where he argues against the Stoic theory of corporeal pervasion of iron by heat. There the case of ‘burning’ is actually brought in by him as a process of the same nature with ‘heating’, to construct a counterexample disproving the Stoic theory of heating by ‘total blending’ of heat with iron. The Stoics would say that the physical process of heating iron is pervasion of the body of iron by the body of heat. Alexander says that there is no mixture of the two bodies in the case of heating, just as there is no such mixture in case of burning. Then he explains the hylomorphism of a burning thing:

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body to serve as a physical basis for the soul in a way that would underwrite the ascription of functionalism to Aristotle’s philosophy of mind...”
The matter of fire is all the things that are burnt and heated, but while the former is indestructible, the latter is not. For which reason some things <heated> that have been quenched can still preserve this initial form for a long time, though in fact they are not totally intact; for even in that kind of things something is expended and destroyed by fire. And for this reason, these other things <burnt> when kept in the fire for a long time, are completely destroyed and abandon their own proper form. 223, 2-6 Br. 124

The matter of fire is of two kinds: combustibles and non-combustible conductors of heat. In both cases fire forms a compound with its matter. Because the matter of conductors of heat is indestructible, they can stay warm, thus keeping the form of the fire, even in the absence of the source of heat. Because the matter of combustibles is perishable, they get destroyed by fire. In terms of our mant.5 example, the matter of the burning combustibles then would correspond to the one which is not a τόδε τι as such, and so not a ὑποκείμενον for fire; while the matter of the things that are heated but not burnt, can be considered as τόδε τι with respect to the property of being heated.

Alexander's general tendency in de mixtione is to treat the 'heated iron' case as a hylomorphic compound, and on a par, as such, with the case of 'burning coal', because the hylomorphic explanation is his alternative to the Stoic doctrine of 'total blending'. But, as Prof. Todd observes, Alexander is not consistent in this, as in mixt. 6: 220, 8-9 Br. he explicitly distinguishes the mode of being of heat in iron from that of form in matter. 125

Alexander draws a parallel between the process of burning and the elemental transformation in general, which might take place between the elements in their pure form.

For as air, coming to be by change from water, is water potentially, but not actually (for it is for this reason that air is not in water as in a subject), so neither does the coal having become fire contain in itself fire as in a subject, while itself not remaining coal. (120, 27-30 Br.)

The pure elements subsist in the pure qualityless substrate, but the process of transformation involves what may look like their acting as, respectively, the substrates and the inherent properties of one another. Alexander here

123 But cf. Todd 1973 and 1976, esp. pp. 71-72, on the role of these examples as mere illustrations of pneumatic pervasion.
124 ἄλοις γάρ ἀποτελεῖ τὴν ὑλὴν τῷ εἴδει μὴν ὑμνήσασθαι λέγειν. ὑλή δὲ πῦρ τά καλύμενα ταίς καὶ πεπυρωμένα πάντα, ἀλλὰ ἡ μὲν ἀφθαρσία καὶ ἡ δὲ οὐ. διό καὶ μέχρι πάλιν σβησνόμενα τινα ταύτα εἴδος τῷ ἑαυτῷ ὑλῆς δύναται φυλάσσειν, οὐ μὴν ἀμείκτα πάστη καὶ γάρ τούτων ἀπὸ τοῦ πῦρος ἀναλυόμενη τι καὶ φθείρομαι, διό καὶ ταύτα χρονίζωσαι ἐν αὐτῇ πλέον ἀπολύτως τε καὶ τοῦ οἰκείου εἴδους ἐξίσταται. οὐκ οὖν ἀφθαρτοθεῖναι τούτην ἀφθαρσίαν.
125 ἐὰν γὰρ ἄλοις ἀποτελεῖ τὴν ὕλην τῷ εἴδει μὴν ὑμνήσασθαι λέγειν, ὑλή δὲ πῦρ τά καλύμενα ταίς καὶ πεπυρωμένα πάντα, ἀλλὰ ἡ μὲν ἀφθαρσία καὶ ἡ δὲ οὐ. ὑποκείμενον γὰρ τῷ τοῦ ψυχίου καὶ τῷ κόσμου, ὑποκείμενον μὲν καὶ πάθος, ὡς ὁ σπάνιος καὶ ὁ θερμότης, ἡ μεταβολή των γίνεται οὗν ἐξ τι ἄλλα, ὡς ἐπὶ τῆς τέφρας.

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wants to warn against this interpretation of transformation.

His final step is to remove all the possible modal interpretations of being in a subject:

For it is not as in a subject either in that which has its being now, or in that which had previously been coal, and now, that the fire has come to be in it, is not any more, but perished. (120, 30-33 Br.)

Form may not be said to be “in a subject” on account of its past, potential being in a body in which it now is actually, because at the moment of its ‘latent’ inherence the form in question was not the actual form of the compound. “Being in a subject” is not a modal concept.

We find the same systematic approach to the problem in quaest. I 17, where the distinction of three cases is even more clearly put. The cases he distinguishes there are (a) forms in prime matter; (b) form in the body of which it is a form; (c) form in the body which changes into that body (of which it will be a form). The emphasis of this short treatise is clearly on the absence of the substratum in quos in cases (a) and (c). With respect to case (a) Alexander says that this kind of matter cannot exist in without a form, noting that neither matter nor form can exist without one another. With respect to case (c), Alexander says that the soul is not as in a subject in a body which changes into the ensouled body, for it cannot be in a body which has perished.

There are several important points that the analysis of Alexander’s notion of being “in a subject” has brought out so far: there is a difference in the hylomorphic structure of the elements and composite bodies in that the elements undergo complete “replacement” of form, while in the composites the ‘overriding’ has to be exercised by the form of the compound over matter all the time while the substance exists.

The fact that the ‘overridden’ material ceases to exist as a separate substance does not mean that it ceases to exist as a distinct entity, a material component within a compound. But its ontological status is not quite clear. This may be reflected in Alexander’s hesitant use of τάσκεται in cases that involve both elements and composites.

He apparently tries to modify the sense of τάσκεται that he introduced in his mixture theory, where the elements differentiating the prime matter were regarded, each, as a τάσκεται. In this treatise he makes it clear that a thing should be synonymous with its form, so the thing which becomes matter of another thing should be synonymous with ‘overriding’ form and ceases to be itself. This is the sense of the claim that matter is not a subject ‘in’ which the ‘overriding’ form inheres. A consequence should be that in a mixture all the elements are ‘overridden’ by the common form of a mixture, which alone can be treated as a τάσκεται and probably serves as an ‘ostensive’ analogue.

126 29, 31-30,1 Br.
127 30, 17 Br.: πῶς γὰρ ἐν ἐν τῷ ἐνθεμενῷ; φθορὰ γὰρ ἐκείνῳ ἐγένετο ἡ εἰς τὸ ἐνθεμενὸν μεταβολὴ.
of the substance-form. This is the most important ontological amendment to the reading of the ‘mixture’ theory of form, according to which the lower forms are ‘inherited’ by the higher ones. Apparently, they are inherited by being suspended *qua* forms.

This still does not provide us with a sufficient criterion of substantiality, although it gives us a necessary condition thereof: in order to be a subject a thing must be a separate entity and possess its own form. But the last two conditions are not equivalent. Accidental unities also have separate existence, but they do not have their own form *qua* accidental. ‘Musicality’ in Socrates is not a form, but an accidental quality. On the other hand, secondary substances and *differentiae* do not have separate existence. So, for a satisfactory account of form-substance, there needs to be, further, an account of substantiality.

4.2.3. The problem of substantiality.

Alexander turns to substantiality in the second part of the *ment.* 5. He re-states the problem as exegetical: in some places Aristotle seems to speak of the soul as being “in” a subject; how should we understand this?

Alexander indicates that Aristotle sometimes uses the expression *καθ’ ὑποκειμένου* to stand for the *ἐν ὑποκειμένῳ* of the *Categories*, as opposed to the *ὑποκείμενων* which is the first substance: so it might be that he means here that soul is “in a subject”. But the key point of his solution is that Aristotle likely in this case uses the expression *καθ’ ὑποκειμένου* to signify a particular mode of being of what is not a property, but still needs a substrate in order to exist. This is the way in which form is related to matter.

As we have seen, in the *Categories*, the logical form of *καθ’ ὑποκειμένου* expressions had to mirror that of the expressions for the first substances: the word “man” which is said about Socrates *καθ’ ὑποκειμένου* can be substituted for “Socrates” in all the basic contexts, yielding a well-formed sentence. But, while in case of the expressions *ἐν ὑποκειμένῳ* there was a clear ostensive procedure showing the ‘reality’ underlying the predication, in case of the expressions *καθ’ ὑποκειμένου* such a clear method was not there. In *Meta.* 2 Aristotle develops several elimination

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128 As Bruns notes, the references are, respectively, to *Phys.* II 1: 192b34 and *DA* II 1:412a18.

129 In this Alexander might be drawing on the *Posterior Analytics*, where Aristotle uses the term *καθ’ ὑποκειμένου* to refer to the incidental predication contrasting it with the essential. *An.Post.* I 4: 73b8: τά μὲν δὴ μὴ καθ’ ὑποκειμένου καθ’ αὐτὰ λέγω, τά δὲ καθ’ ὑποκειμένου συμβεβηκότα.
procedures to distinguish the notion of substance from close but different ontological concepts.130 These procedures are different, in accordance with the different aspects of substance that Aristotle considers, but they are supposed to converge on a single hylomorphic account. The expository method of mant. 5 is different: the hylomorphic standpoint is a given from the beginning.

Alexander begins with a dialectical argument stating that form is incorporeal: this will allow him to argue that of the two, body and soul, soul is form, because form is incorporeal.131 The form of the proof is familiar from the other parts of Alexander's work, specifically from the mant. 6, where similar reduction is used to prove the incorporeality of the qualities.132 The next question is in accordance with this theme of incorporeality: "Why is the soul, being entelechy, substance?"133 It is probably to be understood as follows: paradigmatic substances in the sublunary world (and Alexander explained in the introduction that his goal is to explain soul in terms of the nature of things of this world to which it belongs) are corporeal, while entelechy is incorporeal; so they way in which something is substance because of being entelechy needs an explanation. Alexander's explanation seems to be this: the principal formative parts of all the natural bodies, which are substances, are in turn also substances.134 Substance could not come to be from non-substances.135

He develops several arguments to prove this point. The first one (121, 17-23 Br.) begins with comparison between artefacts and natural substances: the artefacts are substances because they have natural bodies as their underlying substrates. But of the natural substances not only the substrate, but also form and entelechy, that is, that due to which each of them is a τόδε τι, is a substance.136 And animal is a natural substance, and soul is its form and actuality; for that reason soul is substance.

The second one has as a premiss that the natural substance is made up of natural form and matter. But the parts

130 See above, 2.2.3.1, pp.86-87.
131 121, 8 - 15 Br.: (1) εἰ τὸ εἶδος σῶμα, (a) ἦτοι χωρίς εἶδος ἦσσται αὐτῷ, (b) ἦ εἶδος ἦσσται τὸ σῶμα τούτῳ. (a) εἰ μὲν χωρίς εἶδος, ὁμοίος ἦσσται τὸ εἶδος. (b) εἰ δὲ εἶδος ἦσσται τὸ εἶδος, ἐκείνο (1') ἦτοι καὶ αὐτὸ σῶμα ἦσσται, καὶ ὃ αὐτὸς πάλιν ἐπ' ἐκείνου λόγος, (QED) ἦ, (1') εἰ ἀσώματον, ἦσσται καὶ τὸ πρῶτον εὐθημέρων εἶδος ἀσώματον.

(2) ἐτι. εἰ τὸ εἶδος ἐκείνο, ὃ ἦν σῶμα, εἶναι καὶ τὸ εἶδος ἐκείνου, καθ' ὃ τὸ συμματικὸν εἶδος ψυχῆς, ἤ ἀσώματον ὁ σῶμα ἦσσται. Εἰ ἀσώματον, τὸ δὲ ψυχῆ εἶναι κατὰ τὸ εἶδος ἐκείνον τὸ σῶμα, ἦσσται ἀσώματος ἡ ψυχῆ. Εἰ δὲ καὶ τούτῳ σῶμα, εἰ ἀπείρον ὁ λόγος προσελεύσεται.

132 mant.6: 123, 4-13 Br.

133 121, 15 Br.

134 121, 15 Br.: διὰ τι δὲ ἡ ψυχῆ ἐντελέχεια ὡσα ὡσίαι; ἡ πάντων τῶν φυσικῶν ὡσίων ἁπάντα χωρίως ὡσίαι. The last sentence is grammatically difficult. I supply <κατὰ> after ὡσίαιν, understanding as the suppressed premiss that entelechy is a principal formative part of a body. So the sentence would mean: "Perhaps it is <only> for all the natural things, which are themselves substances, that their principal parts are substances". Bruns supplies <γένεσις ἐπ> αὐτὸς ψυχῆν. Another possibility is to emend ὡσίων for ὡσίαι. I am grateful to Prof. Sharples for a careful discussion of this passage, which saved me from a number of errors. The use which I made of it and the remaining defects are my responsibility.

135 121, 21 Br.

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that make up natural substance are substances. Hence, form and matter are natural substances.\textsuperscript{137} This argument contains some shifting of the scope of the determiner in the conclusion (the conclusion should have been, strictly speaking, that natural form and matter are substances), but the point is very much the same as of the previous argument. The third argument is a somewhat expanded version of the one that we have encountered in de anima:

if the proper feature of substance is to be receptive of the contraries, in turn, and the soul is receptive of the contraries in turn (i.e. of vice and virtue), it should be substance.\textsuperscript{138}

Alexander considers in some detail the possible objections to the principle on which he bases his proof of substantiality of soul as form: substance has to be made up of substances. Someone might object: why could not substance be made up of non-substances, if it is possible for a body to be made up of non-bodies? For neither matter nor form are bodies, but the composite of the two is body.\textsuperscript{139} That is, we say: body is made up of form and matter; yet form and matter are not bodies. In like manner, when we say ‘substance is made up of form and matter’, form and matter do not have to be substances.

Alexander answers with a dialectical argument similar to the one developed in the de anima. In de anima the point to prove was that body can have incorporeal constituents, because these are not the ‘real’ factors of genesis. If the body came to be, it should have come from the non-body (in accordance with Aristotle’s “replacement” scheme of generation in Physics 1).\textsuperscript{140} The argument in mant. 5 differs from that of de anima in the context in which it is used: accordingly, it has a premiss concerning the unqualified generation of substance from non-substance.\textsuperscript{141} The rest of the argument coincides with that of de anima: Alexander says that form and matter are only separable conceptually, but they do not produce a substance by coming together, as though previously existing each on its own; rather in generation this particular body comes to be from that particular body, matter always being inseparable from form, so always with some form. The outcome of the argument is that the terms of genetic analysis are not the same as the terms of compositional analysis. This point could have been directed against a stoicising position, in which Alexander saw the coincidence of terms of both types of analysis, as we shall see in the next chapter.

But there still is a difficulty: how do we call parts of substance substances, but not parts of body bodies (matter

\textsuperscript{136} 121, 17-19 Br. \\
\textsuperscript{137} 121, 23-25 Br. \\
\textsuperscript{138} 121, 25-27 Br. Cf. de anima 14, 25 Br.: οὐσία μὲν γὰρ ἡ φοινικὴ καὶ τῶν ἐναντίων ἐπιδεικνυόμεν. \\
\textsuperscript{139} 121, 27-29 Br. \\
\textsuperscript{140} 121, 29-30: ἦ ἐὰν μὲν ἐγίνετο σῶμα, ἐδει αὐτὸ ἐκ μῆς σώματος γενέσθαι, πῶς γὰρ τὸ γενόμενον ἐκ τοῦ ἀνικερείτου αὐτῶ γίνεται. Cf. the expanded version in de anima, 6, 6-13 Br.
and form being by assumption parts of substance and parts of body). If we say that bodies are not literally made up by form and matter, which are both incorporeal, but only consist of them, why cannot we say in the same way that substances consist of non-substantial components? It is here that Alexander develops his positive, not just dialectical, account of the way in which the substantial components contribute to the being of a substance.

His solution to the difficulty is based on the sense of ‘part’ which he develops in the course of his interpretation of Aristotle. He distinguishes between the mereological sense of parts, on the one hand, and the sense proper to hylomorphic constitution on the other. So he says that form and matter are not mereological parts of body. This distinction between mereological and non-mereological sense of ‘part’ is an exegetic construction, based on two different texts of Aristotle. The first text, which also apparently provided the motive for such construction, is the definition of that which is ‘in’ a subject in the Categories, according to which that is “in” a subject which is “in” something inseparably, but not as a part. This is how Alexander understood the Categ. 2: 1a24: ἐν ὑποκειόμενον δὲ λέγω, ὡς ἐν τοι μὴ ὡς μέρος ὑπάρχει. It is unclear whether Aristotle ever intended mereological sense, but at least when he invokes it for the second time, he clearly means ‘part’ as ‘part of account’, and uses this definition to withdraw the differentiae from the class of accidents.¹⁴²

But Alexander takes this as a ground to withdraw matter and form which are of course inseparably in the composite substance, from the scope of definition of an ‘accident’. The second text is an entry on ‘part’ in the philosophical lexicon of Metaphysics Δ 25, which lists among other meanings of ‘parts’ form and matter.¹⁴³ Alexander in his commentary uses for this case the terms ‘the whole body’ and ‘the whole’ interchangeably, does not use ‘substance’ (οὐσία) in the strong hylomorphic sense, and generally, as it seems, finds it necessary to explain this case. He says that the examples that Aristotle adds are of ‘that which has form’, divided as a whole. It seems that he still perceives this sense of division as less conventional.¹⁴⁴ But in the mant.5 Alexander certainly assumes that this conception of form and matter as parts of a composite substance is central for the hylomorphic doctrine of Aristotle, otherwise he would not substitute the “hylomorphic” meaning in the Categories definition.

¹¹² 121, 30-31 Br.: ὁμοίως καὶ, εἰ οὐσίας ἐν γένεσις ἀπλώς, ἐκ μὴ οὐσίας ἐν ἑγκεντρ.
¹¹³ Categ. 5: 3a27: μὴ παρατίθεται δὲ ἡμᾶς τὰ μέρη τῶν οὐσιῶν ὡς ἐν ὑποκειόμενοις ὡς τὰς ὅλις, μὴ ποτὲ ἀναγκασθεῖσιν οὐκ οὐσίας αὐτὰ δύναμιν εἶναι οὐ γὰρ οὕτω τὰ ἐν ὑποκειόμενον ἐξενεγετῶ τὰ ὡς μέρος ὑπάρχουσα ἐν τοι. Cf. Ackrill 1963, p.86: “The differentia seems to be part of the ‘what is it’ of a secondary substance, and this provides a strong motive for assimilating it to substance even while distinguishing it from species and genera”.
¹¹⁴ Met. Δ 25: 1023b19: ἐτὶ εἰς ἀ διαφανεῖς ἡ ἐξ ἀλλὰ συνήχεται τὸ ὅλον, ἢ τὸ ἔνδος ἢ τὸ ἔχον τὸ ἔδος, ὅπως ἡ σφαίρας τῆς χαλκῆς ἢ τοῦ κόλπου τῆς χαλκοῦ καὶ ἡ χαλκοῦ μέρος (τούτο δὲ ἐστὶν ἡ ὅλη ἢ ἡ τὸ ἔδος καὶ ἡ γυναὶ μέρος).
¹¹⁵ ὅτι δὲ τὸ ὅλον ἢ τὸ ἔδος ἢ τὸ ἔχον ἔδος συμβαλλον ὡς ἑν μὲν ὡς τὸ σώμα ὅλον, ἢ ὡς διαίρεσις ἐστὶν ἐις τὰ μέρη τὰ συμπληροῦσα τὸ ὅλον σώμα. (...) τὸ δὲ ἔχον ἔδος τὸ ὅστις ὅλον ὡς συναμφότερον, ὡς ὡς συναμφότερον πάλιν μέρη τὸ ὑποκειόμενον σώμα. (...) καὶ τὸ ἔδος. (...) καὶ ἐστίν αὐτὰ παρατίθεται παραδείγματα τοῦ ὑστέρου τοῦ ἐχθροῦ ἔδος καὶ ὡς συναμφότερον διαφορομεθεν κτλ. (424, 26-37Ε.)
Alexander explains that form and matter as parts of a sensible substance ‘complete’ it, as mereological parts ‘complete’ the body. He uses the term συμπληρωτικά to characterise the function of ‘completing’ in both cases.

The character of completing is of course different in the two cases:

η οὖν ἐστι τὸ εἶδος καὶ η ὕλη ὡς σώματος μέσο, σώματος μὲν γὰρ μέρος τὰ συμπληρωτικά τοῦ σώματος, ταύτα δὲ (scil. εἶδος καὶ ὕλη) οὐ συμπληρών τὸ σῶμα. ὡς δὲ οὕσας ἐστι μέρος διὰ ταύτα, οὐ μὲν ἐστι μέρος, τῆς αὐτῆς φύσεως ἐστὶν ἑκεῖνη, οὐ δὲ μὴ ἐστι μέρος, οὖν ἐστι ταύτα ταύτα. (122, 7-10 Br.)

This distinction between the two types of containment is finalised by Alexander in quaest. I 8 which adds a new characteristic to the manner of form’s presence in matter, and soul’s being in body. This treatise begins with a statement of the problem which we have mentioned in the end of the discussion of the problem of subject: the parts of accidental entity also complete it, so on this ground there is no way to tell between the form and the accidental characteristic which makes the accidental entity (‘musical Socrates’). This is the main point of the objection that provides the content for this quaestio, which Bruns classified as a problem in the proper sense. 146

Alexander begins his reply with introducing a distinction between that which makes a part of substance and that, which does not.147 He describes the analytic procedure by which the incidental characteristics should be distinguished from non-incidental ones.

One must conduct the enquiry as to whether the thing in question is in something as in a substrate or not, by taking some thing in which this object of enquiry is, but [concerning which] there is an enquiry as to how it is in it. For the person who shows that white is in a body as in a substrate takes some body in which white is and, showing that it is in the body neither as a part nor as being able to be apart from it, shows that it is in it as in a substrate. So the person who is enquiring about the form, whether it is in a substrate or not, must take something of such a sort, the form being in it already, and the enquiry being how. (17, 23-31 Br., Shariples transl.)

The character of the procedure that he outlines reflects Aristotle’s procedure of elimination of the non-substantial entities in Meta. Z 4-6, that was discussed in chapter two. It also has a clear tendency to the ontological

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145 The term is never used technically (or at all) by Aristotle, but it seems to be common in the tradition of the commentaries. Simplicius cites as using it Lucius (48, sq. Kalb.), probably Boethos (98, 1 Kalb.), Archytas (338, 33), definitely Alexander’s teacher Herminus (55, 22 Kalb.: ό δὲ ἐμίλως τὰς συμπληρωτικὰς οὐκ ἄξιοι διαφορὰς καλεῖν, ἀλλὰ μόνας τὰς διαφορικάς), and Porphyry, who was likely a reader of Alexander (48, 21 Kalb.).

This term is also found in the doxographical sources for the Stoic ethics. Plutarch, comm. not. 4: 1060c (=SVF III 146); Sext. math. XI 30 (=SVF III 73), DL XVII 96 (=SVF III 107), Origenes, comm. in Math. (=SVF III 477), Stob. ecl. II 71, 15 (=SVF III 106). I am grateful to Prof. Inwood for drawing this to my attention.

146 17, 12 Br.: πρὸς ἀντιπέπτει τὰ καὶ τὰ σώματα βοηθεῖται μὲν πρὸς τὸ εἶναι ἐν υποστάσει ὑπὸ τῶν συμβεβηκότων, εἰ γε πᾶν σῶμα ἀνάγκη μετὰ σχῆματος εἶναι τῶν καὶ χρώματος, ἀναλογεῖται δὲ ταύτα ἐν υποκειμένῳ εἶναι τού σώματος. Οὐκ αὐτάρκεις οὖς πρὸς τὸ μὴ εἶναι ἐν υποκειμένῳ τοῦ διὰ τὸ συνελεύθερον ὑπόκειμένῳ αὐτῷ εἰς τὸ εἶναι ἐν υποστάσει. Bruns, VI-VII. Shariples 1992, p. 43, n. 106 gives a reference to DC I 9:278b1-2, where “Aristotle refers to things that have their being in some underlying matter” and Alexander’s explanation of this phrase ap. Simpl. in cael. 279, 5 W.
interpretation of logical account of substance.

But it might be objected that white colour, while being in a subject, in fact does contribute to the real existence of a body in which it is. So nothing prevents form, which also contributes to the existence of the matter in which it is, from being treated as "in a subject". The terms that I have rendered here by one term 'existence' are in fact two: in the first case it is in υποστάσει, in the second case the contribution is πρὸς υπάρξει of matter. Alexander's solution of this difficulty is based on the distinction between οὐσία on the one hand and υπάρξει / υπόστασει on the other hand.

The terms υπάρξει and υπόστασει are not from Aristotle's philosophical lexicon. The common way in which Alexander uses these terms in his works reflects partly the usage of contemporary school literature and partly (this pertains almost exclusively to the term υπάρξει), his own technical usage in the commentaries on Aristotle's logical treatises, where it is a substantive from the Aristotelian verb υπάρχειν. The meanings suggested by common usage are 'subsistence of thing on its own', 'real existence', 'mode of existence with reference to the ontological source' (especially for υπόστασει), 'real being as opposed to a cognitive appearance or mental being'. Common usage does not suggest a theoretical distinction between υπάρξει / υπόστασει on the one hand and οὐσία on the other hand, as Alexander draws it here (even though Alexander's distinction makes some use of the common school meanings).

Alexander describes this distinction as follows. First, if something is said to be in another thing as in a subject, the subject has to be real: it is impossible to be as in a subject in what does not exist. Next, things that contribute to this reality of a subject are of two kinds. (a) There are things that contribute only to its being υπόστασει, but not to its being a τόδε τί; these are said to be in it as in a subject. A thing can undergo change with respect to them, still preserving its proper nature. (b) There are things that contribute not only to its τό ύφεστάναι, but also, and principally, to its being a τόδε τί. If a thing undergoes change with respect to these properties, it cannot remain what it was. These are not in it as in a subject.

The property of being literate is in a man as in a subject, because the (hypothetical) removal of this property does

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147 It is not clear that Aristotle himself intends the hylomorphic sense in this definition in the Categories 2 (1a24). Cf. also note 139 above.
148 18,5-8 Br.
149 A general brief survey of Alexander's use of this term, with some pre-history, is to be found in the Appendix III.
150 In particular the distinction between ἐν οὐσίᾳ and ἐν υποστάσει / υπάρξει gets a new meaning in the Aristotelian context. Cf. for this the beginning of mant. 1: 101, 8-10.
151 quaeśi. I 8: 18, 11 Br.: τὸν δὲ τούτον συντελοῦσαν πρὸς τὸ εἶναι υποστάσει τε καὶ κατ' ἐνέργειαν τῷ εἶναι ἐν αὐτῷ, ὥσα μὲν ἐν αὐτῷ μόνον εἰς τὸ υποστάσει εἶναι συνελεί, μηκέτι δὲ καὶ τὸ τόδε τίνι εἶναι, (ταῦτα ἐν ὑποκειμένῳ αὐτῷ εἶναι), (καθ' ἄ γὰρ τι σύκον τῷ συκείαν φύσιν οὗ τε μεταβάλλειν, ταῦτα ἐν ὑποκειμένῳ ἐστὶν αὐτῷ), ὥσα δὲ μὴ μόνον εἰς τὸ ύφεστάναι, ἀλλὰ πολὺ πρότερον εἰς τὸ τόδε τίνι εἶναι συνελεί τινι, καθ' ἂ μεταβάλλοντα οὕνεθ' οὗ τε καὶ τὸ τόδε τίνι, ταῦτα δὲ μηκέτι εἶναι ἐν αὐτῷ ἐναὶ ὡς ἐν ὑποκειμένῳ.
not cancel this man's human nature. But soul is not in a man as in a subject, because its (hypothetical) removal does away with a human being. This, Alexander says, is because soul contributes to someone's being a man rather than to his being (in possession) of a certain quality, or quantitative characteristics, or a certain location.\textsuperscript{152} So, ύπαρξις and ύπόστασις designate the mode of being which should be determined with respect to all other categories, not only substance.

Alexander states two main reasons why natural form cannot be in a subject: first, the subject that can receive anything "in" itself, should exist as a τὸ ἐν τῷ independently of the property which is "in" it; but nothing is a τὸ ἐν τῷ without a form;\textsuperscript{153} second, the inherent properties are different from the subject in which they inhere in that it can exist without them, but they cannot exist if their subject is hypothetically removed.\textsuperscript{154} We have seen that the effectiveness of both reasons really depends on how we interpret τὸ ἐν τῷ. In this quaestio Alexander seems to tell us that τὸ ἐν τῷ which is constituted by form and matter is in the category of substance taken without any accidents, which are all in the remaining nine categories.

The accidents are all real parts of thing's being; some of them are constant concomitants of things of particular sort. They are distinct from substance by type, although they may have the same extension.\textsuperscript{155} The meaning of the distinction between ύπαρξις and ύπόστασις on the one hand and τὸ ἐν τῷ and φύσις on the other is this: ύπαρξις and ύπόστασις refer to the range of possible variation of categorical qualifications within which τὸ ἐν τῷ and φύσις can change without ceasing to be the same τὸ ἐν τῷ and φύσις.

From this analysis we can see that 'form-substance' for Alexander has primarily logical function: it expresses the logical form of a complete thing, that is its essence. This is what form, as part of substance, contributes to the substance: a τὸ ἐν τῷ. Next, each τὸ ἐν τῷ, insofar as it must possess real existence, has to be determinate with respect to other categories, apart from substance. This kind of being, ύπαρξις, is only partly determined by form: formal principle allows for some variation within a range set by form. Formal constraints on variation may bring about invariable patterns in certain properties; the explanation of it found in Alexander has to do with the way in which certain properties are involved in the process of generation of a thing. All of this is in a good agreement with the doctrine of Aristotle's \textit{Metaphysics}.

But notably, distinct from Aristotle, Alexander wants to keep also the 'elemental' hylomorphism on the level of the simple bodies. The compatibility of two accounts has to do with the problem of matter, which I am going to

\textsuperscript{152} quaest. I 8: 18, 22-23 Br.
\textsuperscript{153} quaest. I 8: 18, 24-30 Br.
\textsuperscript{154} quaest. I 8: 18, 30-19, 3 Br.
consider now.

Prof. Ellis has noticed that the characteristic feature of Alexander's solution of the hylomorphic problem in the school treatises, which makes it Aristotelian, is the emphasis on the dependence of matter on form.\(^{156}\) He has listed the following key principles of Alexander's solution of the problem of "being in a subject":

\(\text{(T)}\) \(\tau\omega\delta\varepsilon\ \tau\iota\) requirement: if \(x\) is a subject for an inherent property \(y\), then \(x\) is a \(\tau\omega\delta\varepsilon\ \tau\iota\) independently of \(y\).

\(\text{(T')}\) corollary to (T): since matter has no actual existence apart from form, there can be no question of form being in matter in the first place.

\(\text{(C)}\) constituent condition: \(x\) is a constituent condition of \(y\) if \(x\) is a part of the being of \(y\) (or contributes to \(y\)'s being a \(\tau\omega\delta\varepsilon\ \tau\iota\), or completes the being of \(y\)).

\(\text{(CP)}\) constituent principle: if \(x\) is a constituent condition of \(y\), then \(x\) cannot be in \(y\) as in a subject."\(^{157}\)

Ellis' analysis makes full sense for form: form does satisfy the constituent condition as well as the \(\tau\omega\delta\varepsilon\ \tau\iota\) requirement: it completes the being of a substance and it does not exist independently from this substance. The case of matter seems to be more difficult, particularly given what we have seen of Alexander's "combinatorial" account in the third chapter. Matter does satisfy the constituent condition: it completes the being of substance; but the nature of this completion has to be clarified, because it may be in conflict with the \(\tau\omega\delta\varepsilon\ \tau\iota\) requirement.

We know that according to the 'mixture' theory, only prime matter is intrinsically not a \(\tau\omega\delta\varepsilon\ \tau\iota\), and it does not exist without form. Matter of the composite things should be somehow qualified, because it consists of elements. Moreover, the mixture theory suggests that it is qualified due to the combination of lower forms that 'contribute' to the being of a higher form. In the de anima, as well as in the mantissa, Alexander does apply the term \(\tau\omega\delta\varepsilon\ \tau\iota\) to mass-terms (elements and homoiomerous materials) rather than individual substances.\(^{158}\)

In the end of quaest. I 8 Alexander formulates the principle of relation between form and matter. He uses, here too, the example of wax, which he uses in the beginning of the de anima to illustrate the inseparability of matter from form (that is, to say that the prime matter cannot exist without any form in the absolute sense).\(^{159}\) But here the use he makes of it is different. He apparently wants to modify the sense of the wax analogy so as to say that even though wax cannot exist without any form at all, still any given form as such is wholly dispensable.\(^{160}\)

But Alexander says that form is not related to matter in this way. In fact form and matter are in the category of

\(156\) Cf. also Alexander's treatment of inseparable qualities, in top., 50, 21-51, 4 W., discussed in Ellis, op. cit., p. 87.

\(157\) Ellis 1994, p. 80.

\(158\) Ellis 1994, p. 83.

\(159\) de anima 6, 18-19 Br.: \(\tau\omega\delta\varepsilon\ \mu\varepsilon\ \tau\iota\ \tau\iota\ \tau\iota\ \iota\ \varepsilon\iota\ \chi\iota\ \mu\iota\ \iota\ \chi\iota\ \mu\iota\ \iota\ \varepsilon\iota\ \tau\iota\ \varepsilon\iota\ \chi\iota\ \mu\iota\ \iota\ \varepsilon\iota\ \chi\iota\ \mu\iota\ \iota\ .\)

\(160\) quaest. I 8: 18, 32-34 Br.: καὶ γὰρ εἰ μὴ οἷον τε κυράν εἶναι χωρίς σχῆματος, ἀλλὰ χωρίς τούτου τοῦ σχῆματος, ὃ νῦν έχει, οἷον τε αὐτῶν εἶναι.
“relation”, and so they cannot exist separately from one another. That is to say, matter cannot exist without form. This thesis is ambiguous. It may mean, particularly if we take the standpoint of *de anima*, that wherever there is matter, there is some form. The prime matter which is qualified by the primordial qualities always exists inseparably from the elements. All the other bodies are made up by combinations of the elements, which are forms, because their constituents are formal (incorporeal) aspects of the elements. Presumably, wherever there is a combination of the elements, there is some form. On the other view, a given form has to be realised only in matter which is worked up in a given way.

In our *quaestio*, Alexander raises the question: is it possible to say that about matter, too, that it cannot be without any form at all, and yet can dispense with any particular (*τοῦτος*) form at any given moment (on condition that it will be replaced by some other form)? This mean a re-statement of the question of *manti.5*: does matter relate to form as substance to the accidents? In *de anima*, where the “wax” was taken as a parallel to the prime matter only, the answer could be, yes. But here his reply apparently is “no”; he lays a restriction on the analogy, saying that it will probably not work in case of the soul: the soul cannot come about in any other body, except the organic, of which it is itself part, whereas the shapes of wax come about not in any determinate body.

The problem that still remains is that of the relation between the two accounts of matter within the hylomorphic theory. According to Alexander’s solution of the hylomorphic problem which has been just considered, matter is also a part of substance, and thus satisfies the “constituent condition”. But according to the “complexity” theory, the matter of the composite bodies already possesses some form, because it consists of the elements, each of which is a substance made of simple form and prime matter.

The question ultimately should be: does every combination of elements amount to some form, and if yes, does that mean that the ultimate principle of all forms except the primordial qualities is the principle of combination of the elements?

Alexander is probably aware of this problem, as the school treatises show several strategic moves that he makes to avoid this kind of conclusion, while still retaining both concepts of matter. We have already noticed his attempt to bring together the two different schemes of generation, and consequently, the two different hylomorphic models of substance, in *quaest. II 20*, where the combination of two accounts prepares a split in the meaning of *τοῦτοι*
the one hand, it should refer to a thing in possession of a ‘common form’ made up by elemental constituents; on the other hand each elemental form, said to be a τόδε τι on its own, is a τόδε τι in any of its states, not just when necessitated from ‘top’.\footnote{164}

Another interesting evidence of Alexander’s struggling with this problem is found in \textit{quaest.} II 24.\footnote{165}

The title of the treatise, classed by Bruns as an exegesis of Aristotle’s text, is “Explanation of a passage from the second [book] of Aristotle’s \textit{On the Soul} stated a little after the beginning: ‘We say that one kind of the things that there are is substance, and that of this one [sort we call substance] as matter, which in itself is not a definite something; another is shape and form, according to which [a thing] is now called a definite something; and thirdly there is the product of these’”.\footnote{166}

Alexander here tries to explain the hylomorphic postulate that matter is not a τόδε τι without form, using his ‘mixture’ version of hylomorphic theory. Notably, he begins with a distinction between the simple and composite bodies. The case of simple bodies is clear: prime matter is by definition without qualities, and is not found without form. The case of the composite bodies is different: since their proximate matter is not prime matter, but rather the bodies that underlie them, even if those are simple bodies, their matter is a τόδε τι. However, that which comes to be from these simple bodies has its being what it has become not from the matter and the form of that matter, but rather from the form of that which has come to be in a particular composition and combination of the underlying bodies.\footnote{167}

For it is not the case that since fire, air, water and earth are the matter of flesh, flesh gets from them its name and being; rather it is from the form which came to be in these, due to which the flesh that has come to be out of these has its being.\footnote{168}

For these elements, first of all, are not preserved in the flesh, says Alexander. He does not mean that the elements lose their qualities, but he probably means that the ‘pure’ states of the elements when they are in combination are

\footnote{163} \textit{quaest.} I 8: 19, 6-9 Br.: \emph{ἐὰν \ εἰ \ υἱὸς \ ὦκ \ ἐν \ ἄλλῳ \ τίνι \ σώματι \ ἢ \ ἐν τῷ \ ὄργανῳ, \ τούτου \ οὐ \ ἐστι \ ἁμαρτία, \ οὐ \ ἐν \ \ ὑποκείμενοι, \ τῶν \ τῇ \ σχημάτωι \ ἐκαστοῦ \ οὐ \ ἐν \ ἄφοβοις \ γίνεται \ σώματι.}

\footnote{164} 64, 21-24, where being a τόδε τι in case of the elements is specifically connected with a capacity of changing into another.

\footnote{165} This \textit{quaestio} was taken by Moraux as an example of Alexander’s inconsistency in his doctrine of the soul, Moraux 1942, p. 43-46.

\footnote{166} 74, 31-75.2 Br. Sharples transl.

\footnote{167} 75, 10-13 Br.: \emph{ἐὰν \ μὴ \ τοῖς \ ὑπὸ \ τόδε \ τί \ οὐ \ μὴ \ τοῦ \ γενόμενον \ ἐξ \ αὐτῶν \ τὸ \ εἶναι \ τοῦτο \ ὅ \ γέγονεν \ ἀπὸ \ τῆς \ ὑλῆς \ ἐμοί \ καὶ \ τοῦ \ ἐκείνης \ ἐιδοὺς, \ ἀλλ᾽ \ ἀπὸ \ τοῦ \ εἶδος \ τοῦ \ γεγονότος \ ἐν \ τῇ \ ταύτῃ \ συνθέσει \ τε \ καὶ \ μίξει \ τῶν \ ὑποκείμενων \ αὐτῶν \ σωμάτων.}

\footnote{168} 75, 13-15 Br.: \emph{οὐ \ γὰρ \ ἐπεὶ \ πάρ \ καὶ \ αὕτη \ ἢ \ ᾧ \ ἡ \ ὑλή \ σαρκί, \ ἢ \ σάρξ \ ἀπὸ \ τοῖς \ σάρξ \ καλείται \ τε \ καὶ \ ἐστὶν, \ ἀλλ᾽ \ ἀπὸ \ τοῦ \ γεγονότος \ ἐν \ αὐτοῖς \ εἶδος, \ καὶ \ ἂ \ τὸ \ εἶναι \ ἐστὶν \ τῇ \ ἐξ \ αὐτῶν \ γεγονοῦσα \ σαρκὶ.} Moraux 1942, p. 44, interprets this sentence as referring to the process of actual formation of flesh in the process of growth and reproaches Alexander
reduced by mutual tempering and should not be regarded as those of 'full-fledged' separate substances. This is
never pronounced explicitly, but is implied by his postulate of 'one form' of a composite substance. Alexander
further says that ontological status of complex matter with respect to complex forms is the same way as that of the
prime matter with respect to the simple forms. As in that case the matter is not by itself a τόδε τί, being absolutely
without qualities, but gets its being 'a definite something' from the forms of the elements it takes on, in the same
way the proximate matter of the composite bodies has its being a τόδε τί not from the forms of the bodies which
inhere in it, but rather from the form which comes to be from them and by them. 169

And for this reason it is generally true that that from which each composite substance has its being what it is, is
its form. Alexander does not explain what happens to the forms of the elements, he just says that they do not
determine the being of a thing that comes to be from a mixture. There are also two contradictory statements in this
passage: Alexander first says that matter of the composite bodies is a τόδε τί, 170 but then he comes to saying that it is
not a τόδε τί. Apparently, we may assume a shift of meaning between the two cases. Matter is certainly a τόδε τί
because it does possess some properties; but the properties that it possesses do not amount to form, even though, as
the de anima tells us, they contribute to a form of the whole in some (not further specified) way. The problem of
co-ordination between the two senses of τόδε τί still remains.

We may notice that Alexander's approach to the problem of substance is by way of systematic distinctions on the
ontological level: following Aristotle, he distinguishes the two types of subject, determinate (which can take on
properties) and indeterminate (which cannot take on properties and corresponds to the matter of sensible
substance). The determinate subject in this case becomes determinate in virtue of form.

He distinguishes between οὐσία and ὑματικός, a distinction which could be explained as the one between the
essence and the range of (material) variation allowed by this essence. He attempts to interpret the difference
between the two meanings of τόδε τί with the help of a distinction between the two kinds of substrate in case of the
elements and the compounds, which may still amount to treatment of the elements as a separate ontological level.
In the next section we shall consider some logical aspects of the notion of enmattered form which have
consequences for ontology.

for not distinguishing between the processes of growth and generation, but it is not clear that Alexander here means
specifically the real process of growth rather than a generalised scheme of generation which he indeed assumes.
169 75, 23-6 Br.: οὕτως οὖν τά σύνθετα σώματα, αἷς ἢ ἄλλη προσεχείς ὥσπερ τόδε τί ἐστιν, τόδε τί εἶναι ἐξαί ἀπὸ τοῦ τῶν ὑποκειμένων αὐτοῖς συμμετέχων εἴδους, ἀλλ' ἀπὸ τοῦ ἐξ ἑκείνῳ τε καὶ ἄπτ' ἑκείνην γενομένου.
170 Cf. his characterisation of the matter of complex bodies as being μετὰ εἶδους τῶν, de anima, 4,6.
4.3. Logic and ontology of enmattered form.

We have seen that the theory of form-substance lays some constraints on the ‘elemental’ type of formal constitution, forbidding the ‘plurality of essences’ within one composite, thus suspending the status of elements as substances in a state of mixture, and treating form as a substantial component of substance as opposed to the sum total of qualifications with respect to all the non-substantial categories, for which he introduces the technical terms ὢπασταιc and ὢπαστασίας. In this section we are going to see some further constraints on the formal constitution ‘from bottom up’, laid by the theory of enmattered form. I begin by considering Alexander’s notion of enmattered form, then I deal with his discussion of ‘analogical’ definition and the problem of universals and finally I consider the distinction that he draws between genus and matter.

4.3.1. The logic of enmattered form. (quaest. I 26).

In quaest. I 26 Alexander addresses a problem whether form is present in matter per se or as an accident. He begins with laying out difficulties involved by each of the assumptions\(^{171}\), starting with that of being per se: if form were in matter per se, then form would be per se in the being (ὠσία) of matter. Suppose form is in the being of matter.\(^{172}\) Indeed, matter cannot be without its proper form; rather, when the form has passed away or separated, matter can no longer remain the same matter, of which that form was the form, so that the presence of form has its part in the being of matter.

So form belongs to matter in itself as being in its being, just as ‘human being’ [belongs in itself] to ‘living creature’ and to everything that is in [human being’s] being and belongs to him in itself. (41, 28-42.3, Sharples trans.)

The claim seems to be that form belongs to matter καθ’ αὐτῷ, in the same way as species (form) belongs to genus καθ’ αὑτός. According to Alexander’s theory, to be considered shortly, the real existence of genus in each particular case depends on the existence of an instance which has adequate hylomorphic structure (form that corresponds to the species subsumed by genus). Species belongs to a genus not accidentally, but per se. This might be a reason to

\(^{171}\) Bruns, p.vii, n. 1, registers two problems with the passage 41,25-42,3: (1) the sentence at 41,25: ἦ καὶ ἐν τῇ ωσίᾳ ἐτι τῆς ὑλῆς ὑπὸ ἕνωσα breaks the sound sequence of an argument. He suggests that with these words olim in margine lector totius capitis argumentum comprehendit. (2) this first difficulty (which begins at 41, 24) is unfinished, as it seems to be not yet led to the end, where at 42,3 the particle ἐν signals the start of a new one. Sharples marks that the paragraph 41,25-42,3 seems to be misplaced (Sharples 1992, p.87, n.275). A mechanical solution could be achieved by transposition of the sentence at 41,24 ἀλλ’ εἰ τάτο, συμφθείνοντ’ ἂν ἡ ὧλὴ τῷ εἶδει φθινομένη to line 42,3 after ὑπάρχοντι αὑτῷ. In this way we would have one horn of dilemma ‘closed’ by a new series of difficulties, contra the ἦ - thesis at 41,25.
say: but in this case matter would perish with the perishing of form; this conclusion cannot be allowed by the theory, as is suggested by the end of this *quaestio*.\(^{173}\)

The concept of matter that Alexander uses in this assumption is the ‘relational’ one of the kind he uses in *quaest.* I 78, but the conclusion that matter should perish accordingly as form perishes does not satisfy him. The ‘relational’ matter in this case will cease to be part of common material principle. The relation between form and matter should be somehow reviewed so as to ensure the eternity of matter and yet preserve the relation as real relation, i.e. where both terms are real.

The next difficulty states that if form were part of the account of matter, then the nature of matter would be not “receptacle of forms”, but “forms themselves”.\(^{174}\) Finally, Alexander says that under this assumption each (part of) matter should (i) either have all forms (ii) or only some. But (i) is impossible, because among the enmattered forms there are opposites, as can be seen in case of the elements; also if each (part of) matter had all the forms in itself, there could be no generation. But if (ii) each (part of) matter had a different form, then each hylomorphic composite would be indestructible. For if it were perishable, then matter too would have to perish along with it, but it has been shown that it is eternal.\(^{175}\) All these difficulties are caused by the assumption that form is part of the account of matter.

Next, Alexander considers and rules out the possibility that form should belong to matter incidentally. He gives two arguments, both based on the notion of incidental being as being in a subject. The first one states the impossibility of the inherence of incidental properties in matter as in a subject. They will either be substances, but this contradicts the assumption of their incidental character;\(^{176}\) or else the composite will be made of matter and incidental properties, but such a composite cannot be substance in the unqualified sense.\(^{177}\) The second argument is based on a theory of subject, familiar from *mant.* 5 and *quaest.* I 17, but it is worth considering because it involves a more detailed version of counterfactual reasoning.

Alexander says that under the assumption under examination, if (i), *per impossibile*, matter were capable of being without form, then form could be in it incidentally; but if (ii) its existence (*emperatiae*) is with form, and the form is

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\(^{172}\) Transposing the sentence at 41.24 as suggested in the previous note.

\(^{173}\) Cf. also *quaest.* II 28, where the numerical persistence is listed among the differences between matter and genus: 78, 20 Br.: καὶ ἡ μὲν ἐνίκη καὶ κατ’ ἀριθμὸν ἄδοκας, τὸ δὲ γένος τῷ ἐστὶν τὸ ἄδιδαστον ἐστὶν καὶ τῇ τῶν μικρῶν ἀπεκλείστῳ διαδοχῇ, τὸ δὲ καθέκαστα ὁδάστον ἀντικ. 74, 3-4 Br.

\(^{174}\) Alexander characteristically tends to isolate matter as a general principle. Cf. this with his treatment of the first principles cited in chapter two.

\(^{175}\) 42, 10-11 Br.

\(^{176}\) 42, 11-14 Br.
in it as in a subject in such a way that this matter is with form, really existing (ἐν ἐμοτάσει) and already a body, then (iia) either it will be in that body-with-form, from which matter had changed into this one (described at (ii)); but this is impossible: how can one say that an X can be in Y which is passing away in the course of change which leads to formation of X, if X cannot come to be in this change when Y is preserved?; or (iib) the form will be in the matter which has this form into which it has changed. But this cannot be either, if this body has its being from matter and this form, for nothing is incidentally in itself.

The solution that Alexander offers is based on the second of the two meanings of καθαιρό in An. Post. 1: 73a35. Aristotle says there:

I describe one thing as belonging per se to another (i) if it is an element in the essential nature of the other, as e.g., a line belongs to a triangle and a point to a line (for the line or point is a constituent of the being of the triangle or line, and is an element in the formula which describes its essence); (ii) if it is an attribute the formula of whose essence includes the subject to which the attribute itself belongs. E.g., 'straight' and 'curved' belong to 'line', 'odd' and 'even', 'prime' and 'compound', 'square' and 'oblong' belong to number; and the formula of the essence of each one of these includes line or number respectively. Similarly in all other cases I describe all terms of either of the kinds just described as belonging per se to their several subjects; whereas such as belong in neither of these senses - as e.g. 'cultured' or 'white' belongs to 'animal' - I call accidents. (Forster transl).

Alexander says that as in those cases the account contains reference to a 'subject' of an attribute, in the same way the account of the enmattered form might need to include reference to its matter. Such are, according to Alexander, the accounts of flesh, and bone, and hand and face. Defining soul as the enmattered formula, we also assume in its definition that 'of' which it is, its "subject". It is referred to by the words "natural organic body" in the definition of the soul.

The logic of such concepts should be similar to the logic of the concepts 'odd' and 'even' with relation to the concept 'number'. Just as not every number is odd, and not every number is even, while everything which is odd is a number, in the same way it is with matter and form. Namely, not every matter is with a particular form, but every enmattered form is in matter, and just as in the former case the notion of number is not done away with by the change from odd to even, while odd and even, in turn, are done away with in the change; in the same way matter does not perish in the change between the forms, though forms do pass away, as matter takes on the newer ones, in the course of change.\(^\text{179}\)

Alexander does not explain here how he means that not every matter is with a "certain definite form": it can be understood as meaning that (a) that not every matter has a form that makes it into a definite something: this would

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\(^{178}\) 42,14 Br. it seems that τὴν ἐκ τὰ ἐκδη μεταβολὴ also have to be bracketed (the odd and even have not been described as ἐκδῃ in our text, and this is not suggested; also cf. v.15).  
\(^{179}\) I am grateful to Prof. Magee for the discussion of this passage.
involve the existence of 'loose matter' in the universe and suspend the 'combination' theory of form. It would mean that not every combination of primordial properties amounts to a form; (b) every matter has some form, but not every matter has the form of such and such particular kind. In this case we have the complete continuity of forms, only the source of forms that are structurally specific remains unclear.

Perhaps the mechanism of relation between matter and form should be seen as follows. Matter which is in 'relation' to its form and which ceases to be the matter of this form when form perishes, is part of the matter which is 'common' to all forms and persists in all the changes of forms. So, the 'relational' matter of a compound ceases to be as matter of this compound but persists as a part of common matter. This common matter, in turn, although it persists in the changes of forms, cannot exist without any form at all. So the destructibility of forms seems to be compensated by the principle of 'continuum of forms', according to which when a form perishes, the part of common matter that persists finds itself with some other form. The hylomorphic principle thus is continuous and persistent in all changes.

4.3.2. Universal predication (quaest. I 11).

In this subsection I will try to show that Alexander's treatment of the problem of universal predication has its bearing on his hylomorphic theory.

Quaest. I 11 has to do with the so-called problem of "analogy" in Aristotle's definition of the soul. In DA II 3 Aristotle says:

Hence it is clear that the unity of account would be of the same type in case of the soul and in case of shape. For neither is there in that case shape apart from the triangle, and all the subsequent figures, nor in our case is there soul apart from the mentioned things. But it would be possible to make a common definition for the shapes, which would satisfy all, being proper to no particular shape. The case is similar with the souls about which we have talked. For which reason it is ridiculous to look for the common definition in case of these and in the case of other things (like these), while at the same time dismissing this one; for this common definition will not be a proper account for a particular, nor be applicable to a proper and indivisible form. (414b20)

In my presentation of the problem I shall use in part the analysis of A.C.Lloyd 1962, who used the term P-series for
series with precedence. Consider the following two ordered groups of terms:

(1) (Division of genus by *differentia*):

```
    Animal
     \   /  \
      \ /    \
  biped - footed - quadruped
     |        |        |
  man      horse  dog
```

(2) Ordered series (P-series):

```
Triangle -> Quadrangle -> Pentagon -> Hexagon -> .......... -> (Figure)
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The notion of "soul" is like the last series. We have:

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Vegetative -> Sensitive -> Rational
(nourishment, growth, generation) (+sensation +locomotion) (+thinking )
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The examples of the second kind of ordering that occur in Aristotle's writings are: number (universal term) and natural number series (1, 2, 3...); geometrical figure (universal term) and a series of geometrical figures: triangle, quadrangle, pentagon, etc. The term "figure" gets its complete reference in each case when the number of lines (no less than three) is determined. So, referring to a triangle, 'figure' just means triangle; and referring to pentagon, pentagon. There is no common account which could be shared by these two acceptations of the term except the one that can be provided by the fact that the two figures are in the P-series.

The difference between the cases (1) and (2) can be stated as follows. In case (1), there is no such thing as 'animal', which is not one of the existing animals. The reference of the term 'animal' is fuzzy, until we supply the appropriate differentiae: footed, four-footed, hooved, etc., until the process of differentiation leads us to the lowest species, e.g. 'horse' or 'sheep'. The reference then can be fixed by the process of differentiation. In case (2), there is no way to fix the reference of the common term by means of differentiation. There is no common way of descent to the lowest species by bifurcations. The most common type of psychic structure present in all the living beings is

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18A.C.Lloyd, 1962, p.67. He discusses *Meta.* B 999a6-14; *EN* I 1096a17-29, where the notion of ordered series is invoked in the *ad hominem* arguments against the Platonists; *EE* I 1218a2, where "the argument is not expressly *ad hominem*" (Lloyd, *op. cit.*, p.70); and *DA* II 3 and *Pol.* III 1: 414b20-25, where the use of this concept is not *ad hominem*, but genuine. I am interested in the genuine case.
vegetative soul; but animal soul, although it presupposes vegetative soul, is not vegetative soul plus perception, just as animals are not just perceiving plants. The way in which lower structures are incorporated into the higher ones is does not support the scheme of ‘differentiation’. There is no ‘continuous’ method of fixing reference. Despite intrinsic structural affinities the members of the series do not share common ‘paths’ to the upper genus. This relation of the members of the series has been called “analogical”.  

A.C.Lloyd distinguished two types of problems with which the Stagirite was possibly dealing: metaphysical and logical. The first one is that of reference of the universal predicate. Its solution seems to be uniform in both cases: the universal predicate has no separate existence, either taken as a proper genus, or as a universal member of the P-series (animal per se does not exist just as number per se does not). This is metaphysical thesis, concerning which all the commentators seem to agree.

But Lloyd also formulated the ‘logical thesis’ concerning the common term of the P-series: “There is a universal attribute of a P-series, but it is not related to the terms of the series as genus to the species”. Lloyd says that the logical difference of P-series from the regular genus is that in P-series the universal predicate changes its meaning when used with respect to different members of the series. “Figure” means different sets of properties when referring to a triangle and a pentagon (even though some of them are related); “soul” means different things when predicated of an eggplant and a human being. This is somehow different from the case where ‘animal’ means different things when predicated about horse and man. But the problem is how to formulate the difference between the two kinds of predication (of the universal of the P-series and the ordinary genus) in logical terms. Lloyd suggests that the distinction is not in the type of predication, but in the methods by which each type of ordering is constructed. Most notably, he says, in the ordinary classification, the intermediate members of progressive series, between the genus and the lowest species “are not the names of a real kind”, where “real” is to be understood as referring to individuals, while in the “independent” P-series all the terms are referring to individuals. In the regular genus, the differentiation is a process, so to speak, of choosing among different paths

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181 The passages _Meta_. B 3: 999a6, _EE_ A 8: 1218a1; _Pol. III_ 1: 1275a34 are discussed in Moraux 1942, p.50-52, Lloyd 1962, pp. 69-72.
182 Moraux 1942, p.50 and note 2.
183 However, cf. Lloyd’s remark that it is the genus-species rather than kind-object relation that seems to be in the background of Aristotle’s formulation of his conception of the universals. (Lloyd, 1962, p. 71)
184 A.C.Lloyd, _op.cit._, p.76. He discusses as the evidence for the logical thesis our passage from _de anima_ and _Pol.III_ 1: 414b20-25. (ibid., p.72-75)
185 Such is the ancient interpretation of the problem preferred by Lloyd. It is in [Simpl.] _in de an_. 107, 3-12. Lloyd, p.79: “The generic universal does not remain constant (ἀπαράλλακτος) but is differentiated in the species (καθ’ ἐκακτον διαφοροίμενον). This alone seems to give a logical ground for a logical thesis.”
186 Lloyd, _op.cit._, p.80.
“down” in a set of differentiating characteristics that describe the lowest species. But in the P-series, the procedure consists rather in the addition of a subsequent characteristic to the ones that already exist and constitute species on their own. In the P-series the very first specific difference can constitute an indivisible species.187 So, in the hierarchical series the same character can be both a constituent of a kind and a subsumed property of a kind. Lloyd says that this distinction cannot be captured by the logic of classes, because there is no way in it to indicate the difference between the accidental and essential predication.188

There is an extra-logical difference between the relation of footed and finned to man and mullet and the relation of nutritive to rational soul. In a species the relation of generic and differentiating universal is that of matter and form which is appropriate (οικείον) to that matter. This relation is manifested in one way in an ordinary classification such as that of animals... and in another way in the classification of the souls, which ... is a P-series.189

The main points of this reading of Aristotle which are relevant for a study of Alexander are the following: there is not ‘metaphysical’ difference between the two types of predication, since in each case the common term is ultimately predicated of particulars, and does not have an independent ontological value. But there is a structural difference between the ways in which each of the hierarchies is constituted. The prominent feature of the P-series is that all its terms, as regards their logical form, are ‘ready’ to refer to individuals immediately; whereas in the ordinary genus there are intermediary terms, like ‘two-footed animal’, which are not specific enough to refer to individuals and need to be completed.

In his commentary on Meta. B 3:999a6-13, where Aristotle argues that if the numerical series does not have a common term, then an ordinary genus does not have it a fortiori, Alexander points out the ad hominem nature of Aristotle’s arguments.190

I am now going to consider the use Alexander makes of this parallel between the ordinary genus and P-series in his treatment of universal predication in quaestio I 11.191 This quaestio is regarded by Bruns as an exegesis of DA I 1: 402b6sq. Aristotle says there, describing the problem of the categorical status of the soul, that one should pay attention to the question whether one definition of soul is sufficient, as is the definition of “animal”, or we should

187 A.C.Lloyd, op.cit., p.83: “The terms of the P-series cannot be absorbed by the differentia of the succeeding terms - the matter in them is not there merely as potentially determined: it is also fully determined in virtue of their being specific universals of the actual individuals.”
188 A.C.Lloyd, op.cit., p.79: “In a P-series the widest class concept is predicable of the subclasses according to Aristotle but not essentially or as part of their definition”.
189 A.C.Lloyd, op.cit., p.80.
190 in metaph. B 209, 8-10 W.
give different definitions in the cases of man, dog, horse, god.\textsuperscript{192} Alexander says in the fuller version of the \textit{quaestio} (apparently citing his (now lost) \textit{DA} commentary)\textsuperscript{193} that Aristotle here alludes to the problem of the ordered series, in which the universal member is posterior to all the members, because its reference to any of the members is not “fixed”; it does not mean the same thing when predicated of different members of the series.

For that which is predicated in common in cases like this does indeed signify a certain nature, but it is not in a similar state in all the things of which it is predicated; and for this reason it is posterior to the things that fall under it. (Sharples transl.)\textsuperscript{194}

In the regular genus, to the contrary, genus is prior to all the members of the division. In the hierarchic series, if the first member is removed, so is every other member, and of course the common term. But in the regular genus, if the common term - genus - is removed, then all the members of the class are removed too.\textsuperscript{195} Alexander thinks that Aristotle wanted to say that we should consider whether the soul is a common term like this, but illustrated it with the example of things that actually do form one genus. The example is only made into an illustration by Aristotle, with the help of a counterfactual assumption (suppose, “dog” were a separate genus, and likewise “horse”, and “man”, and “animal”).\textsuperscript{196} Apparently in the commentary Alexander just registered the difference between two types of predication of a common term. We may assume that he understood it as a logical difference, because there is no reason to think that he ever has been of two minds about the metaphysical question: genera do not exist apart from the species.\textsuperscript{197} It is hard to say if the problem of analogy as such worried him. But it does seem possible, that the logical priority of the common term in the regular division of the genus by specific differences, as he spelled it out in the formulation of the difference between the two types of predication, sounded to him as suggesting dependence of a real kind on the common term, thus stimulating his search for a more plausible account. As his commentary on \textit{Meta. B} shows, he is aware of the Platonist origin of the P-series case.

\textsuperscript{192} 402b6: ειλαθητευν θ’ ὅπως μή λαβάθην πάτερου εἰς ὁ λόγος αὐτῆς ἐστί, καθάπερ ζῷον, ἢ καθ’ ἐκαστοῦ ἐπεροῦ, οἰου ἔπει, καυδός, ἀνθρώποι, δεδο. τὸ δὲ ζῷον τὸ καθάλου ἦτοι οὐδὲν ἐστιν ἢ ὑπεροῦ. ὁμοίως δὲ κἂν εἰ τι καινόν ἀλλο κατηγοροῖτο.

\textsuperscript{193} Quaest. I 11 has been preserved in two versions: 11a and 11b. They only differ in that 11b contains a quotation from Alexander’s \textit{DA} commentary, presumably, on 402b7, where Alexander explains the difference between the ordinary genus and hierarchic series with precedence. I henceforth sometimes, for brevity, refer to the commentary account as 11b and to the ‘unifying’ account as 11a, although it is to be understood that the unifying account is the content of both treatises. On the composition of the \textit{quaestio} see Sharples’ notes 126, 128, 129, p.50.

\textsuperscript{194} 23, 9-11 Br.: τὸ γὰρ καυνός ἐν τοῖς οὕτως ἔχοντι κατηγοροῖμασν σημαίνει μὲν τινα φώσιν, οὐ μὴν εὐ πάσιν ὁμοίως ἔχουσα τοῖς ὑπ’ διά κατηγορεῖται. Διὸ ὑπεροῦ τοῦτο τῶν ὑπ’ αὐτό.

\textsuperscript{195} 23, 11-13 Br.

\textsuperscript{196} 23, 2-4 Br.

\textsuperscript{197} 23,9-16 Br.: τὸ γὰρ καυνός ἐν τοῖς οὕτως ἔχοντι κατηγοροῖμασν σημαίνει μὲν τινα φώσιν, οὐ μὴν εὐ πάσιν ὁμοίως ἔχουσα τοῖς ὑπ’ διά κατηγορεῖται. Διὸ ὑπεροῦ τοῦτο τῶν ὑπ’ αὐτό. Τὸ μὲν γὰρ ὡς γένος τοιάν κατηγοροῖμασν ἀναιροῖμασnn συνανασεῖ ἀυτῷ πάντα τὰ ψῆφ’ αὐτό, οὐ μὴν εὐ ἀναιροῖμασnn συνανασεῖ, διὰ πρώτου τὴ φώσει, τὸ δ’ ἐν ἀλλή σύνεργον καὶ
The account advanced in quaest. I 11b is supposed to be somehow common for two cases.\textsuperscript{198} Alexander combines the features of two accounts to produce such a uniform case: regular genus is supposed to be prior to all the species; the universal of P-series is supposed to be posterior to all the terms of the series. Alexander’s argument goes as follows. Since genera are universals, and universals are properties of something, the universal should be somehow real.\textsuperscript{199} But the reality of this universal predicate can be analysed as made up of two different constituents: (i) the subject (τὸ ὑποκείμενον) of predication, for which being predicated universally (or singularly) is an incidental property, is something (πράγμα τι), (ii) but “the universal”, i.e. the mode of its being predicated at every particular instance, is its incidental property; it is not something per se, but rather an accident of that thing, which is per se. For instance “animal” means some thing, namely “ensouled substance endowed with sensation”. This thing by itself is not a universal.\textsuperscript{200} As Prof. Tweedale notes, “when he says that the universal animal or the genus is posterior to the definable object animal, he refers to an accidental entity, one which exists only so long as animal belongs to many things differing in species”\textsuperscript{201}

We may consider, further, the nature of the proper subject of predication (πράγμα). Apparently, it involves two components of meaning. On the one hand, it obviously includes the λόγος, “definition”, that it represents; in that Alexander’s πράγμα behaves like Carnap’s “intension”:\textsuperscript{202} it is an aspect of meaning independent from the “extension”, the full class of objects to which it refers. On the other hand, it must satisfy a “reality” condition which applies to this πράγμα: after all, Alexander set out to distinguish it from the accidental complex of the universal predicate in order to find the ‘real’ part of the common term, which is not just a concept, so that it could provide the foundation to the existence of all the members of the real kind.\textsuperscript{203} So the ‘intension’ must be instantiated, but the mode of instantiation should not contain any reference to the ‘extension’, i.e. to the specific sub-class of objects of which it is predicated. This amounts to saying that it should be predicated of at least one thing from any sub-class: this is just as good as unqualified existential assumption. Alexander states this in the somewhat loose form of concession, but in fact it is a necessary condition of ‘real’ predication. We can see why Alexander could be attracted to the P-series as a model for the explanation of universal predication: the first member of the P-series

\textsuperscript{198} 23, 21 Br.: ἄναρχος ὑποκείμενον τῷ πρῶτῳ ἔχοντι τὸ ὑπ᾽ αὐτοῦ σημανόμενον συναναρεῖται, διὸ αὐκέτα πρῶτων ἀλλ᾽ ὑποκείμενον γίνεται.
\textsuperscript{199} 23, 22-3 Br.
\textsuperscript{200} 23, 25-28 Br.: τὸ μὲν ὑποκείμενον ὣς τὸ καθόλου συμβεβηκηκέν πράγμα τι ἔστι, τὸ δὲ καθόλου τὸ ἐκείνου συμβεβηκῆς οὐ πράγμα τι καθ᾽ αὐτά ἐστιν, ἀλλὰ συμβεβηκῆς τι ἐκείνου, οἷον ζήν πράγμα τι ἄστι καὶ φύσεως τινος ἰδεώτικῶς, σημαίνει γάρ οὕσιν ἐμὸν ἀισθητικῆν, ὅ κατὰ μὲν τῷ αὐτοῦ φύσιν ὧς ἔστιν καθόλου.
\textsuperscript{201} Tweedale 1984, p.296.
\textsuperscript{202} Carnap 1956, p.19f., 233f.
combines both characteristics which constitute Alexander's πράγμα: its formula is grounding for the whole series, and it is an actual existent, a complete individual. It is this kind of being that Alexander intends for his subject of universal predication.

The only difference is that while the first member of P-series is both a complete individual, and an incomplete 'minimal existent', Alexander's first term has to be essentially incomplete: the way of its completion by form is beyond its own essence.

Another feature of predication of the common term which is, according to Alexander, accidental to its 'reality', is whether the things about which a term is predicated, are of different species or not.204 In this way the common term of a P-series and genus are treated on a par. Alexander explains that these circumstances of predication are accidental because they are not included into the formula of the predicate.205 Alexander uses the term σύμπτωμα to describe these circumstances of predication which have to do with the extension of the term. There is just one 'reality' condition in this theory: it should be instantiated in at least one object.206 The overall picture of relations between the terms and objects is presented by Alexander thus:

But, being posterior to the thing to which it attaches, conversely it itself comes to be primary in relation to each of the things that are particular and [fall] under it; for being a genus consists in being predicated of many and differing things, while being a particular is being, along with many [other] things, under some one thing, either genus or species. And for this reason, when one of the things that fall under what is common is done away with, what is common is not done away with along with it, since it is in several [individuals]; but if what is common were done away with, none of the things that fall under what is common would exist, since their being consists in possessing it in themselves. (24,14-20 Br., Sharples transl.)

The outcome of Alexander's solution is the following. The universal predication of a regular genus is said to be the same as the one of a common term of a hierarchical series in that it is treated, in its universal acceptation, as posterior to all the members of the series. On the other hand, we get in a regular genus that which is prior to any predication: it is the existence of a proper subject that corresponds to the formula of genus. This existence has no other qualifications, but it may be plausibly suggested that the link between the real correlate of genus and the 'reality' condition is the enmattered form. As to the ordered series with precedence, we may note that Alexander's solution involves the interpretation of the common term of such a series as a common acceptance of the first term, which is accidental to this term itself.

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204 23, 20 Br.: υπάρχει δὲ αὐτῷ ἀντὶ τόιοῦτῳ ἐν πλείουν εἶναι καὶ κατ' εἶδος ἀλλήλων διαφέρουσιν. Συμβεβήκεν οὖν αὐτῷ τούτῳ.
205 23, 32 Br.: ὅ γαρ μὴ ἐν τῇ οὐσίᾳ των ὑπάρχει αὐτῷ συμβεβηκός.
Why is this important for the theory of form? Because the predication of a universal term, as we have seen, depends on the existence of the proper subject of such predication, which should be a real existent. But the proper subject of such instantiation can only exist as a part of formal structure of a thing that is really existent. The proper subject of predication thus is a real thing taken in abstraction from its material circumstances, that is in its formal aspect. This does not mean that we are somehow dealing with a ‘separate’ form. Formal structure in question is unmattered form; it is only the details of its material instantiation that are left undefined in case of the term for genus. But this still means that form as a principle is not a property of matter, since there are aspects of form which can be instantiated in different types of matter.

Before continuing, I have to deal with several challenges to this interpretation of Alexander presented by the older works of Moraux and M.de Corte. M.de Corte in his discussion concludes that Aristotle’s definition of the soul is not analogical, ‘analogy’ being Alexander’s construction. He is followed by Moraux 1942, who agrees that Alexander denies reality to the common term of an hierarchical series and reduces the notion of ‘life’ to that of vegetative function. Moraux also indicates that Alexander is inconsistent: as a good exegete, he takes the Aristotelian position in his commentary on Meta. B 3, but as a bad philosopher, he forgets about it in his own treatise. This is the first group of charges. The second group has to do with authenticity of the theory of universals of quaest.I 11a, which has been just outlined. Moraux claims that this theory is introduced either by a student of by an epigone of Alexander, in order to make up for the deficiencies of the ‘analogy’ theory. I address the charges in order.

(1) ‘Analogy’ theory is incompatible with Alexander’s position in commentary on Meta. B 3.

Both Moraux 1942 and de Corte think that Aristotle, while holding that ‘ordered series’ is in fact an ordinary genus

207 de Corte 1939.
208 de Corte, op.cit., p.485: “Cette assertion...ne signifie pas qu’il n’y a pas de genre pour les choses où se trouvent “de l’Avant et de l’Après”, mais simplement qu’il n’existe pas de genre séparé pour de tels termes. La possibilité d’une définition générique commune, au sense que le genre est commun aux espèces, n’est donc pas née pour les diverses espèces d’âme, et elle est si peu née par Aristote, qu’il l’a établie lui-même dans une analyse minutieuse”.
209 de Corte, op.cit., p.499: “L’exégèse d’Alexandre d’Aphrodise refusant à la définition “commune” de l’âme toute signification ontologique sous prétexte qu’elle ne pourrait pas ‘énoncer ce qui spécifie le plus parfait, car alors elle ne s’appliquerait plus au moins parfait’, et la colloquant au plus bas étage de l’être; la vie végétative, a pesé sur des générations d’historiens. Il est aisé de voir comment l’interprétation de celui que les Anciens appelaient le Commentateur par excellence d’Aristote, est secrètement pénétrée de platonisme et conduit droit à l’averoïsme le plus pur”.
210 He cites in his support apart from de anima 16,8-17,8 cited above, also 28, 14; 28,20-29 and 30, 17-20 (op.cit., p.51, notes); claims that Alexander extends the “analogical” approach to the structure of the faculty of sensation, quoting 40, 4-10 (op.cit., p.52, notes 1-3), and the excerpt from the DA commentary quoted in quaest. I 11b. (op.cit., pp.52-53)
211 Moraux, op.cit., p.54.
with *differentiae*, cites this case in *DA* II 3 as an *ad hominem* argument against the Platonists, just as he does in *Meta*. B 3: 999a6-16, arguing aporematically that genera do not have separate existence apart from species, and therefore are less likely to be the first principles: in the ordered series, as Platonists themselves recognise, and *a fortiori* in ordinary genera.212 Moraux notes that Alexander acknowledges the *ad hominem* nature of Aristotle’s examples, saying that it is against

‘the disciples of Plato - for they were the ones who posited the highest kinds as principles of beings, as he has related: One and Being, and the Great and the Small. For in cases where there is a prior and a posterior, they said that the common factor was not something distinct from the things of which it was predicated’. (209, 9-12 H., Madigan transl.)

Alexander reconstructs two *ad hominem* arguments against the Platonists. The first one says that if the numbers and figures which are beings *par excellence*, do not have a common term, then all the other kinds *a fortiori* would not have a common term predicated of them.213 The second argument says that since the hierarchical order can be found in every genus (for everywhere there is ‘better’ and ‘worse’), none of the genera is a principle, but rather the indivisible forms are principles, since among the indivisible things that they subsume there is no precedence.214

Moraux concludes that in this commentary Alexander defends a position that is diametrically opposite to the one he takes in his psychological writings, namely: that the members of the ordered series are regarded as species of the genus which is expressed by the common term of the series. This being so, Alexander should also accept that the members of the hierarchy of souls (vegetative, animal and rational) are species of the regular genus.215 Another conclusion that Moraux derives from this passage in the *Metaphysics* commentary is that Aristotle invokes the notion of ordered series only *ad hominem* in all the other cases, including *DA* II 3.216

But it is unclear from the text that either Aristotle or Alexander infers that the ordered series is a kind of regular genus. The first argument is *a fortiori*, while the second assumes, if anything, then rather that each ordinary genus is a sort of ordered series. So, the ‘analogy’ view of the definition of the soul is not incompatible with these texts.

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212 999a6-14: ἐπὶ δὲ ὁς τὸ πρῶτον καὶ ἱστερὸν ἔστιν, οὐκ ἐπὶ τὸ ἐπὶ τούτων εἶναι τι παρά ταῖτα (οὐν ἐπὶ πρῶτη τῶν ἀριθμῶν ἡ βασίς, οὐκ ἔστι τις ἄριθμος παρὰ τὰ ἑπτὰ τῶν ἀριθμῶν ἀριθμὸς δὲ οὐδὲ σχῆμα παρὰ τὰ ἑπτὰ τῶν σχημάτων: οὐ δὲ μη τούτων, σχῆμα τῶν γε ἀλλών ἐσται τὰ γένη παρὰ τὰ ἑπτὰ τούτων γὰρ διὸ διὰ μάλιστα εἶναι γένος) ἐν δὲ τοῖς ἀριθμοῖς οὐκ ἔστι τὸ μὲν πρῶτον τὸ δ’ ἱστερον. ἐπὶ όπου τὸ μὲν βέλτιον τὸ δ’ χείρον, ἀεὶ τὸ βέλτιον πρότερον ἄκτος οὐδὲ τούτων ἄν εἶναι γένος.

213 ’Assuming, then, as the view of these thinkers, that in these cases the common factor is not anything distinct from the things of which it is predicated (for it is not in the case of numbers and figures), Aristotle, speaking in his own name, adds that, if in these cases there exists no common factor distinct from the things of which it is predicated <much less will there be in the case of the other kinds>’ (209, 14-34 H., Madigan transl.)

214 ‘But in all kinds one of the species is better while another is inferior’. (210, 1 H., Madigan transl.)

215 Moraux 1942, p.58.

216 Moraux, 1942, p.59.
(2) *Alexander considered vegetative soul to be the universal predicate in the hierarchical series.* Moraux cites the evidence for identification of living with vegetation;\(^2\) but the generalisation may be too strong. In *de an.* 9, 12-14 Alexander argues that plants have soul and says “if at any rate to feed by oneself and to grow is to live” (and not the other way around); 35, 15-17 seems irrelevant for the argument (as Alexander there distinguishes between the “conservative” faculty that preserves substance (nourishment) and “productive” that produces the quantitative “surplus” (as growth); 36, 19 says explicitly that the nutritive soul is the cause of subsistence for the *body* of an animal; 74, 17-28 says that the vegetative system develops first in the embryonic development, and the organs of sensation come next; 75, 31 says that in the animals vegetative soul is for the sake of preservation and being; and without it sensation would not exist. In two cases that Moraux lists, 29, 1-10 and 38, 13, Alexander can be suspected in “privileging” the vegetative soul, by locution: in the first case he says that animals live by the vegetative part of the soul and perceive by sensation; in the second case, summing up the section on vegetative soul, he says that it is the form of the body that has it. But it would still require an argument to show that in the first case Alexander wants to *reduce* living to the functioning of the vegetative soul; and in the second case, that he would exclude the upper psychic functions from the “form” of the animal body. Moraux admits, that there are cases where Aristotle himself says things like these, but says that those are the cases where he does not speak quite *formalissime,* but apparently he does not want to allow the same licence to the Exegete.\(^2\)

(3) *Compatibility of the quotation from the commentary in quaest. I 11a with the interpretation advanced in the treatise is problematic.* The two positions would be incompatible only if the assumed difference were of metaphysical nature; i.e. if, according to Alexander, the case of ordinary genus were somehow ontologically privileged with respect to the ordered series. But there is no reason to assume it. However, certain differences in the logical principles of arrangement can hold, even if some commonality of structure has been discovered. So, the different positions are not fatally incompatible.

There is also some evidence of Alexander’s commitment to the type of reasoning outlined in *quaest. I 11b* elsewhere in the corpus. In *quaest. I 3* we find a notion of a true object of definition similar to that of a proper

\(^2\) Moraux 1942, p.54, n.2.
\(^2\) Moraux 1942, p.56: “Il n’en reste pas moins que ces passages, où le Stagirite ne s’exprime pas avec toute l’acribie souhaitable, ont eu une influence capitale sur la pensée d’Alexandre, commentateur qui, trop souvent, note des détails au lieu de pénétrer l’esprit d’une théorie.”
subject of universal predication in *quaest. I 11b*\(^{219}\). A. Madigan has shown that in the commentary on *Meta. B*

Alexander is committed to the interpretation of Aristotelian form as individual form, irreducible to the material principle, although assuming this principle as a necessary condition.\(^{220}\) So, the authenticity of theory of universals proposed in *quaest. I 11b* appears to be at least defensible.

4.3.3. Matter vs. genus: seven distinctions (*quaest. II 28*)

Now that we have a preliminary idea of what genus (universal term) is ontologically, we can consider the problem of its relation to matter. The problem is exegetical: there are several places in which Aristotle talks about genus as matter, in the theory of definition, and at least one place where he talks about matter as the common genus of the elements. Contemporary scholars have discussed this problem. It will be useful to see how Alexander's solution is different from the recent approaches.

The main texts of the *Metaphysics* where genus is compared to matter are discussions of the unity of definition in Z 12 and H 6, the latter perhaps picking up on a discussion in the former. Aristotle there suggests considering the question that was not addressed by him in the *Organon*: what is the cause of the unity of definition? Having exposed the difficulty (what should be the account on which the terms of the definition are considered as forming a unity rather than a mere juxtaposition of several things?), Aristotle goes on to consider the definitions by genus and *differentiae*. He says that genus and *differentiae* are the only constituents of such definitions, and genus does not exist apart from the species of this genus, or if it should be considered on its own, it would only be as matter. He illustrates this by the example of voice as genus of speech: as such a genus, it does not exist outside the articulate (informed) sounds, which are all different, yet it is matter of all of them.\(^{221}\) Since this is so, definition is an account made up by the *differentiae*. Aristotle notes that the unity of the account will only be reached if the successive *differentiae* are proper: in that case the last *differentia* of the process of division will yield individual form and

\(^{219}\) 'And for this reason definitions are not of [things] that are common as common, but of those which happen to be common in the case of each nature. For even if there were only one human being in existence the account of 'human being' would be the same. For this is not the account of it because it is present in many [particulars], but because it is in accordance with a nature of this sort that a human being is a human being, whether there are several sharing in this nature or not.' (8, 12-17 Sharples transl.)

\(^{220}\) Madigan 1994, p.88.

\(^{221}\) Meta. Z 12: 1038a5: *ει ὁν τὸ γένος ἀπλώς μη ἔστι παρὰ τά ὡς γένοις εἴδη, ἢ εἰ ἔστι μὲν ὡς ὑλὴ δέ ἐστιν (ἡ μὲν γὰρ διαφορὰ γένους καὶ ὑλῆ, αἱ δὲ διαφοραι τά εἴδη καὶ τά στοιχεῖα ἐκ ταύτῃς ποιοῦσιν), διαφορὰ δι’ ὃ διαφορὰς ἔστιν ὁ ἐκ τῶν διαφορῶν λόγος.
In book H he returns to the question of unity of definition, now asking about the real cause of logical unity. His answer is that the logical unity corresponds to a natural unity of a thing, and the cause of that unity is the process that brought it into being as one thing. The difficulty arises, he says, where the logical constituents are “refied”: then it is necessary to look for a special cause of the two different things being one (be that “participation”, or co-presence (συνωσία)). But if it is realised that something is matter, something is form, and something is potentially and something actually, then the difficulty will disappear. Suppose formula ‘bronze sphere’ is assigned one name, e.g. ‘cloak’, and it is asked, what is the cause of the unity of the object which has that name. There is no difficulty: for what else can be the cause of a thing’s (bronze) which is something (sphere) potentially becoming that (bronze sphere) in actuality, except the maker (and the process of production)?

Several scholars suggested that Aristotle here wanted to draw a parallel between genus and matter in order to solve the problem of unity of a hylomorphic compound with the help of the logical model. R.Rorty suggested that Aristotle’s equation of matter with genus in Z 12 is a prelude to his solution of the unity paradox in H 6. On his interpretation, Aristotle says that genus is matter, meaning that genus exists as a specific potentiality which is a necessary condition for a hylomorphic compound of a particular kind; thus genus ‘animal’ refers to matter of animal, which is specifically pre-structured to fit in with the form of animal. This would allow Aristotle to treat matter and form as identical, in the end of H, the matter-with-form being identical to genus-with-species, as an actualised potentiality of a particular kind. The notion of genus is on this reading close to that of the proximate matter of the species. Rorty’s interpretation of these chapters of Metaphysics is comparable to the approach to the problem of genus sketched by A.C.Lloyd, except that Lloyd stresses the parallel between genus and the antecedent matter.

D.Balme also suggested considering genus in Z as referring to a set of material conditions, though he put it differently from Rorty. The main idea of his approach is that the notion of genus only gets its reference “fixed” in the indivisible species, but prior to it it contains a set of alternative characteristics, subsequent application of which leads on to an indivisible species and thus fixes reference. Since the characteristics (clawed or not, winged or not,

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224 A.C.Lloyd, op.cit., p.88: “If the end of the process is a substance we are dealing with a transformation of matter, and whatever is regarded as the first stage of the process is a genus, which is literally a kind of matter. The steps by which it is transformed are not (with irrelevant exceptions) the result of its intrinsic properties but of the interaction of these with the properties of other kinds of matter - those of the sun, for example, in the organic world. But the steps are what they are, and that makes the description of them in static terms contain appropriate differentiae”.
225 Quoted from communication in Grene’s work cited in the next note, p.68, n.10.
scaled or not etc.) are material, and not exclusive of any species, but in some sense a "common" property of the genus, it is possible to consider all of them, which, taken together, are the constituents of the genus, as matter of species, which (matter) gets worked up toward a specific determination when the "choices" of alternatives are made in the process of division. So, genus is matter as a set of alternative material parameters the (necessarily selective) realisation of which yields form.²²⁶

M.Grene in her article²²⁷ analysed the contexts in which Aristotle talks of genus as matter and distinguished five different meanings of genus which correspond to different senses of this comparison: (1) Aristotle often uses the term γένος for the Platonic supreme genera; particularly in Meta. B, but this usage is recurrent throughout the Metaphysics, directly and indirectly, which shows the overall importance of the Platonic discussion.²²⁸ (2) Accordingly, the term is used with reference to the ten categorial schemata through which, says Grene, Aristotle stabilised the homonymity of being that was threatened by Platonist ontology of the supreme genera.²²⁹ With respect to this sense of genus, Aristotle notes in Meta. A 4: 1055a30 that the opposites have the same matter, but the things in different categories have different matter. Grene says that "clearly this is a very general sense of 'matter': the 'matter' that is common substrate for change of some kind. Thus anything that can be coloured can change in color - but what is in one or another position doesn't change in color, it changes in position".²³⁰ She notes that this sense of genus as matter supplies the context for 1058a23 (the passage cited by Balme, Lloyd and Rorty, in which we are told that γένος ἐν τη ὕπογει means 'matter', and this is the use, Grene thinks, to which Aristotle is referring at 1058a7, where he contrasts the cases when genus is 'matter' with those in which it is nothing apart from the species). What he means, according to Grene, is: "either, as the Platonists admit, we classify colors or figures with the 'genus' individuated into blue or circle, and no ontological residue remaining; ... or we look at the genus (that is, the schema of predication, the category) as 'matter' for specification by degrees of contrariety'. Grene thinks that in Meta. A 4-9 'matter' used with respect to genus signifies only "the unity of categorial context open for

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²²⁶ Ibid., p.68: "...The definition of a genus cannot be a list of determinations (as the species is) but a list of alternative possibilities which can be more or less vague and far-reaching according to the taxonomic level at which you put the genus. ... Wieland seems to me wrong in saying that the genus cannot be the out-of which. The specific difference is not something added to the generic definition, but is a determination already given in the genus".

²²⁷ Grene 1974.


²²⁹ Grene, op.cit., p.62: "There is a first answer to the question 'what is it' along a fixed plurality of lines which are only comparable (by analogy) with one another. This usage - genus=category - is very common. We noticed it already in Δ 6 (1016b33): numbers with the same matter... are the same in number; things with the same form but different matter differ in number; things with different forms in the same genus (or category) differ by more or less, or by excess and deficiency: more or less tall, or footed, or rash, or long-lasting". Through the differentiae from categories other than substance, the distinction in more or less enters into the differentiation of substances, which admit of no degree, when taken in respect of substantiality.
distinctions of more and less - a very metaphorical meaning, which cannot be identified with the concrete, worked up matter ‘out of which’ the sculptor makes his bronze statue or the father his son’. The third context is when the concepts γένος and ἐίδος are used relatively to one another in any category. Grene suggests that it might be derivative, “by a narrowing of reference, from the ‘category’ meaning”.

The fourth, special, use of genus, is “the case considered in Zeta 12 and in PA 1, 2-3, where we are examining, not classification by more or less in any category, but Aristotelian division, which is meant to lead us - uniquely - to the atomon eidōs. Here the genus is not any class wider than some other, but that kind of class which can be properly differentiated into the kind of eidos that will give us definitions of ousiai.” Grene notes, that the force of the comparison of genos with matter in these contexts (1038a3-8 and 1045a23) is in its (anti-Platonist) accent “on the unity of definition, in which the genus lingers only as it is differentiated by matter”. The fifth sense of genus is ‘technical’: “within the category of substance itself there are the secondary substances, genera, which embrace a number of eide”. With respect to this meaning of genus, Grene suggests that we should accept a parallel, but not the identity between genus in the definition and matter in the real thing. The parallel consists in that both matter and genus are differentiated by form, and so actualised. But the disanalogy, for which Grene argues against Balme, Lloyd and Rorty, consists in that the matter which is ‘parallel’ to genus, that is the antecedent matter and the matter into which the sensible substance turns upon passing away, is not the ‘generic’ matter but rather ‘specific’ with each kind determined by genus and species. So, the antecedent matter of a human being is not “animal” but “humanly animal”: even in this case “the relation of genus and matter is more analogical than literal”.

From this review we may see that the tendency of contemporary scholarship is to interpret the hylomorphic principle as the logical principle of ontogenesis. It will be interesting to see that Alexander’s approach is totally different. He is not interested in building Aristotle’s passages where matter and genus are treated in a parallel manner, although he is aware of them. These passages might have motivated his exegetical study in quæst. II 28.

Alexander begins with listing the common features of genus and matter: (1) being common to many things, (2)

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230 Grene, op. cit., p.63.
231 Grene, op. cit., p.63.
232 Grene, op. cit., p.64: “This is the harmless logical use of the Topics and the comparatively non-technical use of many other passages, ...where ‘genus’ means simply the kind as distinct from the individual<.>”
233 Grene, op. cit., p.64. She illustrates this citing the criteria of sameness and difference (in number, ἐίδος and γένος) that Aristotle uses in the PA I and GA I, which are very much the same as the criteria used in Meta. Δ with respect to the categorial meaning of γένος.
234 Grene, op. cit., p.64.
235 Grene, op. cit., p.65.
236 Grene, op. cit., p.66.
237 Grene, op. cit., p.67.
being by nature prior to those things to which they are common, and (3) taking on differences by combination of some species or form with them.

I am now going to consider the “seven distinctions” that Alexander draws between genus and matter. The format of this *quaestio* looks very much like a difficult exam problem of an advanced level. However, we are going to see that it is more than just an exercise, containing several points of interest for understanding Alexander’s theory of form. Probably it is good to remind ourselves at this point that the English ‘species’ and ‘form’ will always refer to the same entity, differently ‘projected’. In fact, the Greek has one word *eidos*. Prof. Sharples writes in his note ad loc.:

“*eidos* means both ‘form’ and ‘species’; the former is more appropriate to the contrast with matter, the latter to that with genus. The ambiguity is not a chance one since it is precisely of species that there are forms. I have translated by ‘form’, ‘species’ or (as here) ‘species or form’, depending on the context.”

The first distinction that Alexander mentions has to do with the general nature of relation to forms: matter underlies forms in the physical sense, one might say (Alexander says that forms come to be in matter as shapes come to be in bronze); while genus is predicated of the species that it subsumes, so the relation is logical.

Apparently there is no attempt to consider the “bronze sphere” as a model for genus and species. Rather we have the difference in kind, rigorously stated. This may be regarded as the common ground on which Alexander will deal with the problem of isomorphism between the logical and physical structure of a hylomorphic compound.

The second difference is in the way in which part of matter and part of genus receive the forms that get enmattered. Matter as a whole is common, but also each of its parts is common in that it can receive (underlie) different forms. But while genus ‘itself’ (i.e. as universal) is common, subsuming many forms in turn, none of its particular instances are such. The part of genus “animal” which is in Socrates cannot come about in anything else. It

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238 Cf. his characteristic of genus in *quaest.* I 11 above.
239 Cf. in *Meta.* Δ 28: 1024b8: εἰπόν δὲ τὸ ὀφέλος λεγόμενον γένος ὑποκειμένου εἶναι ταῖς διαφοραῖς, κατὰ τὸ ὑποκείμενον αὐτὸ ταῖς διαφοραῖς καὶ ὑδραυλικὸ ἀργότριτι ἐξελθέντα ὑπὸ δέ λέγεται τὸ γένος καὶ ἐν τῷ Ζ τόθα τὸς πραγματείας. (429, 4-7 H.)
Cf. also 429, 28-36 H.
240 Sharples 1994, n.169 p.126. Cf.also Grene op.cit., p. 53: “Despite the fact that for the late Latin and modern tradition, species and forma are two concepts, not one, ..., I am still convinced that somehow eidos for Aristotle has one overarching meaning, while for genus this is, if at all, much less clearly the case”. The distinction between the two senses of *eidos* in *in metaph.* 203, 20-23 H., discussed in Madigan 1994, 79, may be interpreted as a distinction between species in its universal acceptance and emnattered form which provides a ground for predication of a universal term.
241 78, 7-11 Br.: ἐὰν εἴη ὃν ὁμοίως ὢν ἀλληλα διαφορὰ κατὰ τὸ μὴ ὁμοίως ἔχειν τὸ κοινὸν πρὸς τὰ εἴδη ὃν ἐστι κοινὸν. ἡ μὲν γὰρ ὤλη κοινὴ ὡς ὑποκειμένου τοῦτος ὃν ἐστὶ κοινὸν (ὑπόκειται γὰρ τοῖς εἴδεσιν), τὸ δὲ γένος κοινὸν ὡς κατηγοροῦμεν τὸν ἐν τῷ κοινῷ ἐστιν. εἰ γὰρ τῇ ὤλῃ ὑποκειμένη τὸ εἴδη γίνεται ὡς ἐν τῷ χαλκῷ τὰ σχήματα, ὡς ὀφέλος δὲ ἐν τῷ γένει τὰ εἴδη· τὰ γὰρ γένη ὃν ἐστι γένη τούτων κατηγορεῖσαν. 242 78, 11-16 Br.
is this kind of an “enmattered” part of genus, but considered apart from the material circumstances, that equals the first member of the ordered series and provides the reality conditions to the universal predication of genus qua genus. At this point we may notice the notion of instantiated genus, which is formally the same across the species and individuals, and yet not universal. The only difference that the instances of this genus have from one another is ‘in number’. We are dealing here with a concept of particular form, or particular nature.

The third difference is that matter is a real thing (πράγμα) and an underlying, that contributes to each thing’s being a τὸ ἔτι. But genus taken as genus (in the universal acceptation), is not any underlying reality, but only the name, which has its being in thought, not in real existence. Alexander does not consider here genus πράγμα, but only takes it in the universal acceptation.

The fourth difference is that matter is numerically incorruptible by itself, while genus has incorruptibility in species (τὸ εἶδος) and in the unceasing succession of the things that come to be, but its particular instantiations are corruptible. The notion of matter here has to be understood very broadly and in connection with the notion of prime matter. Remarkably, even though matter is incorruptible only on the level of prime matter, Alexander applies the term “numerically” (κατ’ ἄρθρωμα) to describe this kind of incorruptibility. This is perhaps in agreement with other cases when he tended to give the ‘sortal’ descriptions of stuffs, and it must be related to his ‘hylomorphic’ theory of the elemental level of matter. Thus hylomorphic theory of the elements, ‘form’ of each element serving as a kind of measure of particular transformations, might pave the way to a more ‘quantitative’ view of matter. This is the view which Alexander mostly uses in this study of genus and matter, as will be seen in particular in the next two ‘distinctions’, where he comes close to the Aristotelian problematic of hylomorphic unity in the middle books of the Metaphysics.

The fifth difference is that in the passing away the matter of a hylomorphic compound is separated and preserved (while the form is gone); but the genus which is in the hylomorphic compounds, is itself a composite, and does not survive the passing away of a compound. Alexander notices that genera are found in the simple beings, as there are genera of the forms and of the categories other than substance. However in the composite and enmattered substance the genus, i.e. “what is common” (τὸ κοινὸν), is also composite of form and matter. We know that Alexander talks here about the proper subject of universal predication, that which is defined by the formula of the

243 78, 17 Br.
244 78, 18 Br.: οἱ πράγμα τι ἐστὶ ὑποκεῖμενον
245 78, 19 Br.: εἷκ ἐν ὑποστάσει τινι. [78, 16-20]
246 78, 20-22 Br.:  
247 78, 27 Br.: ἐν δὲ τῇ συναφωστέρῳ καὶ ἐνύλῳ οὐσίᾳ.

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genus (intension of the universal term). The genera and species which are in the particular things are composites of form and matter, just as these things themselves are composites. The particular case of genus is described by Alexander as follows:

For it possesses something of the species or form in its proper definition; and [so] in the ceasing-to-be of the form, it too itself ceases to be through its sharing in what is perishable. (77, 32-34 Br., Sharples transl.)

The genus is said to be subject to the passing away because it has species in its definition. Since ἔδοκε stands for both species and form, and the form in question is enmattered form which itself has reference to matter in its definition, as has been shown in 3.2.1, genus may be assumed to get this feature “by transitivity” from form. So, after all, genus will be related to matter, but through the mediation of enmattered particular form, and as a part of formal structure. Alexander, differently from the contemporary scholars, does not consider the genetic analysis at this point, and in his compositional analysis he regards genus ‘on the formal side’ from the very beginning. So, we may assume that here, too, genus is somehow grounded in the principle of enmattered form: Alexander was talking about the formal sameness apart from the material circumstances. This structural principle is ‘materially’ elusive, but it is certainly formulated as real and as distinct from the material principle proper.

This interpretation apparently gets some support from the way in which Alexander draws the sixth distinction. The difference between matter and genus that it points out consists in the way in which form is a constituent of a material compound and of a definition or account. Alexander says that form comes to be in matter as a whole, while matter on its own is without form. But in case of genus the more common part of the form-species has already been there and is assumed in all the species under this genus. For this reason form does not come to be as a whole in a genus, because the part of it which completes the nature of genus is already there, but combined with the genus are the differences which divide the common part of the form. For that reason genus is inseparable from the things of which it is a genus, and passes away along with them, and it receives not the forms, but parts of the forms, and those not as a subject, but being grasped and separated in thought from the things with which it has its being, whereas matter is prior to every enmattered body. For it, in accordance with its proper account, not being in actuality, becomes some thing, when it receives a form, itself being the first principle of ‘this something’ and a composite. But the genus gets its being from the enmattered things and particulars by separation from the things that show and make its differentiation.

There are several important points made by this distinction. First of all, this distinction has to do with the initial distinction between genus and matter as the logical and physical ‘domains’ of form. Genus is logically prior to
species. It does not ‘take on’ *differentiae* in any sense close to that of a real relation. What is described in this way is just the logical procedure of getting to a concept of a particular form-species.

But now that we are also given a theory of enmattered form, of which genus is an enmattered (and perishable) part, we can say that each form has an immanent logical structure which consists of genus and *differentiae*. Genus is an indeterminate enmattered part of every form, it is the same in all the forms that are the same; so no form is completely different from the other forms.

The principle of matter is totally indifferent to forms and with respect to matter as such, the “whole form” is said to get enmattered. This should be read in conjunction with what we know about Alexander’s mixture theory and about his theory of prime matter as the common underlying substrate, which remains numerically the same in all the changes. Form comes about in matter in a “total” manner, because matter at its most basic level does not possess any qualities, and form, as we know from the mixture theory, has some kind of internal continuity, so that the primordial qualities which differentiate the prime matter, get combined and contribute to the qualities of higher level, which characterise the determinate being of material things.

Enmattered genera cannot be regarded as just matter. Alexander says that genus receives specific differences not as a substrate, because it is separable from them only conceptually, while matter is prior to any enmattered body, presumably in the order of reality. Yet, since the form that makes determinate both matter as physical principle and genus as logical principle, is one, both logically and numerically, there should be some correspondence between the logical differentiation of genus and hylomorphic ‘completion’ of a material substance.

The *seventh* distinction establishes the priority of hylomorphic structure: matter is the real cause of being and subsistence of all things subject to coming to be and passing away. Genus is not matter, there is an ultimate substrate of all the genera which is not a genus.

A question which should at least be pondered at this point is: why did Alexander not consider using the genus/species model for the explanation of unity of a hylomorphic compound, of form and matter, as contemporary scholars did, following the leads offered by Stagirite? Alexander certainly knew of those ‘leads’, and it is very unlikely that he could simply overlook an exegetical possibility they contained.

Moreover, he seems to be quite adamant in his negative answer to the question whether matter is genus, in this *quaestio*. From what we already know about Alexander’s hylomorphic theory, it is possible, I think, to suggest, that we are dealing in this case with a certain principle of his philosophical system, which is also his system of Aristotelian exegesis. This is the principle according to which the distinction between form and matter is real, like a distinction between stuff and its structure. Allowing the interpretation of matter as genus, Alexander would concede
that matter is somehow structured without a contribution of the formal principle. The distinction between matter and form (structure and stuff) would become unclear. This, I think, is something that he could not agree to. We have seen that Alexander intended universal application for the hylomorphic principle, so that form and matter would constantly interact remaining independent and distinct principles. Both formal and material principles within his system should be so to speak, fully ‘convertible’ within the cosmos. We have seen in quaestio I 26, that there are no forms without matter and there is no matter without form, but this implies also that in each case it should be possible to tell what is matter and what is form: form is structure and matter is the building blocks. The case of genus as pre-structured matter, is not universal enough (we have seen Grene’s argument that in fact there can be no generic matter strictly speaking, but only ‘specific’, i.e. proximate matter). That Alexander is not in favour of such line of interpretation shows that he is not a mere exegete, but a thinker probably with strong views on the way thinking should be done. Although this interpretation suggests itself for the explanation of unity of a hylomorphic compound, and is fairly well grounded in Aristotelian texts, Alexander does not seem to accept it. This is another indirect proof that he had in mind not just some doctrinal points, but possibly a rigorous system, which had its internal problems and tensions,

Internal problems, which Alexander, however, did not want to solve purely technically at the expense of some more basic principles. So he preferred difficult scholastic distinctions to easy explanations. This is only my interpretation, but it seems in agreement with what we know of Alexander’s theory of enmattered form.

Conclusions.

In this long chapter we have seen:

(a) that in the dialectical arguments preceding the introduction of the Aristotelian definition of the soul Alexander exploits some principles of the hylomorphic theory.

(b) that this hylomorphic theory has some history in the school treatises;

(c) that it lays some constraints on the ‘elemental’ theory of formal constitution.

(d) that it is based on certain principles which Alexander wants to keep despite the theoretical inconvenience they occasionally involve.

The principles of this hylomorphic theory are the following:

(1) Form is not a subject. This creates a problem for the qualification of the beginning of de anima, according to which the matter of composite bodies is ‘already with some form’. It turns out, that the form of a composite
overrides all the ‘ingredient’ forms.

(2) Form and matter of a substance are said to ‘complete’ the substance, whereas the qualifications under all the non-substantial categories ‘complete’ the subsistence, for which Alexander develops special technical terms, ὑπάρχειν and ὑπόστασις.

(3) The principle of enmattered form means the following. Particular form necessitates particular matter. When a particular form is destroyed, the corresponding particular matter also ceases to be particular matter of this form, but persists as a part of common matter. Common matter always exists with some form. So, the persistence of matter is balanced by the plenitude of forms. We may see how the elemental theory is supposed to work as the source of this plenitude.

(4) Formal principle as the source of ‘common nature’. Alexander develops a highly original account of universals, in which he distinguishes between the universal acceptation of the universal term and its ‘proper subject of predication’. The ‘proper subject of predication’ is grounded in a formal structure of a real existent. This lays some constraints on the straightforward reading of the principle of mixture, because the ‘commonality of nature’ determined by the proper subject of predication of the common term involves formal principle relatively independent from the material circumstances.

(5) Alexander’s treatment of the problem of genus and matter shows that he does not want to exploit the possibility of treating genus as ‘pre-structured matter’, but regards it as the most common element of formal structure, thus preserving the uniform concept of matter and central position of the hylomorphic principle at any ontological level (as genus gets instantiated through the mediation of enmattered form).

We can see that some tension between the ‘elemental’ and ‘strong substantialist’ versions of hylomorphic theory remains. If the strong version is adopted, then the status of matter other than prime will have to be defined. Alexander clearly devotes considerable attention to the technical terminology in his ontological theory. Tension is perceived in the ambiguity of some notions which are used differently in the two versions of the theory (like ἀλήθεια and ἀν). On the other hand, it is clear that the ‘elemental’ theory is needed for the theory of enmattered form to hold universally. In the next chapter we are going to consider the implications of this "synthetic" kind of ontology for the theory of soul, and the solution that Alexander advances, in particular the role of the notion of soul as ἀλήθεια.
Chapter 5. Soul as ἰδίαμας.

In this chapter the notion of soul as ἰδίαμας that follows upon the mixture is examined. In the first section I am considering Alexander's discussion of the attributes of the soul (incorporeality, inseparability, immobility per se), paying special attention to the kind of theoretical assumptions used in the arguments. The second section is devoted to the 'harmony' theory. Alexander's discussion of this theory differs somewhat from the one found in Aristotle's DA. In the third section I show that this difference is related to a more general difference of Alexander's theory of soul as form which consists in trying to produce a synthetic account which would have the hylomorphic principle explicitly applicable to the unified doctrine of matter (as stated in the theory of elemental mixture). I suggest a reconstruction of the 'emergentist' thesis of Alexander's theory of form, attempting to show that the main function of the thesis within this theory is reconciliation between the two accounts. I conclude that Alexander's theory of soul as form passes the 'orthodoxy' test with respect to Aristotelianism, which does not mean that such a theory can be attributed to Aristotle: it is based on exegetical construction and involves a number of theoretical clarifications which go beyond the simple exegesis, amounting rather to an authentic innovation within the Aristotelian tradition.

5.1. Arguments for the attributes of the soul.

5.1.1. Arguments for incorporeality. (17, 12- 20, 26 Br.)

There are three distinct sets of arguments that Alexander develops in demonstration of the attributes of the soul: incorporeality, inseparability from body, immobility per se. It will be noticed that the attributes of the soul that Alexander chooses for the discussion correspond not only to the points discussed by Aristotle in DA I, but also to the 'rubrics' of doxographical tradition.¹

17,9: But if the soul is form, as has been shown, it is necessary that it be inseparable from the body of which it is [form], and incorporeal and unmoving by itself. For every form is such. For the body is a compound of both

¹ Cf. 'Aēt.' IV. 2.3. (DG, pp. 386 - 389) 6.7 (392-3) with Mansfeld's argument regarding the arrangement of these sections in the 'Vetusta Placita', Mansfeld 1990, 3065-3084, 3089-3091. On Alexander's expository methods with relation to doxography see also Mansfeld 1988.
Alexander gives four series of arguments proving that soul is incorporeal. The arguments are mostly anti-Stoic, and insofar based on the distinction between thing and quality, which was the common point of departure of the contemporary critique of the Stoic ontology. However in some cases Alexander makes use of the Aristotelian theory of form, which is treated as a special member of the class of ‘incorporeals’ (forms, shapes, qualities).

5.1.1.1. “From distinction between thing and quality (form)” (17, 15-18,10)

The first series of arguments is devoted to the critique of Stoic conception of corporeality of qualities. Stoics are mentioned by name in the beginning, and there are some traces of contemporary critique of the Stoic ontology. However in some cases Alexander makes use of the Aristotelian interpretation which Alexander gives it.

17, 15: But not even according to those who say that everything is body, either matter, or from matter (as the Stoics believe) would the form be body.

(a) 17, 17: For form is not matter (for this latter is without qualities (ἀπωφ), while the former is some kind of a quality),

(b) 17, 18: nor is it from matter. For if form were from matter and form\(^1\), (b\(^1\)) first, something which is different from the whole compound (συμμορφῶτευσι) would be identical with it; (b\(^1\)) and then, there would be a progression to the infinity, assuming that form is from matter and form, and again this other form will require matter and form.

(c) 17, 21: For if they say that form is from matter and form in such a sense that it is not from some different form, but from itself having its being with matter, in that case according to them, matter will not be without qualities as it should be by its formula; for it too needs for its being some form and quality.

(d) 18, 3-7: But if they call it ‘without qualities’, despite the fact that it cannot subsist without a quality, because quality is not in its proper nature, then, according to the same reasoning, also form and quality would be without

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2 The topic is quite popular in the school literature of the time. Apart from Plutarch’s testimony, comm. not. 50: 1085E-1086B, there are at least two other school sources documenting it: Alcinous’ didascalicos XI and Ps.-Galenic treatise “That the qualities are incorporeal”. Alexander’s rich collections of arguments in mant. 3 and mant. 6, to which Bruns pays attention in his introduction to the quaestiones (p.XII) are most likely derived from the same stock. See Moraux 1984, 470-472, Giusta 1976; Whitaker 1990; Dillon 1993, 111-114.

3 Alexander’s use of πέρας in the beginning can be compared with Ps.-Galén’s opening distinction between the tri-dimensional body and each of its dimensions. 3.37 Giusta: ὃς(τ) ὀψι τούτων ἐκάστη (λέγει δὲ τριάς διαιστάσεως) τὴν ἴσχυν ἔχει φύσιν οὐδὲ τῶν ὁποῖων ἐπιδέχεται λόγον, οὐδέ ἂν ἐστί λέγειν σῶμα τοῦ σώματος τὸ μήκος (πλῆθε εἰ ἄρα κατὰ συμπλοκῆς), συμβεβηκός δὲ τῷ σώματι. ὁ δ’ ώμοιος ἐπὶ τοῦ πλάτους καὶ βάθους καὶ βάρους καὶ τοῦ σχήματος λόγος καὶ τῶν λειτουργιῶν ἀπαξιώσας τοιούτων τις καὶ συμβεβηκόντων. ἀλλὰ κατὰ τινας τὸ μη δόχα σώματος ταύτη εἶναι μηδὲ νοεῖσθαι ὅσον τῷ καὶ ταῦτα σώματα εἶναι).

4 17, 16Br: τῶν σώματα, ἦ ἔλκυσιν ἐκ τῆς ἐλκύσι. εἴρατο: AD adopt the punctuation of von Armin, deleting the comma after σώμα. It is suggested by 19, 4-5; 123,36; (113, 31-34).

5 17,18 Br.
matter, even if their subsistence (ιπόστασις) is with matter, because they do not contain matter in their proper nature.

(e) 18, 7: Again, how is it not absurd to say that matter, in so far as it takes on form and quality, also assumes some other matter? But this claim should follow for those who say that the form and quality are material bodies.

The main point that Alexander wants to make is that the distinction between thing and its quality implies that thing is a body and quality is incorporeal. If the latter distinction falls, the former cannot stand either. Since the Stoics recognise the former distinction, as is clear from terminology, they must accept the latter one. The logic of his refutations of corporeality of qualities is within the common conceptual framework of schools, represented in the works cited in n.2 above, which is commonly characterised by the neglect of the specific theoretical meaning of 'quality' in the Stoic system.

Argument (a) is most common in the anti-Stoic polemic of the time. (b) involves the Peripatetic modification of the Stoic distinction between ὑλή and ἔξ ὑλής, to be discussed shortly. The expression ἔξ ὑλής refers to anything that has a material substrate. Alexander at 17,18 after the second ὑλής supplies a second conjunct, getting ἔξ ὑλής καὶ εἴδους, because he believes that the only way to supplement matter (which cannot exist on its own) is by adding form. So he makes it the Stoic tenet, that every existent, either matter or a compound of matter and form, is body, and attacks the 'corporeal qualities', assuming that they are like Aristotelian forms.

The argument of (b) is a reduction to a kind of fallacy of composition (part is equal to the whole) in (b') and a very familiar infinite regression in (b’). (c) raises the standard objection pointing out the problem that arises for the notion of matter as continuous substrate: if quality always exists with some 'private' matter of its own, then there exists matter which is not reducible to the common matter of all things. It is related to the problem of parts

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6 AD cite in parallel: Plut. comm. not. 1085f-1086a (=SVF II 380) and Alcinous did. XI H166, 21-22.
7 18, 10: σώμα ἐνδιάλ. AD 135 note that the term ἐνδιάλ. here means the same as ἔξ ὑλής 17,16 and 18 and is different from Alexander's own technical term for enmattered form. They compare this use with de mixt. XI: 225, 14.
9 Cf. also the quotation of Mnesarchus above, 3.2.
10 19, 3-5 Br.: καὶ γάρ εἰ σώμα ἡ ψυχή, καὶ σώμα σώμα ἢς ἡ ὑλή, ἢς Ἰκέτες ἔξ ὑλής καὶ εἴδους, εἰ γὲ πᾶν σώμα καὶ ἀκτοῖς ἢς, καὶ σώματα ἢς ὡς ἠποικύν. τοῦ ἐρασμοῦ V τῷ Usener. Bruns. τῷ von Arnim AD. In the Hebrew version καὶ εἴδους is added pedantically both on lines 16 and 18 after the first ὑλής. Cf. rendering of the Stoic doctrine in de mixtione XI: 225, 11: τὸ ἢς ἡ ὑλής γενομένου σώμα.
11 Cf. 18, 3-6: εἰ δὲ παιδεῦν καὶ τὰ ὡς δυναμεῖν ὑποτιμᾶται χωρίς ποιότητις ἂποικυν λέγομεν, ὅτι ἢς τῇ ὑλήσει ὥς δέρες ἀκτοῦς, δὲ ἢς ἔστιν ἡ ποιότης καὶ τὸ εἴδους ἢς καὶ ἡ ποιότης κατὰ τὸν ἀκτοῦς λόγον χωρίς ὑλής ἢς εἶναι κτλ. Cf. further 3,6-11.
12 Cf. Alexander mant.6: 123,4-7; Ps.-Galen, de qual. incorp.13a, 174-5 Giusta: ἄπειροι τοιγαροῦν ἐστοῖται κατ’ αὐτοὺς ἄπειροι καὶ διάφοροι ποιοτήτων συμμάτων.
13 Ps.-Galen, de qual. incorp., 13a, 166 Giusta: ἀλλὰ καὶ τῶν ἀποτιμῳτατον εἶναι λέγομεν καὶ κατὰ πλείους τρόπους, πρῶτον καὶ τῶν ἀποτιμῳτατον εἶναι λέγομεν κατὰ πλείους τρόπους, πρῶτον μὲν ὃς μὴ μᾶς τὴν ὑλῆς φύσις, ὡς δέκει, ἀπόκαλλος συμμάτικα, πολλαὶ δὲ καὶ ἄπειροι καὶ διάφοροι, (φ)ημων(ν)
considered below. (d) builds on (a): while (a) indicates that the Stoics by all logic should claim that qualities are incorporeal, (d) says that this claim in fact does not affect their main thesis: no matter without a quality, no quality without matter: substituting ‘form’ for ‘quality’, the ‘net’ output of the Stoic theory will be the same as of the Peripatetic one, and the disagreement is purely verbal. (e) is assuming the Peripatetic notion of matter of a hylomorphic compound. The expression σώμα ἐνδον strikes one as parallel to Alexander’s technical term ἐθος ἐνδον. AD notice that the meaning of ἐνδον here is different: it refers to the kind of existence dependent on matter and corresponds to ἐκ ἀρχής as distinct from ἐκή of the preceding argument.14

In all these arguments Alexander assumes the Aristotelian interpretation of ‘quality’, which also roughly coincides with the common use of the word. According to the Stoic theory, every quality which is perceived has a distinct corporeal cause; this is quality proper. It is a causal and mereological constituent of a qualified individual thing (τὸ ἰδίως ποιόν), the second of the Stoic four ‘genera’ of being. Bodies are made up by qualities also in the mereological sense. Each property of a qualified individual has a corporeal ‘subsystem’ which provides for its functioning. Of course, this view has many difficulties: some of them are addressed in the critique of the Stoic system by other schools (the problem of division; the problem of material unity of the substrate qualified with different and unconnected qualities). Qualities are ‘incomplete bodies’, and as such they are ‘gregarious’ entities which need aggregates for their subsistence. Yet still they are treated as corporeal. Alexander neglects the theoretical complexity of this concept, assuming the qualitative aspect of τὸ ἰδίως ποιόν to be a quality which is essentially similar in function to the Aristotelian form. The same tendency is seen also in the next argument.

5.1.1.2. “Parts”. (18, 10 - 19, 3)

Alexander says:

(a) 18, 10: But to say that it is necessary that of parts of the bodies the parts should also be bodies, as of the surface and of the line and of time the parts are, respectively, surfaces, lines, times; and since parts of the animal, which is a

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14 AD refer to mixt. 11.225, 14: ‘Again, God would be secondary to matter if all emmateriated body (τὸ ἐνδον σῶμα) is secondary to matter; for what is derived from a principle (τὸ ... ἐκ τῆς ἀρχῆς) is secondary to it, and God is such a body since he is not identical with matter.’ (Todd transl.)
body, are form and matter, each of these, consequently, is body, is erroneous.\textsuperscript{13}

(b) 18, 16: For these are not parts in such a way that the body would be dissected into them. For the parts of the body into which it is dissected, are constitutive of the body in respect of quantity, and when it is dissected, they subsist and remain.\textsuperscript{14} But the form and the matter are parts of the body not in this way, but as bronze and shape of a statue: there is no division by which the statue could be 'divided' into them in the same manner as it may [be divided] into the head, and the chest and the limbs. Yet [bodily compound (\textit{συναμφότης}) is composed of them [form and matter], too, as of parts, even if in a different way.\textsuperscript{15} For the shape of a statue is its part as contributing (\textit{συντελεῖ}ν) not to its quantity, but as to its quality, and not as capable of being preserved in separation from matter. But the mentioned division of the body and of other continuous objects is into the parts in the quantitative sense (\textit{eis τὰ ὡς ποικὸν μέσον}) and into what is preserved after the division. For that reason they are not parts of a body in the unqualified sense, but of a particular kind of body, of which that due to which it is this particular body, is also a part, without being a body.

(c) 18, 27: But neither does the argument that says: "that of which the part is body, is itself a body; but sensation, which is part of the soul, is body, hence this latter is also body", prove anything. For if it takes the sensation in the meaning of the sense organ, then, in this acceptation, it is body, but then it is not part of the soul. If, on the other hand, it means the faculty of sensation, then it will get part of the soul, but not body.

(a) and (c) are reports of the Stoic arguments which are difficult to attribute,\textsuperscript{16} and (a) is even difficult to understand, as is clear from the fact that no editor seems to have left the text of its first premiss (at 18,10) without emendation. It will be convenient to begin with the second one. This argument has weak resemblance with the argument by which Zeno reportedly proved that cosmos is endowed with sensation.

\textit{Nullius sensu carentis pars aliqua potest esse sentiens. Mundi autem partes sentientes sunt: non igitur caret sensu mundus}. (Cic. \textit{de nat. deor.} II 22 = \textit{SVF} I 14).

The major feature of resemblance is that in both arguments it is assumed that if a part has some property, the whole should also have the same property. The 'disjunction' between the two meanings of \textit{ἀιθθοσσ}, an organ and a power of sensation, is not exclusive in the Stoic system. The organ of sense is for the Stoics a part of \textit{pneuma}, which has a specific function and accordingly specific physical characteristics. As such, it is a part of the corporeal soul. The 'power of sensation' is not really distinct from an organ through which it acts.\textsuperscript{17} Alexander interprets the theory in a Peripatetic manner, making the distinction into a disjunction: organ is for him a part of body, of a particular material constitution, and 'power', what it does, belongs to he soul.

Prof.Hahm notices that the form of the argument 'from parts' is adopted with adjustments by Cleanthes in his

\textsuperscript{13} AD emend the lines 10-11 to τὸ ̔δε λέγειν (\textit{τερί}) τῶν τῶν σώματος κτλ. The Hebrew version deletes τῶν μερών, which, AD say, is evidently the translator’s conjecture. The Aldine text (10: τὰ τῶν σώματος μέσον) must be editor’s conjecture.

\textsuperscript{14} 18, 17: AD compare this to 17,11 and 18,24.

\textsuperscript{15} 18,21: AD 136: for the two fundamental ways of being parts see Aristotle, \textit{Meta}. \textit{Δ} 25: 1023b12-13, 19-22.

\textsuperscript{16} \textit{SVF} II 793, otherwise not attested.

\textsuperscript{17} See Rubarth 1996, pp.71-74. I am grateful to Prof.Rubarth for discussion of this issue.
proof of the ensouledness of the cosmos reported by Cicero. He indicates that parthood in this case may refer not just to mereological, but primarily to causal relation. The proof 'from parts' should work because it is assumed that they have causal connection with the whole.

The first argument is also based on the notion of relation between part and whole:

(1) Parts of parts of bodies are bodies.
(2) Form and matter, being parts of the animals, are parts of bodies, (for every animal is body).
(3) Hence, form is body.

AD think that this argument must be ad hominem, designed by some Stoic against the Peripatetics in order to confirm the corporeality of form. If, as the Peripatetics claim, form and matter are 'parts' of a living being, then form must be corporeal. But we do not seem to know of any Stoic attempts to refute the Peripatetic theory of form. In fact, it seems that this theory became stable and distinct as a school teaching after Alexander, and due to him. On the other hand, we know that Alexander does regularly render Stoic concepts in Peripatetic terms. We have seen in the preceding argument how he imported the term and concept of ἥμος into his version of the Stoic theory of σῶμα πεποιημένου, using it interchangeably with ποίησις. So we may try to reconstruct the thought that Alexander exploits, on the basis of what we know about his expository method.

The first sentence apparently says that all the members of the division are of the same kind as the things divided. This corresponds to the notion that a quality of the whole should be preserved in every part. This principle should work also in the case of quality, which Alexander understands as form. Then the argument might be saying that form is body because it is homogeneously corporeal in all its parts, itself being part of an animal body, in the mereological sense that involves being enmattered.

In his refutation Alexander uses a different sense of 'part' which does not require that all the properties of wholes should be inherited by parts. We have seen this notion in his theory of form and matter as parts of substance discussed in the previous chapter. He says that form and matter are not parts of division, so it is not true that they

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20 de nat. deor. II 23-28 = SYF II 112.113.
21 Hahn 1977, pp. 141-142.
22 AD, p.135.
23 For other examples see Todd 1976, pp. 73-88; Todd 1973.
are bodies. This is more than dialectical refutation, as Alexander invokes here his ‘strong’ hylomorphic ontology of a substance. It may be compared to the Stoic notion of quality.

The thesis of corporeal nature of quality follows from the Stoic theory of layered ἵππειμενα constitutive of body’s reality. This theory was in the background of the αὐξανόμενος λόγος, a paradox popular in the New Academy, traced back as far as the fifth century Epicharmus and solved by Chrysippus in a way that many thought more paradoxical than the original argument that denied growth on the grounds that it is impossible to specify its subject because it is in constant flux.25 A partial, but nevertheless informative presentation of Chrysippus’ solution, keeping some details of historical background, is found in Plutarch’s de communibus notitiis 44. Plutarch says that according to this theory each body is constituted by four material subjects, but he is skipping two in his account since two is enough to demonstrate its absurdity. The two subjects that constitute each body are ὀυσία and presumably ποιόν. Plutarch tells us that the distinction between the two is not perceptible by the senses, in fact both ‘substance’ and ‘qualified individual’ are identical with respect to sense perception. ‘Substance’ is in flux, while the qualified individual persists as a subject of change (growth). The subject of change is the invariant of the process that is constituted by both ‘this here’ and the ‘next’ qualities. That which changes and that which persists are indistinguishable because of continuity of the process of change.26

It is clear from this account that ὀυσία and ποιόν cannot be divided and exist separately, just like the form and matter of Alexander’s theory cannot exist on their own. This feature is common to the Peripatetic substance and Stoic qualified object. The difference is in other respects, to be considered below, and also in the way of description adopted for this type of constituents. For Stoics they are still corporeal, although not bodies on their own; for Alexander they are incorporeal, because they cannot exist separately, but they are substances which have distinct roles in the constitution. As we have seen above, Alexander admits the similarity between his form and Stoic quality. His critique of the Stoic theory at this point is of the sort common in the school literature.27

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26 comm.noi.1083C: ἐκαστὸν ἡμῶν ἄδημον εἶναι καὶ δῆμον καὶ ἄθροι - όις ἀντίθετοι οἱ ποιηταὶ τῶν Μαλανιδᾶς εἰρήνων, τοὺς μὲν ἑρμηνεύουσας μέρες τοῖς δ’ ἀποκρυπτομένως, ἄλλα δυὸ σύμμετρα τῷ ἄθροι κρώστα ὁρμόμενον τῷ τῷ βάρος καὶ τὸν ἄρτον (τὰν ἄρτον ἄρχοντα ἐκ διπλα καίπερ) ὑπὸ μεθόδων ἀνθρώπων ὁρμησθήσαν ποιήσων ἄλλα δυὸ ἑκάτον ἄδημον οὐκ εἰρήνων τῷ συνήθει τῶν των ἐστιν οὐσίων ἀνθρώπων, τοῦ μὲν ὀυσία τοῦ δ’ ὀποίου, καὶ τὸ μὲν αὐτὲ καὶ ὀρθότερα μήτε μεταφέρεται μήν ἀφοῦ ἢ ἄθροι τοῦ τοῦ ἡμῶν, τὸ δὲ διαμένει καὶ ἀναθέτει καὶ μειώται καὶ πάντα πάσηι τὰν αὐτὸν καὶ τοῦ τῆς διαφορᾶς τῇ αἴσθησιν καὶ κατὰ τὰς ὁμοιότητας ἀνθρώπων ὁμοιότητα.
27 See previous subsection 5.1.1.1. for examples.
5.1.1.3. “From theory of generation.” (19, 3 - 19, 20)

The third argument is a re-interpretation of the Stoic theory of formation of the soul from *pneuma* in terms of the Aristotelian theory of generation, attempting to make corrections in the Stoic formulations. This argument is important for understanding Alexander’s theory of soul as ‘power’ of body.

19. 3: Further, if soul is body, and body not in the sense of matter, then it will be from matter and form, given that every body, according to them, apart from matter, is such. But if so, then in that body also the soul will be form.

19. 6: For if the body that underlies it, being some “this” and capable of subsistence by itself, whether it is a *pneuma* or something different, is not ensouled, then the thing that, being added to that body, which is preserved intact (σωζόμενος) [in the process of addition], makes it into ensouled from soulless, would be soul, according to them.

19. 9: For it is impossible to say that because of the addition of a quality to the *pneuma*, *pneuma* becomes soul.

For if the addition of a quality to the *pneuma* made for the substantial change of the *pneuma*, it would be possible to say that *pneuma* changes into the soul.

But if even with the addition of a quality it remains *pneuma*, and *pneuma* was not soul, then even the quality added to it would not make it into a soul, since it does not change its substance, but rather is present in the *pneuma* as some accidental property. For no natural body can, without a substantial change, pass (μεταστήσας) from some nature into a different one. But the nature of soul is different from that of *pneuma*. Certainly, at any rate, it is impossible to say that *pneuma* is the genus of the soul that has its subsistence by itself.

Soul in the Stoic theory is one of several pneumatic states which correspond to the different levels of the *scala naturae*. As we have seen above, in 3.5, the states include ζηγε which characterises inorganic nature, φύσις which is the main description of the being of plants, ψυχή possessed by the animals and λογική ψυχή by the humans. “Nature” characterises not only plants proper, but also the ‘vegetative’ manner of being of the embryo in the uterus.

AD suggest that Alexander might be alluding here to the Stoic theory of generation of soul by ‘refrigeration’ of the pneuma. At the moment of birth the pneumatic state of the embryo is changed from φύσις to ψυχή in the process which is compared to the process of ‘cooling’ which is used to harden the shaped metal in a smithy. This is how Hierocles describes the process of initial refrigeration:

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28 AD 136 relate the lines 3-6 to the previous argument, recognising, however, the difficulty of seeing the connection. They say that the lines should explain why (γὰρ) the sensitive faculty, which is part of the soul, is not a body, and instead begins “if in fact the soul is body” etc.; according to them, one would expect “ἔν δὲ”.

But in fact καὶ γὰρ here is fairly close in meaning to ἔν δὲ. Γὰρ probably should not be read as connective, but rather καὶ should be understood as connective and the whole phrase as meaning “further”, passing to the next argument of pneuma (especially since the link between 3-6 and the following seems to be securely set by γὰρ on line 7). There are instances of such use in the Alexandrist corpus, e.g. in *quaest.* 14: 10, 32; 11, 4; 12, 5, 12, 13 Br. Generally, the difference seems to be that καὶ γὰρ enumerates the arguments which are closer related to each other, e.g. in supporting a more specific point; whereas ἔν δὲ can range over less structured ‘batches’ of arguments.

29 19, 5: τῶν Usener, Bruns, Hübner; τὸ erasum in V: τὸ a Armim AD136.

30 19,20: ἐξὸν ἰᾶσεσθαι κατ' αὐτὸ.

31 Philo leg.allg. II 22; id. quod deus sit immut. 35 = SVF II 458.
Well, the seed fallen into the uterus at the proper moment and at the same time collected by the strong vessel, does not rest anymore as before, but set in motion, initiates its own functions and drawing on the matter of the pregnant body, shapes (διαλάττει) the embryo according to the unchangeable orders until it arrives at the end and makes its product ready for birth.

But all this time, i.e. from conception until birth, it remains nature (φύσις), which is pneuma that has been changed from the seed and is moving, in some regular way (ἀκολουθεῖν) from the beginning to the end (ἀπ’ ἀρχῆς εἰς τέλος). At the first time the nature is still somehow denser and farther removed from the soul, but after that and when it has almost arrived at [the moment of] birth, it gets finer being “blown” by the continuous operations (αὐτοπεράσθαι ἐπιστολής)\(^{33}\) and as regards the quantity is equal to soul. For that reason accordingly, when it goes out, it is made adequate to the milieu (τῷ περιστρέφοντι) so that it would change into soul as though being hardened by it (ὁδὸν στομαθεῖσα προσφέρει αὐτῷ μετὰ ἀλλατισμοῦ εἰς φυσιν).

For as pneuma in the stones is quickly inflamed by striking because of the predisposition (ἐπιμάθησις) to such a change, in the same way also the nature (φύσις) of an embryo that has already become “ripe”\(^{34}\) changes into soul without a delay, as soon as it gets into the surrounding milieu. (Hierocles I 5-27 BL).

Hierocles regards soul and nature as different aspects of the same basic substrate, which is pneuma. The difference between soul and nature is the difference of the external circumstances to which pneuma has to adjust. Hence the conception of “cooling” or “hardening”.

Alexander does not actually mention the process of refrigeration in his argument, reproducing just the principal structure of the process of transformation. As regards the principal scheme, his presentation of the Stoic doctrine is an accurate translation of the account of ‘cooling’ into the language of Aristotelian theory of change. There are several points in his presentation that suggest that the nature of his analysis is genetic and not just compositional.

But he understands the process of transformation in accordance with the Aristotelian “replacement” scheme, and thus posits a dilemma for the Stoics: the “replacement” should be either “aspectual”, in which case the process will be a non-substantial change, or complete, in which case the process will be a substantial change. In the former case, the form that determines “replacement” cannot be soul, because soul is form-substance; in the latter case, there may not be continuity of a substrate between the state before “replacement” and the state of “replacement”; in this case the transformation cannot be presented as an aspectual change of the pneuma, because by conditions of the substantial change, pneuma does not persist in the process of transformation.

AD note that Alexander here invokes Aristotle’s distinction between substantial and non-substantial types of transformation mentioned in GC II 4. But it may be noticed that in GC the difference is between the generation of qualities and the elemental generation, while at this point it is rather the distinction between the two types of substrates, which refers to the theory of substantial generation as developed in Phys. III and Meta. Z-H. So, at this point in his dispute against the Stoics Alexander uses the strong hylomorphic theory of substance, of the type

\(^{32}\)AD 137.

\(^{33}\)This translation has been suggested to me by Prof. Sharples.
developed in *mant.* 5,\(^4\) that assumes the difference between the two types of substrates.

It may be noticed that while in the two previous arguments Alexander’s critique of the Stoics was based on partial misinterpretation of their doctrine, in this case he grasps the difference between the Aristotelian and the Stoic systems generally quite adequately: in the Aristotelian system it is assumed that the underlying substrate does not remain the same in the process of substantial change, while in the Stoic system, the continuity of substrate is assumed. Mnesarchus’ passage cited above in chapter three is relevant for the illustration of this difference.

Whereas according to the Stoics, there is a basic corporeal level against which all the material things and processes are taken to be commensurable, there is no clear conception of this kind of a substrate in the Aristotelian system. And when Alexander introduces the notion of common substrate in the systematic manner, he does not assume that it will possess exactly the same properties as the Stoic matter - substance.

So, where, according to the Aristotelians, we have a coming to be of a substance, the Stoics have the coming to be of a subject of individual qualification, while the substance, and hence, the most basic, first, substrate remains the same.

5.1.1.4. “Against one-element theories”. (19, 21 - 20, 26)

This series of arguments is directed against the thesis that soul can be one of the elements. It is criticised in its generic version; exact attribution is unlikely. The arguments are based to a large extent on the ‘mixture’ theory of bodily constitution, discussed above (in the third chapter). These arguments, Alexander says, are directed against those who, though they hold that soul is form, treat it as one of the elements: fire or air. It is difficult to estimate the value of this as a report. AD reject the possibility that Alexander’s target, like Aristotle’s in *DA*, is Pre-Socratic naturalism, and suggest, against Fotinis, that because of the term εἴδος present in the description, it also must be not Stoic, but perhaps stoicising Peripatetic.

But we have already seen in the first chapter of this section how Alexander effectively interpolated the term εἴδος into the theory which is undoubtedly Stoic, and we know that he interpreted the doctrines of rival schools in peripatetic terms; so caution is recommended in this case too. On the other hand, the arguments are generic.

\(^4\) Or: “which has already come to be in a softened mode” (to link with the ‘hardening’ model of the previous passage). I 25: πέπονον ἣν γεγονότος. Πέπωμ may have a double meaning of ‘ripe’ and ‘soft’ in this case.

\(^5\) See chapter four.
Because of this, and also taking into account the a-historical expository method of ancient doxography, it is probably reasonable to keep all the three sources for this view: pre-Socratic natural philosophers, Stoics and stoicising Peripatetics.

(a) 19, 21: But those who say that soul is form of body, but make it out to be a certain one of the bodies underlying the living being, like fire or air or something else, unwittingly make part of matter into the form of [all] the remaining matter, which is absurd. For, as has been shown, the nature of form is different from that of matter. While one is underlying, another is “in” it; and while one is that which is shaped, the other is that according to which it is shaped.

The argument is both dialectical and theory-specific. The main objection is from the distinction between form and matter, but it might work as well if quality were taken instead of form. Alexander states it as a contradiction: they cannot accept the form and say it is corporeal.

(b) 19, 26: And those who say this, should, by all logic, claim also the fire or the air to be the perfection of the three remaining bodies, and have generation from the mixture of those; for the perfection is such. But in this case it would be no longer a simple body. For that whose generation is from the mixture of multiple bodies is not simple. And consequently the simple bodies would not be four in number.

This objection is based on Alexander’s theory of mixture. The notion of teleisht, should be introduced because eidos is supposed to be teleisht. But the understanding of teleisht is characteristic of Alexander’s mixture theory as AD notice. It is “perfection”, because evidently, this is how Alexander understands the process of mutual tempering and modification that goes on in the mixture: the ‘end-state’ is reached, when the ingredients cannot ‘mix’ any more. On the other hand, we should not discard the connotation of “actuality” in the term teleisht, because the actual state of the elements in a mixture is not the primordial one, but is perfected and modified.

(c) 19,31: But neither is it possible for any of the four bodies to come about from the mixture of the remaining ones,

36 Cf. Mansfeld, 1990, 3058: ‘the tenets are what matters most, not the persons who held them’. However, the possibility that Alexander himself could match the dialectical positions that he constructed in his arguments with certain historical doctrines of which he was otherwise aware should not be ruled out.
37 One could also add Galen, who sometimes uses the Hippocratic (ultimately, Ionian) notion of soul as ‘stuff’. For Peripatetic parallels (which of course should not be taken as more than parallels), cf. the last section of mant.2: οὕτως μὲν οὖν ἐκ τούτου σώματος τοῦ κρατήσαντος πυρ γένεται ἢ τι τοιοῦτον ἐκ μείζους, ὡς καὶ ὄργανον δύναμιν τῷ νῷ παρασχεῖν, οὐς ἐστὶν ἐν μέγιστῃ τοιοτῷ (ὅτι ἔστιν ἐν παντὶ σώματι, σῶμα δὲ καὶ τούτῳ), τοῦτο τὸ ὄργανον δύναμιν νοεῖς λέγεται ἐπιτηδείως της δύναμις ἐπὶ της τοιοῦτος τῶν σωμάτων γινομένῃ πρὸς τὸ δεξαμενὸν τῶν ἐνεργειῶν νοιόν. 112, 11-16 Br. Cf. also quaest II 3, the formulation of the problem, which is probably derived from the school tradition.
38 AD, p.137. (Fotinis 1979, p.171). The opponents are reported to say that the soul is form of the body. Unfortunately I did not manage to get hold of the work of Asiano, which reportedly argues for the Peripatetic origin of the doctrine (AD, ibid.: Asiano 1985-86: 172-91.)
40 19, 25: σχηματιζόμενον - καθ’ ὅ σχηματιζέται.
41 AD, p. 138.
42 Cf. quaest. II 3: 50, 24-27 Br.
given that in the thing that comes about from the mixture must be expressed (ἐνθαύσεσθαι) all the powers of those, from which it is mixed; for mixture differs from passing away in that <in it> the passing away of the mixed ingredients is not complete. But it is impossible to say either that in the fire there are the moist and the cold, or that in the air the dry and the cold.

We have already noticed the term ἐνθαύσεσθαι which is used by Alexander similarly to the συνεκφαινόμαι of a Stoic source, to refer to the simultaneous co-presence in a mixture of all the elemental qualities. The ‘common form’ of a mixture cannot be simple, because due to the nature of mixture, it will have in it all the qualities of the ingredients. At this point we may be able to see the polemical background of Alexander’s introduction of the difficult notion of ‘common form’ as form of mixture, which is not found in Aristotle. The main question which has to be answered by any system of natural philosophy is that of the principle underlying the structure of the physical entities. Mixture theory is one way to avoid reduction of the physical structure to the material structure. As we shall see, most arguments used by Alexander in his polemic against the materialist interpretations of nature are based on the notion that bodily constitution is based on the mixture of the elements. ‘Mixture’ seems to be the most adequate physical counterpart to form-substance. It is more theoretically adequate and has better explanatory power than any ‘divine stuff’. In this respect it is interesting to notice that Dicaearchus’ ‘mixture’ (or ‘harmony’) theory of the soul is listed in the doxographical sources as an “incorporealism” theory, despite its apparently ‘physicalist’ and ‘eliminativist’ character. ‘Mixture’ theory might have been regarded as a balanced view when opposed to the archaising ‘Ionian’ versions of corporealism in psychology.

(d) 19, 36: Also, what would be the reason for this particular one of the four, rather than some other, being the form of the remaining three?

An argument from ‘mixture’ theory which must hold good. Alexander here makes no distinction between the ‘more’ and ‘less formal’ elements as in quaest. II 3, but seems to draw exclusively on the GC theory of transformations and on his own hylomorphic theory of elements which, as we noticed in chapter three, is in some tension with the ‘eidetic’ hierarchy.

(e) 20,1: Also in the living being there would be only the powers of the body generated from the mixture of the others. So, if that generated body were fire, [there would be] heat and dryness, if some other body, [there would be] its powers, because this should be what is generated from those. But if the powers of other bodies persist in the

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43 See chapter three.
44 AD 139 refer to GC I 10. AD modify Bruns’ punctuation at lines 33-34 (parenthesising the cause concerning the difference between the mixture and the passing away), but I wonder how crucial it is (the logical connection seems to be there with Bruns’ punctuation).
living thing no less* than the powers of this one, then it would not be generated (γεγονός) from those, so it would not be form. If not form, neither is it soul.

AD notice that Alexander should have said "in the soul" rather than "in the living being", because the major hypothesis is that the soul-form is the element resulting from the mixture of the other three. This way the conclusion at 20, 5-6 seems unfounded, because it assumes as obvious that "in the animal" persist all the διακόμενοι in order to obtain the resulting clause that "the element cannot be form of the others and for that reason it is not a soul"; but the assumption in fact is only obvious in reference to the compound of soul and body.

But probably it is the dissimilarity between "simple" and "complex" form that is at issue. Alexander assumes that only the properties of the element that is derived from the mixture of all the elements should characterise the whole compound. This seems to be the basis of his refutation of the opponents; based on common sense (clearly, there are not just the two properties). So, the idea is that the properties of a body are defined by its form and hence should include only those. The alternative hypothesis that Alexander here wants to promote is the hypothesis of the complex form. On this latter assumption, the properties of the organism should not be described in terms of the simple elemental properties.

(1) 20, 6: Also, if the soul is a certain one of these, either the whole living being will not be ensouled, or body will go through body, than which view what could be more absurd? For how can some body, which is 'filled up' with itself (μεσθόν) and has not any void in itself, receive into itself another body, which is similarly filled up with itself? For if that which is fully saturated (πληθος) with itself, will receive something else, which again, is itself, too, saturated with itself, then there will be no obstacle for it to receive yet another, and yet another thing. For since when it was alone, being then no less full than now, when it has received into itself something else, it was yet not impeded from receiving something second, so, too, nothing will impede the greatest body to be in the smallest one. But how is it not absurd, to say that the place completely filled (πενθερωμένον) with some body can also receive some other body, remaining the same, while the body that had filled it remains it and is not moved somewhere? But the absurdity of this doctrine has been discussed by us at length elsewhere*7.

This is a familiar argument against construing soul's presence in body as, on the one hand, juxtaposition of two bodies (because in that case not the whole body will be ensouled); and on the other hand, as the Stoic καίσας δ' ὁλον. AD notice that the argument may go back to Arcesilaus. A version of the ancient argument is reported by Plutarch, comm. not. 1078c. Todd cites also Sextus PH III 60-61, and indicates as the possible Aristotelian source of this type

*4 20, 4: μηδέν μᾶλλον] AD correctly: should be μηδέν ἐπτυσ. Prof. Sharples notes that Alexander seems to be prone to this sort of error. See Sharples 1994, p.123, n.134.
*7 20, 18: so this is after de mixtione; AD 140: refer also to mant. 139,30-141,28.
of argument the argument attributed to the proponents of the void in Phys. Δ 6: 213b5-12. But this theory is also by the time of Alexander a well-attested school tenet (that in the process of mixture qualities mix, but not bodies: the latter remain juxtaposed).

(g) 20, 19: Also those who say so do not preserve the analogy (ἀναλογία) of the form in the animal to the forms of both the simple bodies and the artefacts. For neither is the heaviness such a form, nor the lightness, nor the shape. This argument is theory-specific. “Analogy”, taken here in the strong sense of proportion between the simple and complex forms, is the principle of Alexander’s theory of formal complexity.

(h) 20, 22: Also, if they say that a certain one of the simple bodies is such a form as the soul, then, since it is the form rather than the whole compound (συναμμόδετερον) that forms (εἰδοποιοῦν) the matter, the soul would be, according to those who say so, the form of this (simple) body, that is the lightness, or its concomitant heat and dryness, or some form of some of the simple bodies.

This argument is dialectical, and is to be compared with Aristotle’s DA I 3: 406b6.

We can see that the arguments against ‘mono-elemental’ theories of soul are of two main types (sometimes mixed in one): dialectical, which for Alexander means based on commonly accepted pre-theoretical distinctions and principles ((a), (e), (f), (h)); and theory-specific, including those based on mixture-theory ((b), (c), (d), (e)), on ‘strong’ hylomorphic theory ((a), (g)) and in one case on common principles of physics (f). From this set of arguments we can better see the raison d’être of the mixture theory: if an account of soul in elemental terms is needed, as it seems to be, mixture theory is much more theoretically acceptable and much more advanced than any hypothesis of physical divine properties. But it is interesting that Alexander does not mention any ordering within the elements here (as distinct from quaest. II 3).

In this section we have seen two distinct sets of arguments: the fourth group, though it could also be anti-Stoic, is based mostly on distinct principles of Peripatetic theory of mixture, while the first three groups were anti-Stoic and based on the dialectical refutations and ontological differences between the Stoic and Peripatetic systems.

Characteristically, dialectical refutations are used where Alexander incorrectly interprets the Stoic theory in

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48 His argument for the Phys. Δ source is the way in which this text is used by the commentators (he cites on p. 80, n. 231, Simpl. in phys. 530.22-24; in de caelo 629, 29-30; Philop. in phys. 505, 23-27, de an. 343, 34-344, 4.)
49 This is how the Peripatetic theory is reported in doxography. See e.g. Ar. Did. fr. phys. 4 discussed above in chapter three. Alexander, following Aristotle’s GC, mentions παράδειγμα as a condition of μετα, but avoids saying explicitly that bodies remain juxtaposed, although this should follow. See mixt. XV: 233, 2 Br.
50 20, 22-23: τόν ως ψυχήν V Bruns τό ν ως Usenerus ως τήν AD
51 Although it is true, that, as Prof. Sharples points out to me, he singles out fire at this point. Cf. however de anima 5, 4 sq., where fire is taken as an example of a simple body, in the sense that its hylomorphic structure (and it is this that constitutes the substance of elements as well as of living beings) is the same as of any other element.
Peripatetic terms and thinks that it is based on shared principles; and theory-specific refutation is applied to the point which he correctly perceives as the point of difference.

The difference between Peripatetic individual substance and Stoic "qualified individual" (second category) probably may now be spelled out by way of summary. Peripatetic substance as pictured by Alexander has two parts: form and matter. Form is its essence, and it establishes certain physical parameters which are 'set' to a certain value by the circumstances of material realisation. Matter provides for variation, but this variation is within constraints beyond which substance ceases to exist (we have seen in chapter four that Alexander develops a notion of ὑπάρξεις, ὑπόστασις which accounts for the range of variation in the non-substantial categories. A thing has boundaries set by form-substance; it is somewhat like a fortress: it either exists on its own or ceases to exist altogether.

The Stoic qualified individual (as Alexander does not know or does not want to know) is a compound constituted by corporeal qualities, which are all 'in-grown' into its qualityless substrate. Physical parameters of an individual are not prescribed in one of its aspects, but are like unwritten laws, fixed by each of its past and future states, which are continuous and therefore hard to get hold of. For this reason things do not have quite as rigid boundaries, but flow into one another like streams: what thing there is depends on what qualities are present.

This difference between the two systems may be not conspicuous in the compositional analysis of the ontological structure: a proper quality is similar to an individual form in many respects. But there is difference in the genetic analysis, where a thing comes to be from another thing: there it is possible to treat "nature" outside the body and 'soul' inside as the same thing under different qualifications. Alexander knows this last part of the Stoic theory, and here his critique is theory-specific. But the difference in the 'compositional' case is not as clear, and Alexander is contented with dialectical critique.

5.1.2. Inseparability. (20,26-21,22).

The argument for inseparability is short, compared to the other two, partly because the theme has already been pursued earlier in the treatise. Still it is important to look at it in this form: it defends the Peripatetic 'tenet' of soul's perishability that must have been unpopular even in Alexander's time, and became the main feature of
'Alexandrianism' in posterity. The tradition knows of many scholarly attempts to show that this postulate is not a necessary part of the Aristotelian system. This last issue may need some attention.

The argument is developed on the already familiar material of the 'steersman' simile. As has been noticed above, the Aristotelian source for this simile is *DA* II 1:413a8-9. Alexander uses this example to develop his argument that soul is the form of the body it is in. Alexander seems to attribute this view to some real proponents, but it is hard to say whether he does so because he knows of some historical doctrine of this kind, or because he thinks that Aristotle refers to some historically attested view when suggesting this as a problem in *DA* II 1. AD suppose, because of the way in which the argument is concluded (by the statement of soul’s mortality) that it must be a reaction to a Platonist kind of position. On the other hand they indicate at least two "Peripatetic" features of the theory criticised by Alexander: the acknowledgement of definition of soul as form and the allusion to the Aristotelian *locus* from *DA* mentioned above.

20., 26: But neither are those right who say that the soul of the living being is form, but form as some separable substance and a thing by itself (αὐτὴν καὶ αὐτὴν), like the pilot of a ship (for he, too, is the form and the perfection of a ship).

(a) 20.29: For the pilot is neither form, nor perfection of a ship, (for the ship exists even without a pilot), except if the pilot were said to be the form in a general way, with respect to the activity of the ship (ἐνεργείας). For the activity of the ship is in the ship due to a particular shape, which is its form, and the pilot contributes something to this activity. But the soul is the form of a living being on account of its living and it is not the case that it is only ensouled when it acts. For that reason the soul is the first entelechy.

21.5: That it is not in the similar way, as the soul is the form of a living being, that the pilot is the form of the ship, is clear from the fact that the ship persists even when the pilot leaves it, but the living being does not remain living when the soul is gone. For that reason the soul rather has the analogy (ἀναλογίαν) with the shape of a ship. For the being of a ship is due to it, as of a living being due to the soul.

Alexander says that pilot is a 'separable' form of a ship; not of a ship itself, as a thing, but of some of its activities.

We have seen above that the issue of separability was the point of disagreement 'between' Alexander and Plotinus. This argument is 'theory-laden': Alexander says that natural form is supposed to be both the source of functional activity of a thing and the source of its being. What is separable, does not count as the form of this thing.

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52 Garin 1965, pp.136-150.
53 20, 26-27: AD note that the repeated δὲ is strange: perhaps the first one is to be replaced by γε; logically μὴ should be expected, but that is remote from the text. However, it is possible to take the first δὲ as inceptive of the new turn of the argument, directed against the new opponents (On the inceptive δὲ see Denniston p.172.).
54 21, 1: αὐτὰς Bruns ei αὐτὰς Va ei αὐτὰς ὡς AD; (probably delete both fullstops at 20,30).
55 21.4: ἐνεργείαν καθο ἐνεργείαν
56 21, 4: ἐνεργείαν seems to be taken in the narrower meaning of πράττειν.
57 21, 5: AD 142: "the first entelechy" cf.16, 8-9.
58 21, 5-8: AD 142: the argument already outlined in 20,30, which can be a justification of the second γε on line 5.
(b) 21.10: Also, the pilot is not all over the ship. But the whole body of a living being is ensouled.

This argument is already familiar, it is one of the reductions from a “dialectical” stock: whatever contradicts a principle which is considered to be shared by all the schools, is unsatisfactory (for all the schools, even the Platonists, assume that the interaction between soul and body is such that no part of body is “outside” its scope).

(c) 21.11: But if the soul were in the body in this way, it would be possible for it, once it has left it, to re-enter it again. But what will keep inside the body the soul possessed of such a property?

This argument is repeated from 15, 18-19, as AD point out, and it has as its source Aristotle’s argument against soul’s being moved in DA I 3: 406b1-5. If the soul can ‘come and go’ then the commonly accepted principle will not hold according to which soul is ‘in’ a body.60

(d) 21.13: Also the body will be moved not by its own nature; hence, against nature. But every involuntary (βίαιος) movement, which is against nature, also comes about through the bodily resistance, so that according to this argument, again, the soul would be body.

This may be an elaboration of Aristotle’s refutation of soul’s being moved, in DA I 3, where “being moved by nature” entails being moved “by force”, and conversely.61 ‘Resistance’ (ἀντέρεις) is the key concept in Aristotle’s explanation of the animal motion in MA: in order to move, animals need to push against some milieu, which of course has to be of corporeal nature.62 Apparently, Alexander implies the contrast between such motion, where the resistance of milieu is a necessary factor in the production of movement, and natural motion, which is an actualisation of inner tendency, and does not rely on the direct action of another body in order to be exercised.63

In DA I 3 Aristotle says that it is not easy to say what these natural or unnatural movements are, with regard to the soul. The natural movements are ‘up’ and ‘down’, he says, and they seem to be irrelevant to the soul-induced movements of the body. Alexander seems to take up the other horn of the dilemma (soul moves body with the unnatural motions), and reduce it to the thesis “soul is body”.

Alexander’s reduction can be reconstructed as follows:

[1. Soul and body are separate entities. ] assumptions of the criticised theory.
[2. Soul moves the body (like a steersman) ]

60 See below, 5.1.3.1.
61 See above, 4.1.
62 406a23: ἔτι δ' εἰ φύσις κινεῖται, καί βία κινήθηκαί καί εἰ βία, καί φύσις... a26: ποιεῖ δὲ βιαιοὶ τῆς φύσεως κινήσεις ἐγείρεται καὶ ἧρμαι, οὐκέ τελέσθαι βουλήμενος ἐμφανει ἀποδοίηται. ἔτι δ' εἰ μὲν ἑνων κινήσεις, ποιεῖ ἐσταί, εἰ δὲ κάτω, γῆς τοῦτον γὰρ τῶν σωμάτων αἱ κινήσεις αὐταί.
63 AD 143 refer to MA 2:698b16.
64 I am grateful to Prof. Sharples for helpful suggestion on this issue.
3. Hence, body (when moved by soul) is moved not with its own movements.

4. But if a body moves not with its own movements, the movements that it moves with are induced by another body.

5. Hence, soul is body.

It may be noticed that the conclusion here should be unacceptable on two counts: first, it contradicts the commonly accepted distinction between soul and body (as such it is unacceptable for Alexander); second, it is shown to be true together with the assumption (1), to which it is contrary (as such it is unacceptable in this particular system, apart from the question of general plausibility). So the reduction is supposed to have a 'double strength'.

The idea apparently is that the main external, non-teleological factor of non-natural movement is the resistance of the milieu to a body which is going its way, and this is the only role that remains for the soul, if we suppose that it is separate from the body in a strong sense.64

The next argument exploits both the tenet common to all the schools (some kind of unity between soul and body) and the theory-specific point (strong sense of unity of the Aristotelian theory):

(e) 21. 16: But also in general, someone might reasonably challenge those who say that this is the way in which soul is the form of the body: what is it that brings and holds together both of them, separate from one another and different in their respective natures as they are, so that something one should come about from them and persist (συμμεέων)? For it is hard to find the cause of the initial concomitance (συνόδου) of both, and after the concomitance, of the unification (ἐνώσεως).

AD notice that Alexander might be using as the point of departure in this argument one of the Aristotelian critiques of the division of soul into parts rather than functions, in DA 1.5.64 Of course, the explanandum in this case is different, containing two questions that are left unanswered by the assumption that soul is an entity separate from body: how do soul and body 'chance' upon one another, if they are separate; and, assuming that this happens, why do they become a unity rather than keeping the status quo. Alexander does not develop the elimination by the regress which is used by Aristotle in DA 1.5, saying just that such a cause is not easy to find, which should be an understatement, but this elimination is perhaps easily conceivable.

64 The reduction arguably may be not as easy if we assume the teleological interpretation of soul as a moving cause.
65 21, 16-21: AD, p. 143: for the relation soul-body Alexander takes the starting point from Aristotle’s argument against the division of the soul into parts (DA 1.5: 411b6 sqq).
66 411b5: λέγουσι δε τις μεριστήν αὐτὴν και ἄλλη μεν νοεῖν ἄλλη δὲ ἐπιθυμεῖν. τι οὖν δὴ ποτε συνέχει τὴν ψυχήν, εἰ μεριστήν πέφυκεν; κτλ.
The coda of the argument says that soul perishes with the body:

21.22: Since soul is the form of body, as has been said earlier, because such a form is inseparable from the body, it should also perish simultaneously with the body, insofar as it has the form of a perishable body.

Most of the arguments ((b), (c), (d), (e) in part, are dialectical reductions. In (e) the dialectical point (soul’s being ‘in’ a body) converges on the principle of unity of Aristotle’s hylomorphic theory. But at least one argument (the main difficulty of the ‘steersman’ simile) is based on the strictly theoretical considerations. We have seen that the ‘separability’ of form can only be achieved at the price of separating function from being in the account of a thing. This cannot be allowed by the Aristotelian conception of natural things. This presents major problem to attempts to dispense with ‘corruptibility’ of the soul while staying on Aristotelian ground.

It should be noticed that Alexander’s presentation of the Aristotelian view here is in agreement with the part of doxographical tradition that portrays Aristotelians as teaching the soul’s mortality (even though he does not actually use the terms ‘mortality’ and ‘immortality’, speaking about ‘perishability’), and in disagreement with other reports on Aristotle found in the sources, according to which the soul is immortal. This latter kind of reports may be reflecting the early ‘exoteric’ works, like Eudemus and De philosophia, Alexander apparently disregards that part of the tradition (even though dealing with the intellect, he will allow some kind of incorruptibility for the acquired intellect: but this will not be equivalent to the incorruptibility of the individual soul).

5.1.3. Immobility per se (21, 24-24, 17).

The next attribute that Alexander discusses is soul’s immobility per se. This feature of the soul is discussed by Aristotle in DA I 3, and Alexander in his exposition follows the general logic of Aristotle’s argument. However, his argument is not a paraphrase of Aristotle’s: Alexander leaves out Aristotle’s critique of the Timaeus, develops his own distinction between agency and causation and criticises the ‘instrumentalist’ conception of body as a

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67 I think AD are right suggesting a division between this argument and the following one at 21,24 instead of 21,22 as Bruns has it. (AD, p.143, ad 21, 22-24.) The issue of mortality is clearly treated by Alexander in relation to that of separability, and the conclusion on it should appear as a theoretical consequence from the treatment of separability.
68 21, 24: ὡς γε αὐτὸς φθαρτον σώματος εἶδος ἐστιν.
69 See references in Mansfeld 1990, 3090-91.
70 Prof. Sharples points out to me that, especially in the Neoplatonic sources, a reading of GA II 3 and DA III 5 may be taken to support this view. It is unclear whether this view was adopted in the earlier doxographical tradition.
5.1.3.1. Some preliminaries.

Self-motion is the issue on which the Aristotelian system is clearly divided from Platonism. Self-motion is considered to be a fundamental characteristic of the soul by Plato, in his famous discussions in *Phaedrus* and in *Laws X.*\(^2\) and supported by the cosmology of the *Timaeus.*\(^3\) Probably the most important of Aristotle’s criticisms of this notion is the one made from the point of view of his causal theory of motion, in which every motion (change) should have a clear description in terms of initial state and end state and of the agency that brings about the change. It is important to appreciate adequately the nature of the constraints laid by Aristotle on the notion of ‘motion’, because these constraints form the background of his critique of the Platonic model of self-motion, as well as of his own theory of movers.

Of crucial importance in this respect is Aristotle’s definition of a ‘numerically single’ motion in *Phys. V 4.* By formulating its conditions he makes a step towards a more articulate application of causal terms to the analysis of change.\(^4\) This notion of movement requires that the mover and the moved should be distinct, and it is on the basis of this distinction that Aristotle develops his conception of the unmoved mover.\(^5\) ‘Self-movement’ on this view, if taken as a characteristic of motion that is numerically one in this technical sense, would mean either missing the agent or missing the subject of movement, in any case a causal gap of the kind Aristotle’s methodology would not have.

Because Aristotle’s theory lays a ‘causal’ constraint on the notion of movement, gaining back the common point of agreement concerning the soul’s role in causing movement of a living being becomes for it particularly difficult. Plato, as we have seen, just postulated self-movement. Aristotle rejects self-movement in this precise and technical sense.\(^6\)

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\(^1\) See a discussion in Berti, pp.392-401.
\(^2\) Legg. X 895e10-896e7
\(^3\) *Tim.* 34a; 36e-37c; 40ab.
\(^4\) 227b2: τοια γάρ ἐστι τὸν ἀνθρώπου περὶ τὶς λέγομεν τὴν κίνησιν ἢ, καί ἐν ὃ καὶ ὅτε. Λέγω δ׳ ὅτι ἀνάγκη εἶναι τι τὸ κινούμενον, οἷον ἄνθρωπον ἢ χρόνον, καί ἐν τῇ τούτῳ κυριεύοντι, οἷον ἐν τῷ ἡμέρᾳ ἐν πάθει, καί ποτέ, ἐν χρόνῳ τῷ πάντω κυριεύοντι. Τούτων δὲ τὸ μὲν εἶναι τῷ γένει τῇ τίς ἐχει μίαν ἐστὶν ἐν τῷ πρόσημῳ ἐν ὃ καὶ κυριεύει, τὸ δὲ ἔρχεται ἐν τῷ χρόνῳ, τὸ δὲ ἀπλώς μιᾶν ἐν ἀπαίσῃ τούτῳ· καί ὃς γὰρ ἐν δὲ ἐναι καὶ ἄτομον (οἷον τὰ ἔθος), καί τὸ ὅτε, οἷον τῶν χρόνων ἕνα καὶ μὴ διαλείπειν, καὶ τὸ κινούμενον ἐν εἶναι μὴ κατὰ συμβεβηκός... μηδὲ καίρῳ <>
\(^5\) The argument from the regress of movements is dependent on the definition of movement which is numerically one; and the demonstration of the unmoved mover is based on the assumption of the numerically single movement accounted for by interaction between the mover and the moved. (cf. VII 1: 242a18 sq.; VIII 5. 6).
sense, as a characteristic of a given process of change.\footnote{This does not seem to be violated by the fact that he uses the appellation ‘self-movers’ for the animals on several significant occasions. (See Furley 1978) In case of each given motion that which is moved and that which moves are still two different things. See also on the agency and subject of self-motion, Gill 1994; on disposition as unmoved mover (including Alexander’s account of free choice in \textit{de fato}) S.Sauvé Meyer 1994.} For the case of the soul, this raises the problem of the way in which it is involved in bodily movements. In \textit{DE} 1 3-4 Aristotle addresses several aspects of this problem: soul as a subject of motion; explanation of soul-induced motion with the help of the theory of dynamic structure (critique of the \textit{Timaeus} and Democritus); the problem of the agency. His position on all these points is expressed tersely and vigorously. On the problem of the subject of motion, he says that soul is not moved.\footnote{406a1-13.} To support this viewpoint, Aristotle states some difficulties which would follow from the soul’s being moved. (a) If the soul is moved, it will have to occupy place.\footnote{406a13-23.} (b) The notion of soul’s being moved is implausible because it fails a series of ‘standard’ tests for motion: if soul moves naturally, then the distinction between natural and forced movements of the soul should be clear, as is not the case.\footnote{406a23-4.} Also, if it moves naturally, then it rests naturally at the state to which it is brought by this movement.\footnote{406a24-5.} Further, if it moves by a forced movement, then it rests with a forced rest at the state at which it arrives by this movement.\footnote{406a25-6.} There is no indication whatsoever of what states of the soul can be matched with these would-be states of forced/natural movement, and, respectively, of forced/natural rest. There is no evidence of differences in the soul’s states caused by what is normally meant by ‘movement’. Aristotle adds, that if soul were moved upwards with a natural motion, it would have to be fire, and if downwards, earth: this is a characteristic reduction to an impossibility within the scope of assumptions of his own theory. (c) If soul were moved, then it would have to be moved with the same movements as body (by conversion). But in that case it would be possible for the soul that has left the body to come back again, so that the dead animals could come back to life.\footnote{Cf. Themistius 16, 19 H.} (d) If soul is moved by itself accidentally, then this accidental movement would not be distinguished from the accidental movement with which the soul is moved due to an external mover. Yet it seems that the kind of movement that is thought to affect the soul is pretty distinct - it is being moved by sensations (and of course its own sensations are \textit{ipsa facto} distinguished from anyone else’s sensations).\footnote{406b6.} (e) Soul’s being moved \textit{qua} soul would mean its change from being soul to something else. In this way Aristotle draws a distinction between substance and essence: substance can be a subject of movement, undergoing change in certain aspects, but keeping its essence...
intact. Its essence, in fact, must remain intact in order for a change to take place.

After this Aristotle goes on to criticise ‘dynamic’ theories of the soul, Timaeus-style. It has been noticed on several occasions that this critique is unfair because it stresses the ‘material’ aspects of the dynamic model presented by Plato, suppressing its structural aspects: the goal of the theory of the world soul is to present the intelligible structure of the cosmos. This structure will then be a natural foundation of the theory of thinking. The point of Aristotle’s critique seems to be that the structure of the intelligible object (the intelligible structure of the cosmos) is not sufficient to explain the process of intellection as a mental process. So, the soul’s being in movement as a part of a common intelligible structure cannot be counted as soul’s being a subject of movement.

Finally, in the last part of chapter four Aristotle returns to the question of soul’s movement, this time considering the problem of agency. It is here that he says that soul is not a real agent, but the whole animal is. We shall consider this point in more detail below, in comparison with Alexander’s similar argument.

5.1.3.2. The subject of movement.

The structure of Alexander’s presentation of the whole issue of the soul’s movement can be regarded as corresponding, generally, to that of Aristotle. He starts with the problem of the subject of movement, then considers the difficulties of the notion of "movement' when applied to the soul, and goes over to the problem of agency.

The beginning of his exposition is identical to the beginning of Aristotle’s chapter: 85

21, 24: It should also be unmovable by itself. For it is not necessary that everything that is a cause of movement for something should itself also be moved.

What follows is somewhat different from Aristotle’s argument in DA. While Aristotle introduces a distinction between that which is moved per se and that which is moved as a part of thing that is moved per se, and then goes on to list the four types of movement (in the broad sense of change) characteristic of sensible substances. 86

Alexander seems to treat movement in the narrower sense of locomotion:

84 See Claghorn 1954, 108-120, esp. p.112, where he notes that Aristotle is ‘overplaying his arguments’ against Tim.
85 In Aristotle we have, after a brief statement of different views (two in number: the soul is either that which moves itself, or that which is capable of movement) and his own (which renders impossible both of the former): 406a3: It has already been remarked that that which produces movement need not be itself moved.
21.28: But the things that, being disjoint and separate from those that are moved by them, move them by contact and corporeally, necessarily move them because of themselves being moved. For the things that push, pull, rotate and carry over, since they themselves are moved in this manner, also become the cause of the things that are moved by them.

AD notice that the kinds of movement that Alexander cites here are taken from _Phys._ VII 2. Aristotle there cites three kinds of motion (alteration, growth and diminution and locomotion, respectively in the categories of quality, quantity and place) and says that locomotion is movement in the primary sense; the argument in the next chapter is supposed to show that states and dispositions are parts of the process of change that are not themselves subject to change. Using this text in the discussion of the problem of soul’s movement is in agreement with Alexander’s tendency to take this problem in its generalised version, i.e. as a problem of movement of a bodily disposition. Δύναμις and ἔξος are the two most frequent terms that figure in the formulations of the problems as well as of the principles applied in the solutions.

His next step is to formulate the first of such principles. It may be regarded as parallel to Aristotle’s reasoning in _Phys._ VII 3 which establishes that qualitative change does not affect the qualities themselves, but does affect the sensible substances that possess these qualities:

22.2: But for those things which being the powers and dispositions (δυνάμεις καὶ ἔξος) of the moved things become the causes of a particular kind of movement (ποιῶς κινήσεως) for the things that have them, not only is it not necessary to move while being moved themselves, but it is in fact impossible. For it is impossible to be moved _per se_, yet not be separate and _per se_.

But such are the dispositions and the powers and generally the forms of the bodies, to which the soul also belongs, as has been demonstrated.

Several points are to be noticed here. First, Alexander, when talking about δυναμις and ἔξος means specifically causal states and dispositions which are in control of the class of movements to which their ‘body of residence’ is subject. Next, we have to pay attention to the expression ποιῶς κινήσεως which is associated with the “internal” causal factor represented by δυναμις and ἔξος. Alexander here seems to draw a distinction between the two separate causal factors subsumed by the notion of efficient cause. There must be an external cause of movement, because the class Alexander is dealing with is a class of moved movers, i.e. things that need an external input to be brought to the

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88 Aristotle considers the cases of geometrical shapes taken on by the materials (245b9-6a9) and of bodily and mental ‘states’ or ‘habits’ (ἐξίς) that include bodily excellences (246b2-20), dispositions of the soul (τῆς ψυχῆς ἔξεις) (247a1-b1); and changes in the intellectual part of the soul (αἰ ᾧ τῷ νοστικῷ μέρῳ ἀλλαξίως) (247b1-8a7). His argument is that in the process of change the subject of change is not the acquired state or disposition but the ‘matter’ or physical substrate which undergoes a “replacement” by form of a privation of form. The form itself is said to be already complete, and is treated as a condition of change rather than a subject.
activity. But there also has to be the internal factor (faculty or disposition) which determines the range of effects which can be produced by a given external factor in a given thing. This internal factor is also regarded as part of the moving, or efficient, cause; it is a cause of 'qualified' movement of a thing. The point that Alexander makes here seems to be more specific than Aristotle's. Aristotle argues in the Physics that form is not a subject, but rather a condition of the process of change (movement). Alexander here considers the case where the disposition or state which is not subject to movement (change) possesses, in its 'acquired' state, causal power with respect to a class of movements. He says that the reason why a disposition is not a self-mover, is that it cannot be a subject of movement, being an inseparable aspect of a sensible substance. So, although locomotion always requires an external mover, the movement itself depends on the internal factor which is also regarded as a cause of movement, in a qualified sense. The internal factor is to be understood as the aspect of thing's form which is relevant for the motions. In the elements, it is a 'resultant' part of form which is responsible for the character of their natural movements, in the animals it is the aspect of their bodily structure that determines the ways in which they move (both the range of things they go for, potential goals, and the range of means by which they can do it: swimming, flying, crawling etc.)

A further point that Alexander makes is that this kind of state or disposition can be moved by itself incidentally. The example that he cites is already familiar from the introductory part:

22,7: For as the weight, though it is the cause for the earth's downward movement (φορᾶ), and in that respect is its mover, still is not moved by itself (for how would the weight be moved by itself, when it is the form and power of the body that has it?), in the same way also the soul of the living beings, having the cause of all the movements of a living being, since it is due to it that a living being has an authority (ἐξουσία) of being moved in this particular way, does move the body in such a way, i.e. not being moved itself.

However, it, too, moves together with the moved body, and becomes movable in an accidental way, which is of necessity a property of every form coexistent and concomitant (συνόν καὶ συνοδεία) with the body, of which it is a form, because of being inseparable from it.

So, the mechanism of causation is as follows: form, which is described as state or disposition, is counted as an internal cause that concurs with every 'external' causal process. The meaning of this concurrence is that a thing can only be moved by a particular type of motions, or in other words it can only undergo transformations of a particular sort determined by its form. Further, when a moved thing starts its movement, caused by the internal state and occasioned by some additional external factor, the internal factor, which is an aspect of this thing, will be 'geographically' concomitant to all the transformations which involve the whole thing. For that reason it can be said to be moved 'incidentally' by the motion that it causes. The reason for this is that form is inseparable from

89 22, 4-5: DAv 405 1 3: 406a2: but Aristotle limits himself to the case of the soul, while Alexander generalises.

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body and (although Alexander does not use the word here) enmattered. Such is Alexander’s scheme. This scheme
suits locomotion best, and is not easily applicable to the cases of sensation, as already Aristotle pointed out (above).
But Alexander’s intention is in this case to provide the generalised picture for the primary kind of motion possessed
by all the sensible substances:

22. 15: And in those cases when the form is the proper cause of the movement of the body, then the form is in the
principal way moving the body, but accidentally it also is moved along with the body, with the very same
movement with which it moves it. For the weight moves itself accidentally, whenever it is the cause of the
downward movement for the body that has it.
And the soul, too, moves itself accidentally when the living being that has it is moved due to it. For it will also be
moved accidentally in the cases when the living being is moved locally by some other cause, but by itself only in
the movement that has been caused by it.

In this passage we have to notice well the qualifications προηγομένως used to characterise the primary causal
function of the form. We know of Alexander’s use of it in de fato in the meaning of ‘primary’, as a synonym of
κυρίως. The peculiarity of our text is that the pair προηγομένως/κατά συμβεβηκός is used as one constituent of causal
connection taken in two different respects: one and the same enmattered form is primarily the cause and
incidentally part of the effect. The question of the nature of this incidental effect produced by what is affected on its
own mover, is of course very interesting (and it seems possible that this ‘mechanical’ problem could have been
raised even in that historical context), but at this point we have no grounds to speculate about the possible solution.

But we get something like a bird-eye view of the sublunary motions, whereby the forms of things are regarded as
their kinetic propensities, and the resulting movements are said incidentally to affect the propensities themselves.90
This kind of view can be compared with Aristotle’s classification of the sublunary movements in DC II 12.
Alexander’s δύναμις would then provide an immanent explanation of the existing gradation of motions.

Finally, we may certainly notice the affinity between Alexander’s notion of δύναμις and ἐξός as internal causal
factor and the notion of ‘inner power or disposition’ developed by Andronicus in his interpretation of Phys. III 3
passage.91 Alexander here, as in several other cases, is probably working within a school tradition, partly making it
into an exegetic tool, partly revising it for more accurate systematic correspondence with the ‘written doctrines’ of
the corpus.

The main features of Alexander’s approach to the problem of the soul as subject of motion are: he deals with the

90 One might notice that the idea of propensity being carried by the force that it produces is not totally deprived of a
physical meaning (this was one way to get to the idea of acceleration in the early modern time), but of course such a
meaning could be adequately formulated only by means of mathematical apparatus which Alexander (or anyone
before Galileo) did not possess.
91 See above, 2.2.1.3 (4), pp.73-74 and note 93 on p.74.
generalised problem of causal state or disposition of a body as a subject of motion and decides that it cannot be a
subject of motion per se, but can be so incidentally. The remarkable feature of his solution is that it tends to treat
the formal cause as an internal analogue to the efficient cause. This internal factor of movement, which is form,
turns out to be a very significant property, responsible, as it seems, for the ‘profile’ of a thing in all its interactions.
At the next stage Alexander wants to explain that this property should not be conceived of as agency per se.

5.1.3.3. The problem of agency.

Alexander begins with an argument which is very remarkable by its form. He argues that there is no rational way to
decide whether the soul is in motion or at rest.

22, 23: Further, if it is on account of its being a mover that they say that it is moved, then by the same token, since
it is also the cause of rest for the body, it should be said then to rest. For what is the ground of preferring [its
description as] “moving itself being moved”, and not rather “resting the body itself being in rest”?

AD note that this argument is developed from the difficulty raised by Aristotle against Democritus, to whose
position, he says, also that of Timaeus is similar. But it seems that there is more of the Aristotelian background in
the argument: first, the difficulty which it elaborates is raised by Aristotle among the other ones following from the
hypothesis of soul’s movement (in 5.1.3.1 under (b)); next, as we shall see, the gist of the argument is the
distinction between a sensible substance and its form, state or quality, along the lines of Phys. VII 2-3.

To make his point, Alexander wants to show that it can be proven soundly that soul is the cause of rest for the
resting body. The proof, based on the assumption that the state of rest is more natural for the soul than the state of
being in motion, is conducted in the form of the first “indemonstrable” of the Stoics:

22, 26: But if this [latter, i.e. soul’s being naturally in the state of rest, is preferred], then movement would no longer
be in its essence44.

Then, if its proper function is found in rest rather than in motion, it would be also more proper and natural for it
to be in rest.45 But the former. For thinking, which is its most proper function, happens to it when it is resting rather
than being moved. For that reason, namely, thinking is more proper in old age than in youth, and to the sober ones
than to the drunken, and for the body in the state of rest rather than for the one that is carried.

Hence, rest is by nature more proper to it than movement.

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42 406b23: ἡμεῖς δὲ ἐκούσασαμεν εἰ καὶ ἥρμενως ποιεῖ ταύτα ταύτα.

43 406a24-25: Τὸν αὐτὸν δὲ τρόπον ἔχει καὶ περὶ ἥρμενας εἰς δὲ γὰρ κινεῖται φύσει, καὶ ἥρμενοι εἰ τούτω φύσει.<>

44 22, 27: ὡσικά.

45 23,1: περγήγεται.

46 Prof. Sharples has rightly pointed out to me that the notion that thinking is the state of rest would be called in
question by the Neoplatonists. Cf. Themistius’ polemic against Porphyry 16, 20 H., 17, 9 H. sq.
But Alexander’s ultimate conclusion is not that the soul is at rest rather than moved, but rather that neither of the proposed alternatives describes the soul’s relation to movement, even though it is clear from the previous passage that Alexander is inclined to accept the premiss of the ‘rest’ proof, and the reasoning itself is valid:

23, 6: For that reason it is more correct to say that the soul \textit{per se}\textsuperscript{77} neither is moved nor is in rest, but rather the living being does each of these by virtue of the soul\textsuperscript{78}.

We have two proofs, taken to be valid, of the two opposite statements. The conclusion should be that neither of the statements can be regarded as true, but both should be regarded as not well-formed. This type of argument is characteristic of the New Academy of Carneades and Arcesilaus.\textsuperscript{79} Another feature of reasoning characteristic of the New Academy (and, incidentally, of Kant) is that the problematic results of the conclusion, which might otherwise sound merely sceptical, are connected with assertoric value on the grounds of “practical reason”,\textsuperscript{100} which Alexander joins to the “net” outcome of his argument:

23, 7: For just as we say not that the soul walks or sees or hears, but rather the man by virtue of the soul, so, too, in respect of the other activities and movements, whichever ones he exercises as ensouled and as man, it is not the soul that is acting and being moved even though we may be often brought to this [opinion] because the body that is moved in such activities is not conspicuous to us. But in those, too, it is the living being and the man that is acting, in virtue of the soul, due to which he has his being a man. For the man rejoices and grieves, and fears and loves, and hates, and learns, and thinks and recollects and retains in memory, in virtue of the soul.

23, 17: For he is capable of these things because he has such a form and such a perfection. For as the wrestler wrestles in virtue of his wrestling skill\textsuperscript{101}, while the wrestling skill itself does not wrestle; and the flutist plays the flute by virtue of the flute-playing, while the flute-playing art itself does not play; and the weaver weaves by the skill of weaving, the skill itself not weaving, so it should be understood to be the case with the activities which are exercised by the beings that have soul, on account of their being ensouled. For neither in these cases does the soul \textit{per se} act with any of the living activities, but rather the being that has it does so, by virtue of it.

The ‘antinomy’-style scenario with the \textit{coda} written in the practical key somewhat suppresses the real point of Alexander’s approach to the problem. We are brought close to the problem of agency, but the underlined clause shows that the method of dealing with the problem of agency will be based on a distinction between substance and

\textsuperscript{77} 23, 7: \textit{kai} \textit{aiχr}γην.
\textsuperscript{78} 23, 8: \textit{kai} \textit{aiχr}γην.
\textsuperscript{79} On this and on the parallel between Alexander and the New Academy see Mansfeld 1988. The structure of the whole argument should strike the readers of Kant as similar to that of the antinomies. Even the fact that Alexander apparently does not regard the proof of motion as really valid can be compared to Kant’s ‘interest of pure reason’ (see Kant, pp. 422-430 (B490-504)). On Kant’s relation to the ancient scepticism see Tonelli 1967.
\textsuperscript{100} See J. Allen 1997.
property which provided the background of the antinomy. The reason why neither the ‘thesis’ nor the ‘antithesis’ of Alexander’s antinomy is well formed is that a property, or state, or form, taken *per se* cannot have either motion or rest ascribed to it. This is in accordance with Aristotle’s proofs in *Phys.* VII 3, and this is the theoretical background of the ‘practical’ conclusion that man is the agent.

AD note in their commentary that by the ‘body which is moved in such activities <and> is not as conspicuous to us’ (underlined under 23,7 above) Alexander certainly means heart. Indeed, Alexander’s argument *prima facie* looks very similar to, and probably is supposed to be a close paraphrase of, Aristotle’s text at 408b6, where the heart is mentioned explicitly. But the account of the heart’s activity seems to be different in two cases. Aristotle says that it does not follow that the soul is moved by itself,

even if being sad and being happy and thinking are movements in the highest degree, and each of them such as to be moved, and “being moved” in question *is caused by the soul, as for instance being angry or afraid is the heart’s being moved in a particular way, while thinking is perhaps either this or something different (some of them are associated with the certain things being moved by locomotion, others with movement by alteration; which ones correspond to what, is a matter of another discourse).

But to say that the soul is angry is the same as if someone said that the soul weaves or builds (408b6-14).

In both Alexander’s and Aristotle’s passages the parts underlined are those which define the activity of the bodily organ (heart) with respect to agency in human psychological activity. We can see that in Aristotle’s text the activity of the heart is part of an explanation of a ‘psychic’ act by reference to the soul. Aristotle gives a clear, if somewhat terse, as usual, outline of the account that he has in mind, when he explains why the soul might be regarded as cause of the emotions in question: certain movements of the organs of a body correspond to certain mental states.

But he notes that although the soul certainly is in a causal relation with respect to those mental states, it cannot be regarded as their complete cause, i.e. as agency. To say that the soul is an agent, would be the same as to say that it, understood as it is, as a bodily dynamic structure, has proper functions beyond the purely biological. The last sentence should not be taken as denying that the soul can be involved in exercising complex non-biological functions as part of agency, but only as saying that all the mechanisms of involvement that soul has are biological, and as such of course do not include anything external, which would be like ‘weaving’ or ‘building’.

In Aristotle’s discussion of the subject of the study of nature in *DA* I 1, the formula of “anger” which the “true student of nature” is advised to use is “the desire of revenge” (*δοξείς ἀντιλαυτησεως*) while “boiling of blood

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101 23, 19: κατὰ τὴν ἔξιν.
102 AD, p.145; they refer for comparison to 24,4-6 and 94,7.
103 *DA* I 1: 403a31.
around the heart" is a necessary material instantiation of this formula, which can conceivably be associated with other formulae, and therefore is not specific enough to be a complete cause of emotion. The 'physical' formula can specify a realised bodily disposition in a complete way, but apparently the realised bodily disposition does not exhaust the meaning of 'act'. It may be useful to try to define a distinction between the notions of 'act' and 'realised bodily disposition' by giving an account of the way in which the practical dimension of an act (and hence the agency that is in charge of an act) cannot be defined in terms of 'realised bodily disposition'. This will explain in what sense soul is not an agent for Aristotle.

As we know, all acting involves ethical assumptions, concepts of good and evil embedded in habitual acts. Our body does not have 'organs' for such concepts, but it does have the sensations of pleasure and pain, which can in many different ways 'direct' (as sign-posts) the acquisition of such concepts, or schemes of actions which confirm and justify them, that is, habits. At a certain stage, it seems, when the schemes of actions are formed, these concepts become permanent within a person (EN III 5). But even then they are imputable to the whole individual, rather than, say, to his soul.

The functioning of soul as uniform causal structure of a body is not affected by the moral qualities of individual or by technical specifics of the activities in which he is involved. Even in the humans, where rationality is considered to be part of the soul, ratiocination is not regarded as a biological function. The object of ratiocination cannot be defined in purely organic terms; it involves what we call 'intentional dimension'. This latter is made up by the details of our environment that have to be described in terms other than organic: the usual concepts of our natural language (including the concepts of 'folk psychology') will suffice for such a description. Soul is morally neutral: it has all the same functions across all the variety of moral types, and more generally, all the intentional acts, which involve intentional objects. What is distinctive of intentional act, is not imputed to the soul thus understood, although intentionality involves the soul. Soul provides the mechanism which uniformly brings to realisation bodily dispositions, however, it does not "initiate" the process by itself.

Now, here in DA Aristotle says that all the acts performed by an agent have such content that is not captured by the notion of realised bodily disposition. Emotions are like crafts and moral choices in this sense; we understand why: because their formulae include reference to things that are not described in "organic body-language". These are the ends outside the purely biological ends. But it turns out that any other act is made specific only insofar as it
has ends outside purely biological ends. So it is still not the soul that is seeing and walking.\textsuperscript{104}

Alexander builds on this text, but the way in which he interprets the role of the heart differs rather strikingly from what we have seen in Aristotle. It is ‘the organ which is not clearly evident’, that is constitutive of agency. We are misled into thinking that the act is done by the soul because we cannot see the organ that performs the mental function (in Aristotle’s system, the heart). Presumably, we may not be as certain then that it is man that is the subject of grief, pleasure, anger, etc., because we do not see the organ that is responsible for these acts in the same way in which, say, legs are responsible for walking. And this induces us to think that it is the soul that does this kind of work for us, while in fact it is just an organ inside ourselves that carries out this function. This is hardly the same as what Aristotle says: we have seen that in his account the activity of the heart is a part of soul-induced (‘organic’) causation, so he takes the notion of the soul in its full theoretical sense. The claim that Alexander here defends is different: with him the ‘whole man’ passes the ‘agency’ test for a particular activity as soon as it can be shown that this activity is caused by the activity of a particular bodily system.\textsuperscript{105}

But Alexander, like Aristotle, denies agency to the soul, using the same rhetorical device (the soul does not weave, etc.) It is interesting to see how this agreement works. The point that Alexander makes is that the concept of ‘soul’ is redundant in the accounts of agency, as long as a satisfactory explanation can be given by reference to the bodily organs which provide the background of the activity. We say that ‘soul’ in general is the cause of particular bodily states, but in each particular case it is a particular organ that is the cause of movement. Man rejoices and grieves because he possesses soul, but the cause of each particular mental state of joy or grief is a particular bodily state of the principal organ.

It may be noticed that Alexander here exploits two aspects of the Aristotelian notion of soul. The first, soul as a subject of mental states, is parallel to what we call today ‘folk psychology’\textsuperscript{106}; the second is close to the ‘theoretical term’ of the Vienna circle: it is used in general description of an entity, but its meaning in each particular case is

\textsuperscript{104} This passage might be another evidence against the ‘functionalist’ interpretation of Aristotle’s psychology, but different from Burneyat’s 1992 critique. For the ‘functionalist’ doctrine is a part of this account, but not all of it. Where the ‘functionalists’ distinguish between the soul (mental) and body, assigning the agency to the soul, Aristotle distinguishes between soul, body and the whole. The agency is always associated with ‘the whole’.

\textsuperscript{105} It may be noted, again, that this difference from Aristotle’s text is a feature of \textit{de anima. Ment.} 1: 104, 34 Br., has a treatment of the subject which is closer to the Aristotelian. Cf. 3.1. above.

\textsuperscript{106} I am using here the term ‘folk psychology’ in the methodological sense in which it is used in contemporary philosophy of mind, i.e. referring specifically to the type of explanation that involves the introspective description of mental acts as its assumption. In this sense, e.g., the atomist theory of vision is not ‘folk psychology’, because it is based not on the common conception of vision, but on certain theoretical postulates (atomic motion and void). Analogously, the theory that explains anger by boiling of blood around the heart is not ‘folk psychology’, although it is not a correct explanation, either. In this, methodological, sense we probably cannot say that all ancient psychology is ‘folk psychology’. I am grateful to Prof. Inwood and to Prof. D.Black for raising this issue.
fixed by a set of Protokollsätze which exhaustively describe the class of states that they cover. In the description of each particular state the theoretical term is redundant: each state can be effectively described by a narrower class of factors (by a particular activity of the principal organ). Would this be compatible with the status of the concept of the soul in Aristotle, with regard to particular explanations? We should probably answer in the affirmative, emphasising that this analogy with logical positivism is only valid within a very narrow scope of the question: does each mental/physical state have an organic process that corresponds to it? Outside this question, the analogy breaks down, because Aristotelian psychology is teleological, and the notion of ἔναλος notoriously escapes a description by protocol sentences in a strict sense. What governs the connection between the protocol sentences is the logic derived from the analysis of language. What governs the connection between the Aristotelian ‘protocol sentences’ (like ‘the blood boils’) is the logic of ‘ennatured formulae’, derived from a teleological theory of a living being.

Alexander makes another departure from Aristotle’s text as he sets out to criticise a thesis of unidentified authorship, according to which soul relates to body like the master-craftsman to his instruments. Worst of all, a statement very similar to the one that Alexander wants to undo is made by Aristotle in DA at least twice, as AD indicate. The first of these occurrences is in the very chapter on which Alexander draws for his other arguments. Criticising the other schools for not giving enough attention to the adequacy of bodily structure to the soul, he says that this way any soul might suit any body, and we would get something like the metempsychosis of the Pythagorean myths. At this point he uses a ‘technological’ metaphor, and says that to claim this would be the same as to say that the art of carpentry could somehow find its way into flutes. “For art has to use the instruments, but soul, body.” But Aristotle does not say here that art is agency by itself, but rather that art has to be exercised with the appropriate instruments.

Another place where Aristotle says that soul uses body as the master does his instruments is DA II 4: 415b18, where the explanation that soul is final cause is couched in terms of comparison to a rational agent:

It is clear that the soul is also final cause. For as the intellect acts for the sake of something, so, too, does nature, and that is its end. In the living beings soul is such <an end> in accordance with nature, for all the natural bodies

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107 117, 15 Br.: ἐστι τὸ πάσχον τὸ συμμοβότερον, τὸ γὰρ ζῷον, ὡς ἐκ ψυχῆς καὶ σῶματος, κατὰ μὲν τὸ σῶμα τεμνόμενον, ἀλλ’ εἰ κατὰ τὴν ψυχὴν καὶ ἐστι τὸ ἀληθὲς τὸ ζῷον, ὡσπερ καὶ τὸ βαλλόμενον καὶ τὸ ὀργανικόν καὶ τὸ ἐπιθεματικόν καὶ φυλακὸς καὶ μισσόν, πάθη ὡς τοῦ σώματος ἐστιν ἴδια, ὡσπερ τὸ θεματικόν καὶ τεμνόμενον, τὰς ἐκ ψυχῆς ὑποκείται, διότι σῶμα μὲν καὶ ἀνεύ ψυχῆς ἰσοφύσται, ψυχῆ δὲ ἀνεύ σώματος οὐ. It is to be noticed that the last σώμα is used here in the generic sense (not as a body of a living being).


109 Moreover, Alexander respects the Aristotelian parallel between the natural form and the master-technician, as we have seen from his explanation of the process of form-induced generation in the commentary on Phys. II (see 2.2.1.2, p.68 above).
are the instruments of the soul, in case of animals as well as of plants, for they are for the sake of the soul. 110

It might seem that there is a slight inconsistency in claiming, on the one hand, that soul is not an agent, as Aristotle does at 408b6-14, and asserting, on the other hand that it is related to the organism as a master. But the inconsistency disappears once we realise the difference between the two contexts. The former context, as we have seen, is the argument that soul is not an agent with regard to emotions, and generally the activities performed by the organism, because the situation of the organism always includes the details of environment, which lack the 'organic' specification; which cannot be adequately described in terms of the realised bodily disposition.

Yet the manner in which the soul proceeds with respect to the complete bodily dispositions (particular organic processes) can be like that of a master with regard to his instruments. Both kinds of processes have similar teleological structure, which does not mean that they have to be realised on the same ontological level.

So, when Alexander argues that soul is not related to body as a master-agent to the instruments, we need to consider his reasons. He says:

23. 24: For neither is that true at all, that the activities of the soul are those in which it uses the body as its instrument.

For as with the other powers and dispositions, no power or disposition acts using that of which it is a power and disposition, but, to the contrary, the beings that have those powers and dispositions act in virtue of those powers and dispositions (for neither is weight carried down "using" the earth, of which it is a power, but rather the earth is carried down in virtue of the weight which is its power and form and perfection and entelechy), so, too, it is with the soul, since it, too, is power and form and the entelechy of the body that has it. For its generation is from a particular mixture and blending of the first bodies, as has been demonstrated.

And it is that in which is the principal part of the soul that properly acts in virtue of the soul (for that [being] is ensouled primarily and per se), and for its activities in accordance with the soul it uses the organic parts of the body. For to the animals the organs that they use in their psychic activities, are connatural parts of the body, and not separate, as is the case with the arts. For the sinews and hands and legs and the sensory organs are such parts of the body.

The point that Alexander is apparently stressing is that it is impossible to consider the state or disposition of a body as an agent. Its presence in a body is not like that of a real separate agent, even though it is a constituent of the agency. The real agent in the bodily activities is the central organ, which is the proper seat of the soul. AD cite GA II 1: 733b23 as an Aristotelian place where the principal part of the soul is said to be per se ensouled.

24, 10: For the sensory organ is a part of the organic body for the apprehension of a sensible object.

For111 the soul is the principle and cause for the ensouled beings, that not only produces in them life-sustaining motions112, but also is their formal cause, as has been shown113, and in addition to these, also, as the final, that is the one like the end, given that it is the perfection and the end of the beings endowed with the soul, and those things are...

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110 DA II 4: 415b18: Πάντα γὰρ τὰ φυσικὰ σώματα τῆς ψυχῆς ἄργων, καὶ καθάπερ τὰ τῶν ζωῶν, οὕτω καὶ τὰ τῶν φυτῶν, ὑπὲρ ἑαυτὰ τῆς ψυχῆς ὑπότα.
111 24, 11: ἄν.
112 24,12: τῶν ζωτικῶν κινήσεων.
113 24, 13: ἡ κατὰ τὸ εἶδος αἴτια; 'as has been shown' refers to the theory in the beginning.
for the sake of the end that precede the end. For everything coming into being naturally comes into being for the sake of something, that is the end in them.

Apart from the overall systematic approach, which is fairly clear, and consistent with Alexander’ s stated view of agency, there may be polemical underpinning to Alexander’ s argument. In fact, its very introduction contains a weak indication that this is a position which is held by some philosophers. One possible target of this polemic is the early Galen. This is where we encounter the notion of power as agent in several contexts. 114 The first to be mentioned in the frequently cited beginning of his treatise de usu partium,115 where Galen uses the notion of the divine nature moulding and shaping the body.

Second, in the treatise de tremore,116 explaining the causes of (feverish) shudder, Galen says (after criticising Athenaeus for not mentioning any other opinions on trembling, except Asclepiades, Heraclides of Pontus and Strato the “Physicist”):

Now, having accepted the recognised principle that in every animal trembling is the affect of the heat, let us see how it comes about. The argument will find its way to the principles of Hippocrates, if we do not hold the masses and pores as the principles of the bodies, nor say that the heat is a product of movement or friction or some other cause, but if we regard the whole body as wholly animated and flowing in one stream (σύμπτων τε καὶ σύφων), and the heat as neither acquired not posterior to the generation of an animal, but itself first and forerunning (ἀρχέγων) and innate (ἐμφύτου).

And in fact the nature and the soul is none other than it, so that you will not err, thinking of it as a self-moved and perpetually moved being (ουσίαν αὐτοκινητόν τε καὶ δεικνύτων). (VII 616 K.)

From the further exposition it is clear that Galen understands this self-movement as self-induced corporeal movement more than specific ‘psychic’ movement.117

Finally, in the same treatise we find the notion of soul’s power as a kind of an accomplished agent with respect to some of the bodily motions, which could be a target of Alexander’s attack. Galen, explaining the causes of trembling in the limbs, (which he regards as an effect of failure of bodily strength to meet the goal of a conscious physical effort) reproaches for the incorrect explanation Praxagoras (who regards trembling as a specific affect of the arteries) and Herophilus (who locates it in the nervous system) for not being able to distinguish between the affect of the organ and of the power as the causes of a certain type of ailment. He says:

Now, Praxagoras has gone wide off the truth, but Herophilus was misled transferring the affect of a power to the

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114 For Alexander and Galen, references in Sharples 1988, p.1179. It may be noticed that several of the disagreements between Alexander and Galen were on the topics of motion. Apart from the treatise published by Marmura-Rescher (see also discussion in Pines), a treatise ‘against Galen on the first mover’ is listed among Alexander’s works in the Arabic list. See also Simplicius, in phys., 1039, 13 sqq. Diels.
115 First book written during the first stay in Rome, before AD 168, Ilberg 1892, p. 512.
116 Written during the second stay in Rome, before AD 180, Ilberg 1895, p.194.
117 Ibid.: “For because the innate heat is perpetually moved, it is not moved only inside nor only outside, but one movement is constantly succeeding the other. For if the heat remained inside, it would quickly stop into immobility, while the one outside would dissipate and get destroyed in this way. But that which is by measures extinguished and by measures re-kindled, as Heraclitus said, in this way remains perpetually moved.”
organ (τὸ τῆς δυνάμεως πάθος ἀναφέρουν τῶν ὀργάνων). He correctly discerned the fact that it is the genus of nerves, not arteries, that is ancillary in the voluntary movements. However, because the body of nerves itself is not the cause of movement, but an instrument (οργάνον), while its moving cause is the power that goes through the nerves (ἡ κινοῦσα δ’ εἰσίν η οἰκονομή δύναμις διὰ τῶν ὁμοιῶν ἔστιν), for this reason I reproach him for not distinguishing between power and organ. For had he distinguished [between them], he would immediately know that the function is weakened by the affect not only of the organs but also of the powers.

For in the dead neither nerves nor muscles (which Herophilus and Praxagoras regard as subject to those affects) do suffer anything; but every movement has abandoned them immediately along with the soul, muscles and nerves being its organs. For to move (το κινεῖτ) is not a property of either muscle or nerve, but of the soul.

For neither is flute-playing the act (Ἐργοῦ) of flutes, nor cithara-playing, of a cithara; but flute-playing is the act of a flautist through the flutes as the instruments, while the cithara-playing is the act of a musician, while cithara is an instrument. Now, the flute-playing and the cithara-playing would be often spoiled by the masters of the acts (διὰ τῶν ἔργων δημιουργῶν), but sometimes because of the defects of the instruments which they are using.

In this way also the master and the craftsman of a voluntary movement in the animal is the power that manages the animal (ἡ διακινήσα τὸ ἐργον ... δύναμις), while the instruments are nerves and muscles. (VII 605-6 K.)

Several points should be noticed here. First, the main motive of distinction between power and organ arises from the practical task of more accurate description of bodily states in the course of diagnosis. Galen is convinced that practical accuracy requires adequate conceptualisation: power has to be postulated as a distinct agent, if it has been accepted that it produces the independent effects. (The main assumption is the observable difference between the affects inflicted, respectively, by failure of an organ and of “power”. ) “Power” is to be understood as the cause of normal performance of the organism. Galen thinks that the organ can remain intact itself, but fail in some of its performances; this is what he calls the “affect of power”. The trembling of hands as an after-effect of exertion is different from their palpitation, because the former effect appears only under particular conditions (when hands are to be strained again), while in the latter case it is permanent so that we conclude that the damage is inflicted on the organ. The method by which the power is distinguished from the organ is part of the qualitative diagnostics, but this distinction corresponds to a broader categorical division (powers/faculties, activities, effects) adopted by Galen. Faculty becomes a specified causal factor with respect to a particular affect.

Next, Galen’s treatment of the ‘dead body’ is strikingly similar to Aristotle’s often-invoked notion of ‘homonymy’ of the dead or somehow non-functional organs. What is missing in such organs is, according to Aristotle, the function, and according to Galen, who is of course familiar with Aristotle’s view, the capacity of function. The difference is very slight and could be easily overlooked: Galen cites this consideration to support his view that δύναμις should be in each case treated as an independent agency, since even that which determines the distinction between life and death is primarily nothing but δύναμις, while Aristotle wants to point out that soul’s relation to body should be compared to the relation between the instruments and their ‘working condition’.

Both points might call for a correction like the one made by Alexander in his treatise. His solution to the dilemma organ/capacity contains a defence of the thesis that Galen denies: the agency within the living organism
lies with the bodily organs, at least with the ‘principal’ organ which uses other organs as ancillary.

Conclusions

We have seen that Alexander exploits Aristotle’s notion of soul’s immobility *per se* in his systematisation of the theory of soul. First, dealing with the problem of the subject of movement, he denies that soul can be ‘moved’ *per se*, but allows that it could be moved incidentally, along with the body, the motion of which it causes. An important point is the conception of form as disposition or power causing the motion of a body. We may notice a certain degree of ‘merger’ between the notions of formal and efficient causation. Formal cause is made responsible for the motional pattern of a body. The notion of form as power or internal disposition is attributed to Andronicus, so it appears that Alexander here relies on the doctrine of his school.

The second problem that he considers is the problem of agency. Here two points are of notice. The first one concerns the shift of emphasis in the explanation of the nature of agent, from intentionality to the ‘full-fledged’ substantiality, as we have seen in the comparison of Alexander’s treatment of the problem of agency with Aristotle’s treatment of the same problem. The second point is just a polemical version of the first: Alexander says that what is not a full-fledged substance (e.g. power or disposition) cannot be an agent.

Thus, the demonstration of the third attribute involves some systematic adjustments in Aristotle’s doctrine.

5.2. "Harmony" theory.

Finally, Alexander comes to deal with the ‘harmony’ theory of the soul. This argument has a special significance for his theory of form; in many ways his solution of the problem should be decisive for the ‘profile’ of his metaphysics of mind and matter. It is clear from what we have already seen in the two preceding chapters, that Alexander’s attempt to bring to unity Aristotle’s hylomorphic theory led him to accepting two sets of ontological premises, which are not easy to reconcile: first, the assumptions that underlie the ‘mixture’ theory of form (whereby the ‘common’ form of a sensible substance is a combination of forms of the underlying elements constitutive of this substance, and reflects the character and proportion of this ‘mixture’ of forms), and secondly, the strong ontology of form-substance, which is, along with matter, a constitutive part of a composite substance. The difficulty of reconciling these two sets of assumptions has been discussed in the previous chapter: in the theory of form-substance there is no place for the ‘ancillary’ forms of the “combination” theory.
However, we have seen, that both ontologies play a part in the concept of form that Alexander develops in his theory of the attributes of the soul. The 'harmony' theory should present a very clear possibility of accommodating the notion of combination in the concept of soul. We are going to see how Alexander handles this possibility. But before going to Alexander it will be useful to review the historical precedents of this theory, which possibly provide a context for his discussion of it.

5.2.1. "Harmony" theory before Alexander.

In discussing this theory in his *de anima*, Alexander formally follows Aristotle, who devotes it a considerable part of *DA* l 4.118 This theory is discussed by Plato in *Phaedo*, where it is brought up by Simmias as an alternative to the Platonic theory of soul, which claims to keep all the characteristic features of the latter (mainly the notion that soul is incorporeal) except for the immortality thesis.119

The *Phaedo* argument which is developed dialectically, in stages, received several somewhat different analyses by the commentators of the dialogue and in the earlier tradition.

The earlier analysis, done, according to Westerink, by a method that has many features characteristic of Middle Platonism (from this he concludes that its ultimate source might be Porphyry who was influenced by Middle Platonism), has been preserved in Philoponus' *in de anima* and in Nemesius *de natura hominis*.120 The later Neoplatonic analysis, preserved in Damascius' commentary, is close to the one given by modern scholars. It distinguishes only three separate arguments: "(1) soul exists prior to its recipient" (*Phaedo* 91e2-92e3); (2) soul admits of harmony and disharmony (93b8-94b3); (3) soul can oppose the movements of the body (94b4-95a3).

The intermediate portion of the *Phaedo* text consists of assumptions for arguments (2) and (3), in inverse order,

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118 407b27-8a29.
119 Socrates re-formulates it, somewhat shifting the emphasis, 91c8: *Συμμάκις μὲν γὰρ, ὡς ἑγώμαι, ἀποστιέ̔ ὶς καὶ ὑμηφίται ὡμοίως καὶ βεθίστερόν καὶ κάλλιον ὅν τοῦ σώματος προσαμάλλυται ἐν ἀμμονίας ἔδει οὕσα <.> 120 Philoponus, *in de an.*, 142,4-143,1; Nemesius, *de nat.hom.* 22,22-23,23 Mor. Westerink's summary: "Philoponus distinguishes five isolated 'points': (1) soul exists prior to its recipient, harmony does not (91e2-92e3); (2) soul can oppose the movements of the body, harmony cannot (94b4-95a3); (3) soul does not admit of gradation, harmony does (93b4-7); (4) soul admits of harmony and disharmony (i.e. virtue and vice), harmony does not (93b8-c10); (5) if soul does not admit of disharmony, all souls are equally perfect (94a8-b3). Nemesius omits point 5, adding instead an argument not derived from the *Phaedo*: soul is substance, harmony is quality <.> "(Westerink 1976, p.195, note).
those for the third argument (92e4-93a10) preceding those for the second.”

The first argument is regarded by the commentators as ad hominem, since it depends on the acceptance by the interlocutors of the recollection theory.

The second one says that harmony has ‘more’ and ‘less’, in such a way that ‘physical’ attunement in a certain instrument will be regarded as an approximation to the attunement proper: if it is ‘less’ attuned, then its physical attunement is attunement in a lesser degree. In case of soul, attunement should be analogous to ethical disposition. Soul has in itself moral dispositions (virtues), which can be regarded as ‘physical’ instantiations of virtues in a proper sense. By this logic we should be able to say that the souls less virtuous are less ‘attuned’. But if attunement is definition of the soul, the conclusion will be that souls less virtuous are souls to a lesser extent: this is counterintuitive, since all souls are equal in their being souls. According to the second argument, soul has its being distinct from that of body, while harmony of bodily members would depend on the state of each one of them, and would thus be posterior to body in every respect.

Plato says that the logic of attunement is not applicable to soul, because soul seems to be more than just a property; it behaves like an entity on its own. Aristotle’s arguments against ‘harmony’ theory are also based on the considerations of substantiality: (it might be regarded as one of the rare points of explicit agreement between the two systems, although the difference in the understanding of substantiality will show.)

There is evidence that Aristotle criticised this theory in his lost dialogue Eudemus, raising two objections: (a) the harmony has an opposite, i.e. disharmony, while soul does not have an opposite; (b) the opposite of harmony in a body is disharmony in a body; the disharmony of a living body is illness, weakness and shame; hence, the harmony of a living body is health, strength and beauty.

Aristotle’s objections in DA 14 are subdivided by the commentators in different ways. I give my own division:

122 Archer-Hind, Rowe, ad loc.
123 Phaedo, 92e4-93a10, 94b4-95a1.
124 For detailed analysis of Plato’s objection see Caston 1997, pp.323-6
126 Damascus’ commentary counts four objections, treating iila and iib as two separate objections: iila is the same as the (ii) of Eudemus, and expanding (iiib): “387. If sense-perception, spirit, desire, imagination, opinion, discursive reason or intelligence are none of them harmony, because each, being an activity, is a single thing, and also because it would be a problem even to define what kind of harmony each of these would have to be, it follows that the whole soul cannot be harmony either.” (Westerink transl..p.208). W.S.Hett treats (ia) and (ib) as two distinct arguments, but it seems that in this case the ‘economy of thinking’ displayed by the ancient commentary is correct. Damascus cites the first argument as follows: “Each animal has only one soul, but many harmonies, one for each part, consequently etc.” (Westerink 1976, p.208).
(i) (a) 407b33: the harmony itself is a kind of ratio or composition of the ingredients in the mixture, and the soul cannot be either of these;

(b) 408a6: there are two things that we refer to when we use the term harmony. The main use is to denote the composition of quantities in things that have motion and position, when these are so fitted together as to admit nothing of the same kind, and the secondary use is to denote the ratio of the ingredients in a mixture. In neither sense is it reasonable to call the soul a harmony.

(ii) 407b35: nor can the production of movement be a feature of harmony, and yet it is to the soul that all theories assign this above all, so to speak;

(iii) 408a2: (a) it would be more ‘harmonious’ to use the word harmony in connection with health and the successful performance of bodily functions in general than to use it of the soul. (b) This becomes pretty clear to anyone who tries to expound the affections or functions of the soul in terms of some kind of harmony. ‘Harmonising’ theory and facts is not easy. (Lawson-Tancred transl.)

After this criticism, Aristotle indicates several difficulties that might have brought to life the “harmony” theory:

408a25: But if the soul is a different thing from the mixture, what then is it that is destroyed at the same time as what it is to be flesh and the other parts of the animal? Furthermore, if each bodily part does not in fact have a soul, that is, if the soul is not just the ratio of their mixture, what is it that is destroyed when the soul leaves the body? (Lawson-Tancred transl.)

While the early sources do not suggest any attribution for this theory, the later tradition attributes it to the two disciples of Aristotle: Dicaearchus and Aristoxenus. The tradition is complex.

Dr. Gottschalk\(^{127}\) concludes from his study of the sources that: (a) The conspicuous feature of Dicaearchus’s theory as presented in the earlier tradition is its denial of the soul’s substantiality. “There is no such thing as soul distinct from the body”. The word “\textit{harmonia}” is not found in any of these accounts.\(^{128}\) Possibly, Dicaearchus developed a ‘mixture’ theory, trying to cope with Aristotle’s ‘many souls’ (ib) objection against the harmony theory in \textit{de anima}. (b) The appellation “\textit{harmonia}” came from a contamination of the two traditions, of Aristoxenus and Dicaearchus, who are both cited as proponents of theory of soul as ‘harmony’ of the four elements. Aristoxenus, the musicologist, must be responsible for the term ‘harmony’, while Dicaearchus was probably the author of the ‘elemental’ view of soul. According to Gottschalk,

The change made by Dicaearchus and Aristoxenus can be understood as part of a development affecting every aspect of Peripatetic thinking in the fifty years after Aristotle’s death, a tendency to obliterate the distinction between form and the things in which it inheres. … In psychology, this led Aristotle’s successors to give up the ‘Active Reason’ and to identify the soul with its material substrate. Theophrastus never took the decisive step, but Strato (fr.108-111) held that the soul was identical with the vital spirit… Dicaearchus and Aristoxenus … succeeded in retaining as much of Aristotle’s teaching as was possible on their assumptions, getting rid of the last

\(^{127}\) op.cit .

traces of Plato's spiritualist two-substance theory without replacing it by a materialistic two-substance theory of the type we find in Strato and the major Hellenistic systems. \(^{129}\)

More recently, Prof. Caston has suggested a different reconstruction of Dicaearchus' psychology. \(^{130}\) According to him, the attribution of "total eliminativism" to Dicaearchus should be regarded as transformation by the tradition of Dicaearchus' original doctrine, which consists, he believes, in the denial of substantial soul separate from the body. Considering then the reports of the positive doctrine attributed to Dicaearchus in the sources, \(^{131}\) he concludes that the position that is described corresponds to 'epiphenomenalism', philosophy of mind which recognises the reality of mental states but denies their causal efficacy. This position differs from that of Aristotle, who, according to Caston, holds emergentist view, recognising the reality of mental states and "downward causality" which they can initiate, denying only their substantiality. \(^{132}\)

Prof. Sharples has analysed the reports of Dicaearchus's view of the soul trying to find an explanation to an even more obvious conflict between the denial of the existence of the soul and the theory of divination attributed to Dicaearchus by the sources. \(^{133}\) Most notably, both views are found reported by the same source, Cicero. \(^{134}\) Sharples attempts to give an interpretation to each of the conflicting theories which would make it most compatible with the other. This involves suspecting all the 'eliminativist' reports, because they are not definitive enough and have overtones suggesting that 'eliminativism' was the easiest way to sum up the more complex position. Sharples suggests that more 'radical' naturalism compared to that of Aristotle might be a result of polemic against Platonists rather than of a major conceptual shift made by the students of Aristotle. He points out the scarcity of the sources for the reliable reconstruction of Dicaearchus' view with good precision and concludes with the discussion of the concept of soul in hylomorphic theory as supervenient on body.

Turning to the problem of divination, Sharples suggests that the disagreement of Cicero's reports on divination with what he says about Dicaearchus' general theory of the soul may be due to a different source in the former case, namely Cratippus, who is also referred to in the passages where Dicaearchus is said to be committed to the

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\(^{129}\) Gottschalk 1971, p.189.
\(^{130}\) Caston, forthcoming. I am grateful to Prof.Caston for allowing me to use this article before it is out.
\(^{131}\) He considers the sources which contain the reports of positive doctrine along with those of denial of existence of the soul: in particular, Iamblichus' (fr.8k), Sextus Empiricus' (8a) report of his view that thinking is 'nothing other than the body in a certain state', Plutarch, *adv.color.* 14 (=frg.5W.), Cicero, *Tusc.* (fr.7).
\(^{132}\) Caston 1997, pp. 329-332. For the typology of views with regard to the mental causality, see his article cited in chapter one.
\(^{133}\) Sharples, forthcoming in RUSCH 10. I am grateful to Prof. Sharples for allowing me to use this article before it has been out.
\(^{134}\) *Cic. Tusc.* I 24, 41, 51 (=fgg. 8cede Wehrli); *Cic. Acad.pr.* II 24 (=8f Wehrli); cf. *Cic. de divin.* I 15 (14 Wehrli), I 113 (=15 Wehrli); II 100 (=16 Wehrli).
doctrine of divination. Sharples indicates that there is no plausible way to reconcile these reports, as they stand, with the most amenable interpretation of the first (‘eliminativist’) group of reports, and suggests that the reports of Cratippus are either inaccurate or inaccurately interpreted; and Cicero failed to see their incompatibility with another group of reports (which may be based on the direct acquaintance with Dicaearchus’ books) because he was concerned with the immediate context rather than with consistent historical reconstruction of Dicaearchus’ view.

Apparently, on the basis of the evidence that we have, it is difficult to get a clear idea of what would be the harmony theory attributed to the Peripatetics by the late sources. What we have is rumours. Strato is reported to have objected to one of the arguments against the ‘harmony’ theory, but it hardly means that he accepts the theory, as Damascius’ replies might suggest. The next Peripatetic who is presented by the tradition as adopting the theory which resembles the ‘harmony’ theory is Andronicus. In the treatise QAM, Galen praises his view as close to the one that he defends in that treatise:

<And Andronicus the Peripatetic> actually dared to state, as a free man and without beating about the bush, that the substance of the soul was <a mixture or faculty of the body>. I have a great respect for this man, and I follow his line. (I find him similarly admirable in many other fields). But when he says ‘either mixture or faculty dependent on that mixture’, I disagree with the addition of the last phrase. (44, 12 M., Singer transl.)

But there is the same problem as with the other Peripatetics: there is not enough evidence, and what there is, is not definitive enough. There is evidence of Andronicus’ discussing some version of this theory in comparison with the teaching of Xenocrates, but little can be derived from this about his own position.

From this brief overview we can see that there were standard methods of critique of the ‘harmony’ theory, but no obvious historical proponents of it. It is usually ascribed to someone in the school polemic or in the tradition. The contents of the doctrines that are associated with the ‘harmony’ theory may vary, as is shown by its being

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135 388. Just as one harmony is sharper or flatter than another, so one soul, Strato says (fr. 118 Wehrli) is sharper or duller than another. (Westerink transl., p.210)
136 Damascius: “Let him explain, then, what is the origin of knowledge and appetition, both rational and irrational; it can be neither the body and its temperament (οὐτε γὰρ ἀπὸ τοῦ σώματος καὶ τῆς κρατεός αὐτῷ), these being inferior to them, nor knowledge and appetition themselves, since they are supposed inseparable from the body, nor spontaneity (οὐτε ἀπὸ ταιντομάτων), it remains that they come from above and therefore must be separable on account of their superiority.
   Besides, since intelligence knows itself, must it not be separable?
   And since soul initiates motion as being itself the subject that handles the instrument, must it not be outside the instrument?” (Westerink transl., p.210).
137 Cf. Themistius’ report on Andronicus. 32, 19-34, where the latter’s good understanding of Xenocrates’ theory seems to be based on the shared conception that no living body is a simple body (which in turn may suggest the “numerical” account of complexity).
attributed by different sources to thinkers as different as Xenocrates, on the one hand, and Dicaearchus and
Aristoxenus, on the other. However the tendency to compare contemporary teachings with the ‘harmony’ theory
criticised by Aristotle shows that its manifold problematic was actual in the Peripatos after Aristotle. This is
probably reflected by the doxographic and secondary tradition.

5.2.2. Alexander’s arguments. (24, 18 - 26, 30)

Alexander’s introduction of this topic indicates that he is aware of a resemblance between his own
‘mixture’ theory of formal composition, introduced earlier in the treatise and the ‘harmony’ theory criticised by
Aristotle. The main weight of his presentation and argument will be laid on showing that they are not identical:
‘One should not assume that those who say that the soul is form following upon such-and-such a mixture... say
that it is harmony’.

He gives his explanation in the series of arguments, which are supposed to follow, at least in part, Aristotle’s
reasoning in D.I. In fact the arguments are rather different. Most notably, Alexander does not mention the
argument ‘from the efficient cause’. Admittedly, he considers efficient causality in the discussion of the attribute
of immobility per se. But Aristotle’s argument in the critique of ‘harmony’ theory is more specific in that it
indicates that harmony cannot be a cause of movement, while the soul is the cause of movement. This specific
point seems to be left unattended by Alexander.

The way in which he uses the other arguments is such as to show that his theory of combination is not
equivalent to ‘harmony’ theory. The Aristotelian points that he in some way exploits are three: first is the ‘health’
analogy, which gets a much more extensive treatment than is warranted by Aristotle’s text. Next is a version of
Aristotle’s (ib): the critique of the notion of soul as harmony with respect to the two senses of harmony: the point
of Alexander’s critique is different from that of Aristotle’s. Finally, he argues that soul, as distinct from
‘harmony’, which is a rigid ratio, allows for some ‘breadth’. I begin with the arguments and then consider the
theory that they support.

5.2.2.1. "Health" analogy. (24, 20 - 25, 9)

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138 Aristotle’s critique does not mean he thinks he eliminates the problem (cf.408a27).
139 Donini, 1971, p.87, notes that the style of this introductory sentence is that of excusatio non petita.
The argument that contains Aristotle’s ‘health analogy’ presents several challenges for the interpretation. The analogy itself is cited by Alexander as a conclusion to his own statement of the way in which the soul is related to harmony. Alexander begins with the explanation that soul is not a harmony, but rather a power or potentiality which follows upon this harmony. The notion of “following upon” is of course problematical, and its precise interpretation has been a subject of lively discussion, to which I shall return after the exegesis. Here it is to be remarked that Alexander uses it from the very beginning as a description of soul’s relation to the body or bodily mixture.

“And even though it is impossible for it to exist apart from such and such a temperament and mixture (τοιούτης κράσεως τε καὶ μιγέως), it does not follow [from this] that it is identical with it. For the soul is not a particular kind of temperament (κράσεις), which it is to be harmony, but rather a power (δύναμις) brought forth upon a particular kind of temperament, (ἐπί τῇ τοιούτῃ κράσει γενομένη) analogously to the powers of medical drugs which are “assembled” (ταῖς ἀθροίζομέναις) from the mixture of several [ingredients].” 24, 20 Bruns.

The notable feature of this argument is that it assumes that “harmony” is a part of the account of the soul, in such a way that soul is construed as following upon a particular kind of mixture and temperament, these latter forming a necessary condition for the being of the soul. The “drug” analogy is explained in the next passage:

For in those, too, to be sure, the mixture, the composition and the proportion of drugs (μιγίς τε καὶ σύνθεσις καὶ ὁ λόγος), according to which there should be two parts of this stuff, a half of that, and one and a half of that, if it happens to be so, has a certain analogy to harmony. However it does not yet mean that the power (δύναμις) brought forth (γενομένη) out of a mixture of drugs in accordance with this harmony and ratio, is harmony. 24, 24-25 Br.

The medicinal drug itself is made by a certain ratio of the elements, yet presumably, its effect cannot be described in terms of the elemental mixtures. Alexander does not actually say how the nature of the effect is different from that of a mixture, and it may be noticed that even though the action of a drug is not described in terms of mixture, it is still described in terms of elemental qualities (warming, cooling etc.). Thus the mixture principle is not dropped when it comes to the effects: conceivably, the drug must mix with the organism in order to heal. In any case, the incommensurability of the quantitative characteristics of a mixture with its qualitative effect is stated explicitly:

For harmony is a ratio and composition of the mixed ingredients, but the power (δύναμις) of the plaster is not a ratio in which the ingredients are mixed. And such <kind of power> is the soul. For soul is power and form supervenient upon a blend of certain bodies in such and such a proportion, but not a proportion of a blend, nor a composition. (24,30 -25,1 Br.)
Right after this follows the ‘health’ analogy:

It would be more fortunate to apply the word ‘harmony’ to health rather than to soul. For the former is closer to harmony than soul. Indeed, health is a symmetry (συμμετοχή) of certain things (τῶν ὁμοίων), which symmetry, in turn, is composition and mixture in a certain proportion, whereas soul is not a symmetry, but rather a power following upon the symmetry (η ἐπὶ τῇ συμμετοχῇ δύναμις), which cannot subsist without the latter, yet is not identical to it. (25, 4-5 Br.)

We can see that the way in which Alexander uses ‘health’ analogy is rather different from the one assumed in Aristotle. Aristotle says that ‘harmony’ characterises health and successful performance rather than the soul, as will become clear to anyone trying to account for the affections of activities of the soul in terms of harmony. He obviously means that ‘health’ is a characteristic possessed by a living being which is composed of soul and body. It is like ‘performance’, while soul is more like substance. The animal can get sick: then it will not have health, but will still have the soul. Health is a state which may come and go over lifetime. Soul comes and goes just once, lifetime is in-between. In Alexander’s text we have it the other way around. Soul is said to follow upon health. Alexander certainly does not mean that when the animal gets sick, it loses soul. Two concepts that need to be understood are ‘health’ and ‘following upon’.

Let us begin with ‘health’. Aristotle certainly defines health as a well-tempered state of the elements, meaning by the elements the properties, primarily, of hot and cold. Since it is often compared with the excellence, it is to be understood that the animal body is made up by a certain mixture of elements, and when these elements are in a good balance, the body is in ‘well-tempered state’, that is also called “healthy”. The ‘healthy’ state is like an excellence, it is desirable, but not necessarily present. The elements may be mixed in a way that ensures life but is not excellent.

In Galen we find a notion of ‘health’ with a somewhat different theoretical scope. The treatise On the

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140 ἄρμοζε δὲ μᾶλλον καθ’ ὑγείας λέγειν ἠμοιώμα, καὶ ἀλλ’ τῶν συμματικῶν ἀρετῶν, ἑκάτα ψυχῆς (408a2-3).
141 As Prof. Sharples points out to me, this is not the only possible reading of the text. Another possibility would be to understand the συμμετοχή upon which the soul follows as unrelated to the συμμετοχή which health is said to be. This would allow us to avoid the statement that soul follows upon health, but would at the same time raise the question, what is this new συμμετοχή upon which the soul follows. Arguably, the notion of συμμετοχή is used by Alexander without any mention of health, as a purely theoretical concept (e.g. in quaest. II 20). But even in those cases συμμετοχή tends to be associated specifically with the state of living, so the medical connotation of the term might in fact be relevant. Even if this is a careless expression of Alexander, it is hardly coincidental.
142 Cf. Aristotle, PA III 12: 673b25: τὸ ἔσοδον συμβάλλεται πολὺ πρὸς ἐυκρασίαν τοῦ σώματος καὶ ὑγείαν. Cf. PA II 6: 744a30. Top. VI 2: 139b21: συμμετοχὴ θερμῶν καὶ ψυχρῶν. Phys. VIII 3: 246b4: (very clearly definition through "mixture" is combined with the description as a "state"): ἐτὰ δὲ καὶ ὅμοια ἀπάσαν εἶναι τῶν ἀρετῶν ἐν τῷ πρὸς τί πικρὸν ἕκατα. Τοῖς μὲν γὰρ τῶν σώματος, ἀλλ’ ἑυγείας καὶ εὐεξίας, ἐν κρασί καὶ συμμετοχὴθερμῶν καὶ ψυχρῶν τῆς ἑρμήν καὶ ἀρτίων πρὸς αὐτὰ τῶν ἐντὸς ἢ πρὸς τὸ περικρὸν ὁμοίως δὲ καὶ κάλλιος καὶ τῇ ἑυγείᾳ καὶ τὰς ἄλλας ἀρετὰς καὶ κακίας. We are going back to Alcmaion’s definition of the soul as ἱσομοιεύω τοῖς δικαίως DK I 215, 11-13, cited by AD.
temperaments is Galen’s presentation of his doctrine of the nine temperaments (κράσεις) of animal bodies. The basic idea is that each body is composed by the four primordial qualities, which constitute the inorganic simple bodies, when they are in their pure state, and can figure, in their combined state, as qualities of the composite bodies, in the ‘secondary’ sense of relative prevalence. The word ‘temperament’ translates κράσεις and designates a particular elemental combination of a concrete body, which Galen believes to determine also its other properties and powers.

The treatise begins with the critique of medical teachings which recognise just four types of bodily temperaments, hot-moist, hot-dry, cold-moist and cold-dry, failing to recognise the reality of a ‘median’ state of the body which is the necessary condition of any mixture. “Median” is the state of mixture, in which none of the ingredients prevails over the other. Galen makes it clear that median state is present in every mixture, and it is on account of this state that mixture can subsist. He also makes a technical use of this concept, saying that apart from the four mentioned temperaments, in which two of the four ingredients are prevailing, there should also be four temperaments in which the prevailing element is one. Instead of the second prevailing element, in such combinations we have a ‘default’ value. Galen argues that this default value can be a ‘median’ state of one of the tangible oppositions, and accordingly there can be four ‘intermediate’ kinds of temperaments (hot-median between dry and moist; cold-median between dry and moist; dry-median between hot and cold; moist - median between hot and cold).

This notion of “median” state may be relevant for Alexander’s notion of health or συμμετρία. Galen designates the median state with the term εὐκαρσία, the one that Aristotle uses for “health”. But he explains that the notion of “well-tempered state” is logically indispensable in any account of mixture, since the prevalence of any quality in the mixture can be established only by comparison to the well-tempered state, where there is no prevalence. It should be noticed that this is not just a conceptual kind of condition; the “prevalence” presumably takes place in a real mixture, so any bodily condition can be regarded on this view as more or less

\[\text{Cf. the description in The order of my own books, p.26 Singer.}\]

\[\text{Galen understood the theory of four (humoral) qualities as basically in agreement with Aristotle (on the two different approaches to elements in Aristotle’s cosmological and biological treatises, see Longrigg cited above, in ch.2) and originating in Hippocrates. A good analysis of Galen’s theory of elements and qualities is to be found in Harig, pp. 35-76.}\]

\[\text{7.9 Helmreich: τὸ γάρ ἐν τῷ θεαμῇ κράσει πλεονεκτεῖ τὸ θερμόν ἐν τῇ ἡθῷ, τὸ ψυχρὸν οὖν ἐπικυρώσει δυνάτων ἀνευ τοῦ πρωτέου ὑπάρξεως τῆς εὐκαρσίας, 7.12 Ὑ.: οὔδε γὰρ οὔδε τὴν ἴσηνυν διάταξιν εἰς ἄλλα τὰ βλέπτουσιν ἐξερεύνοντον ἡ εἰς τὴν εὐκαρσίαν ἑκείνην φύσιν, τὸ μὲν θερμάτερον τοῦ δέοντος σώμα κελευνότες ἐμψίσχειτ, τὸ δ’ αὐ ψυχράτερον θερμαίνει,}\]

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hampered ‘median’ state. In this sense ‘median’ state can be regarded as underlying all the bodily states.

How exactly is the ‘median’ state defined for a living body? Galen distinguishes three meanings in which the terms for qualities are used. First, there is the “precise” sense, in which the four primordial qualities are possessed only by the simple bodies in their pure state: fire and earth are dry in the unqualified sense (ἀπλῶς), and water and air are moist in the unqualified sense. The same pertains to the cold and hot.

Next, there is the secondary sense, when qualities are predicated not unqualified, but in accordance with “prevalence” (πλεονεκτεῖν, ἐπικρατεῖν). Such is the case with all the qualities of the “mixed”, or composite, bodies, made up of several elements. Within this secondary sense Galen distinguishes two senses in which the qualities are predicated of the composite bodies with respect to two types of prevalence: first, there can be relative prevalence of a quality in a thing compared to any thing of another species; second, there can be prevalence compared to the norm of its own species. It is of practical importance for a doctor to distinguish carefully between these two cases. for otherwise it is easy to get the diagnosis wrong. One and the same animal can be regarded as “hot” compared to the animal of one species and “cold”, compared to the animal of another species; and even within its own species it may be regarded as hot compared to some individuals and cold, compared to others. This should not sound too anachronistic, because what Galen tries to establish is the reliable qualitative method of defining temperature, without a thermometer yet; but the principle is the same even when we are using the thermometer: the average temperature for a horse is different from that of a man. Within one species, he says, the norm, or the mean, of the species should be decisive in the pronouncements concerning the physical state of an animal. In order to get a better idea of the norm of the species, not getting into the traps of sophistry, for which the field is particularly attractive, it is best to start with the general notion of substance, and then arrive to the more specific notions of genus and species.

The notion of “mean” or “median state” for a substance in general has been defined: it is the state which is characterised by equal amounts of all the elements (resp., of all the qualities), with no one prevailing. But it is also possible to talk about the “mean” within a genus and a species. Galen makes a special point that in case of the species the middle state is defined not just by the quantitative characteristics of its ‘mixture’, but the

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\[\text{ \footnotesize \text{147} \quad \text{\small 19, 16-17 H.: \text{“οδεν γάρ των άλλων συμάτων ἀμφίθαλος ὡτε } } \text{θερμός } \text{ότε ψυχρός } \text{ἐστιν άλλα } \text{ή τα } \text{στοιχεία μόνα.} \] \[\text{\footnotesize \text{148} \quad \text{\small Galen, } \text{de temper., \text{cap.6, 19, 12-19.}} \] \[\text{\footnotesize \text{149} \quad \text{\small 19, 25-29 H.: \text{δὲ } \text{μὲν } \text{θω } \text{τα } \text{συμαλθειασμένα τοῦ } \text{θερμοῦ } \text{καὶ } \text{ψυχροῦ } \text{καὶ } \text{ζύμων } \text{καὶ } \text{γραφούν } \text{μεῖν } \text{οὕτως } \text{λεγόντων } \text{οἴμων } \text{καὶ } \text{τε } \text{καὶ } \text{εὐλογισμένης, } \text{ἐτερον } \text{δὲ } \text{μεκτόν } \text{μὲν } \text{ἐκ } \text{τῶν } \text{εναυτιών, } \text{άλλα } \text{τῷ } \text{τοῦ } \text{πλεονεκτοῦσι } \text{οίματι } \text{προσαρκομένων.} \] \[\text{\footnotesize \text{150} \quad \text{\small 21, 10 H.} \]
mixture itself is supposed to be adjusted to the proper activities of the species. The ‘mean’ means the equidistant from all the extremes, but also the aptitude which is natural for this species. The relation between these two criteria of the mean is never explicitly stated, although from Galen’s examples it should be clear that the median state for the species has to do with functions and aptitudes rather than with purely inorganic elemental quantities. Ideally, functional ‘mean’ should correspond to the ‘mean’ of elemental mixture. Galen says that we may mistake the ‘relative’ states for the absolute because of misapprehension (we may perceive, e.g. the dog, as ‘dry’, but that will be only in relation to ourselves, because an average dog is drier than an average man; in the same way we may perceive the spring as a wet and warm season,\(^{151}\) while in itself it is a median season and only appears to be wet and warm). It is unclear whether the ultimate ground on which the state of mixture is defined is elemental or whether it depends on activities and functions of an entity in question. Galen’s analyses of examples demonstrate the tendency of running both principles somehow parallel: man is said to be the “median” state in the genus of animals, both with regard to the activities and with regard to mixture (medical version of “man measure” thesis).\(^{152}\) Presumably, then, at least in case of man, the state which is “median” according to the “activities”, is also “median” in quantitative terms. But in man the precision of the elemental balance determines the quality of moral dispositions.\(^{153}\) At this point we seem to be close to the notion of “following upon”, because it turns out that every elemental combination has its own specific impact on the ‘moral’ (as opposed to ‘physical’) characteristics. ‘Moral’ characteristics in this sense “follow upon” the bodily temperaments.

The states which deviate from the quantitative mean both in regard to the thermal and tactile qualities, i.e. the four kinds of mixtures of the tradition, are δυσκερασία. These mixtures are potentially deleterious for the organism. Galen describes four types of mixture, where one of the ingredients is in “median” state, while the other one is a “prevailing” element. He calls these mixtures “simple” δυσκερασία, as opposed to the traditional ones which are “composite”. This concept of “simple” bad temperaments, Galen thinks, allows for some breadth in the definition of a healthy state.\(^{154}\) Notably, Galen says that healthy state can be recognised by both quantitative characteristics of well-tempered condition and by the normal exercise by the animal of its functions.

\(^{151}\) Galen, like Hippocrates, talks about the “mixtures” of different seasons.

\(^{152}\) Galen, de temper., I 9: 35, 11H.

\(^{153}\) Galen, de temper., I 9: 35, 17 H.

\(^{154}\) Galen, de temper., II 4: 63,3 H.: ἐπίδεικται γὰρ ἡμῶν καὶ δι’ ἄλλων, ὡς ἀναγκαῖον ἄτιμον οὐ σμικρὸν ὑποδέθαι πλάτος τῆς ἀγείρης καταστάσεως ἄλλα καὶ νῦν φαίνεται σχεδόν ἐν ἰδίῳ τῇ λόγῳ τὴν μὲν εὐκαρίαν τε καὶ μέσην δύον ὡς ἄλλων κανόνα τινά τῶν ἄλλων ἀεὶ τιθεμένων ἡμῶν, ὡσεὶ δ’ ἐφ’ ἑκάτερα τήρησι, δυσκράτους ἀποφαίνοντων,” ἀπερ οὐκ ἂν ἦν, 263
The state of 'health' then is not distinct from a particular mixture of the elements in the animal body, according to a determinate ratio, within a more or less broad margin of elasticity. The question of relation between 'health', thus understood, and soul, in Galen, is not an easy one. We can for the moment disregard his frequent agnostic disclaimers and concentrate on the key points of the scheme that he provides (and which is repeated with minor additions and subtractions in most of his works).

There are two key points in this doctrine which may prove important for understanding Alexander’s position. First, health is the balanced mixture of elements, within a defined margin of 'error'. It is a physical state which is virtually (in somehow modified form) present in every living being; its absence is deleterious, virtually lethal. It is not the 'excellence', but the constituent of a living being. We are dealing here with the medical standpoint where death can be regarded as caused by a very bad temperament, and life then tends to be regarded as a function of a well-tempered body. Important is that 'health' is broadly construed and attributed to every living being qua living.

The second key point has to do with a more specific sense of 'following upon' which is found in Galen’s works. He says that the moral characteristics follow upon the bodily constitution. By this he means that drinking habits, e.g., may influence academic performance and decision-making in a significant way. This is because wine changes the 'temperament' of our body, and the body adopts the behavioural patterns which better suit its present condition. If it becomes lax and flabby, we tend to choose the activities to which it is better suited, and so on.

Properties of the soul (laziness, overall dullness etc.) follow upon the properties of the body (flabbiness due to prevalence of water etc.)

But this dependency is not the same as one claimed by Alexander. Galen does not say that soul itself ‘follows upon’ the bodily mixture. To the contrary, he often makes the bodily mixture dependent on some kind of nature, which he sometimes calls divine, that shapes and moulds the body.155 The body itself is secondary to this nature, being produced by it. But this nature is not an individual soul. We might say, that nature is an agency, when it

155 In de temper. 19:34, 5-12 discussing the total mixture of the elements, Galen notes, that it is impossible for humans to produce it, but the divine maker can actually make the elements mix by total pervasion. Ibid., 19:36, 20, discussing the human constitution, he alleges the “more divine principle” which underlies the shaping of a human body. (οὐ μόνον γὰρ ὑπότις ταὶ καὶ ἴδρυσεν ἐν τῆς μέσῳ καθέστηκεν ὁ οὕτως εὐφαρστος ἄθροισθεν, ἀλλὰ καὶ διαπλάσιως ἀριστής τέτοιος, ἑνώς μὲν ἐπαμένει τῇ τῶν τεττάρων στοιχείων εὐκρασίᾳ, τὰκα δὲ τῶν θειότερων ἀρχὴν ἐτέραν ἐχόμενος ἀνυδρίως.) Ibid., II 6: 79, 21 he reproaches his opponents for their failure to take into the consideration the “shaping power” in nature, which is like a craftsman and shapes the parts of the body in accordance with the habits of the soul. (ὅτι τῆς διαπλαστικῆς ἐν τῇ φύσει διορθώσεως ὧν μένειται τεχνής τ’ ἀοῦσιν καὶ τοῖς τῆς ψυχῆς ἡθείων ἀκολουθοῦσι διαπλαστώσως τὰ μόρια. Περὶ ταύτης γὰρ ταῦτα ὦ Αριστοτέλεις ἔπειρε, μὴ που ἀριστερός τινς ἀρχῆς εἶται καὶ οὐ κατὰ τὸ θερμὸν καὶ τοῖς ψυχρῶν καὶ ἐπὶ ἐπὶ ψυχρῶν.) Cf. de usu part. I 1-5.
works ‘on its own’, but human agency is rather an imperfect reproduction of this agency, because it is subject to the slight changes in the bodily constitution, and is not a ‘master’, but, as Galen puts it, rather a “slave” of the body which it is supposed to control.\textsuperscript{156}

The relation between individual soul and individual body does not have a definitive theoretical statement in Galen: sometimes he says that soul is subordinate to bodily mixture, sometimes he says that it is nothing but bodily mixture. However, apparently, the soul can influence its own condition by adopting the right policy towards the body: such is the practical imperative of rational medicine, \textit{oran\dum est ut sit mens sana in corpore sano}.\textsuperscript{157} This idea of soul and body has more to do with medicine than with philosophy of mind; it is practically clear but conceptually imprecise.\textsuperscript{158}

Alexander seems to take over this notion of health, as a broadly defined well-tempered state of the body, in which it can act in accordance with its nature. Thus understood, the notion of health should signify no more than Aristotle’s ‘normal’ case, different from that of the \textit{πρόωματα}; it can also be regarded as a specific complement of the notion of ‘living body’. It is to be noted that it refers to an individual bodily mixture, although taken within the range of ‘normal’. Alexander says that soul is not this mixture, but is a power that comes upon the mixture. Notably, he does not say that soul’s properties follow upon the bodily mixture: as a matter of fact in the treatise \textit{de fato} he denies the ‘supervenience’ of moral characteristics on the physical.\textsuperscript{159} The meaning of “following upon” in case of the soul should become clearer from his next argument.

5.2.2.2. Two senses of \textit{àσμονία}. (25, 9 - 26, 3 Br.)

\textsuperscript{156} For the comparison of Galen’s position with that of Alexander in \textit{de fato}, see Donini 1974, pp. 127-186.

\textsuperscript{157} Cf. G.E.R. Lloyd 1988, p.40: “It seems possible that some of the indeterminacy or the wavering in the positions he adopts in the latter two debates <on the relationship between the soul and the body and on determinism in moral psychology> may be related to his concern for medical apologetics. At least it might be suggested that that concern sets up a tension in the views he puts forward in the other two debates”.

\textsuperscript{158} P.Moroux observed a kind of evolution in Galen’s treatment of \textit{δύναμις}, beginning with the divine principle, although Galen himself explains the hypothetical nature of the concept in the treatise \textit{de facultatibus naturalibus}, to the interpretation of it as a bodily mixture, which Galen gives in the late treatise \textit{QAM}. The functions of the soul are thus of two kinds: on the one hand, Galen recognises that soul does the work of shaping body (this function is described as divine in the early treatises, whereas later Galen becomes more hesitant about what exactly should be attributed to the divine workmanship, and what to the elemental chemistry: the treatise \textit{de semine} is where this change of the view occurs); on the other hand, as a part of ‘conscious agency’ within a living body, soul can experience influence from the bodily mixtures. Cf. Singer 1997.

\textsuperscript{159} \textit{de fato} 6: 170,17-171,17; Sharples 1983 ad loc.; Donini 1974, 127-185.
Accattino's comment on Alexander's mention of 'dissections' in *de anima* 90, 26-28: "sicuramente le uniche dissezioni che Alessandro ha praticato sono quelle sul testo aristotelico"\(^{160}\), may suit well to the next argument we are going to consider. It deals with the compositional analysis of the harmony.

Alexander at 25,9 uses Aristotle's distinction of the two senses of "harmony"\(^{161}\) as a framework for his argument, but the argument itself is different from that of Aristotle.

Aristotle, *de anima*, 408a6
(transl. Lawson-Tancred)

1. In particular the claim that the soul is the composition of the parts of the body is easily disposed of. There is just more than one composition of bodily parts and in more than one way. Of what parts, then, and in what ways are we to suppose the intellect to be a composition, and of what the perceptive and desiderative faculties?

2. And it is no less absurd to call the soul the ratio of the mixture. The mixture of elements that yields flesh by no means has the same ratio as that which yields bone.

(The upshot will be that there are many souls and everywhere in the body, if all parts of the body are indeed composed from mixtures of elements and the logos of the mixture is harmony and soul).

1. With respect to the first type of *harmonia*, the *harmonia* and that which comes into being from the adjusted (φαισκομένων) components is not the same. For it is not the case that if the wooden planks lie in a good adjustment (καθ' ἀρμονίαν) with one another in the stair, the stair itself is adjustment (ἀρμονία). Nor if the stones are put together in a good adjustment (καθ' ἀρμονίαν), by the very same token the temple made of these stones is also adjustment (ἀρμονία).

2. But as in this, just discussed, type of *harmonia*, the *harmonia* is one thing and that which comes about from the components put together in *harmonia* another, in the same way it is with the *harmonia* in the sense of proportion.

For it is not the case that if some objects mix together proportionately, that is with *harmonia*, for that reason alone the product of this mixture (τὸ ἐκ τῆς τοιαύτης γεγονός μίξεως) is also *harmonia* and proportion, and it is not the same for a cithara to be tuned and to resound. For it is no less tuned even when it does not resound; and on the other hand, the sound which comes forth from it and upon a particular *harmonia*, is different from the *harmonia* upon which it comes about.

Aristotle distinguishes the two senses in which the word ἀρμονία is normally used: the first sense is that of good

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\(^{160}\) Accatino 1987 p.473.

\(^{161}\) 408a6.
adjustment of mechanical components; and the second one, derivative, is that of a formula of a combination (such is the sense of musical harmony, presumably). This distinction is taken from the usage, in which the word ἀρμοδία does indeed have two technical meanings. Most obviously, it is a technical term in music; but it also is a technical term in carpentry and engineering. 162

The precedence between the two, mentioned by Aristotle, is much along the lines of his thinking: he is normally willing to remind his audience (perhaps the one with a strong “Platonic” background) that proportions, as all mathematicals, are abstractions derivative from the real things. So the notion of harmony as a numerical proportion of any sort is derivative from the notion of a well adjusted material (or dynamic) structure (where harmony results from the physical constraints, so to speak). Aristotle rejects soul’s being harmony on the basis of analogy. Soul is not a ‘tight fit’, because it involves the processes like thinking, perceiving, desiring, which cannot be accounted for by any sort of physical harmony. 163 Even if these processes are carried out through the system of bodily organs that are in adjustment, the organs do not account for the character of the processes as intentional acts: what is perceived, thought, or desired does not follow from the structure of the organs. This point is similar to the one he makes in his critique of the Timaeus doctrine of soul’s motion 164, so in fact Plato’s critique of harmony theory (soul is not an adjustment) is applied ad hominem.

Nor is soul a numerical proportion: there are too many proportions to fix the one that uniquely corresponds to the soul. If the proportion that accounts for bone is unique, no other proportion will yield a bone. And it is the same for flesh and all the other tissues. Since each of them has its own structure, the common proportion will either not capture their specific structure, or will fail to account for some of them. So the ‘harmony’ approach is in principle impossible.

Of these two Aristotelian points Alexander neglects the former and probably does not accept the latter. The former point has to do with the Aristotelian statement of the psychophysical problem. Aristotle wants to say with his first point that although soul sets the formal structure realised in the body, itself it cannot be described in terms of the bodily proportions, because it includes essentially incorporeal aspects (thought, perception, desire), which cannot be matched with corporeal structure except in the most broad sense.

As for the second point, it has been suggested that the post-Aristotelian Peripatetics were attempting to solve the

162 Galen in his treatise on the bones distinguishes three types of joints: those made by a seam (σωμάτι), those where fastening is made like by “pegs” (γόμφωσις), and those where the joint is made along a simple line (ἡ δὲ ἀρμοδία συνάρθοσις ἐστὶ κατὰ γραμμὴν ἀπλήν. de ossibus ad tirones: Π 737, K.
163 D 408a11-13.
164 DA I 4: 408b35.
problem by introducing a notion of harmony sufficiently complex to account for both the unity of an organism and all the specific functions of its organs. Whether or not it is so, the objection is not mentioned in Alexander. This accords of course with Galen’s treatment of the bodily temperaments.

Finally, it is to be noticed that Aristotle in both cases talks about a living body and wants to say that this term does not correspond to any reality about a living body.

Alexander, on the contrary, does not begin with a living body in this case, when he builds on the Aristotelian distinction between the two meanings of ἀρμονία, but intends to make a more general point. While Aristotle wants to say that in case of a human body, in either acception of harmonia, there is no way to come up with a sound concept of harmonia, Alexander makes a more general statement to the effect that the system of harmonised objects is different from harmonia. This point needs to be understood.

We know that Aristotle distinguishes between the structure and its constitutive elements, notably, in the Meta. Z 17, where he says, toward the end, that the composite unity is something else apart from all of its components: the syllable is not just the letters that form it, but something else; nor is flesh just fire and earth, but also something else; and similarly with the other things. The ‘something else’, apart from the elements, is designated as σώµα, which can be understood as essence or as ‘substance-form’. The complete substance, then, is its material constituents and essence, which is a causal factor for this thing to be flesh and for that to be a syllable.

Alexander in our text distinguishes the collection of constituents from the resulting entity. The arrangement of stones should be distinguished from a house, the arrangement of planks from the staircase, the attunement of a lyre from its sound. The sense of this distinction seems to be as follows. The ‘arrangement’ is defined with respect to the elements, not the whole structure. The stones in a house and the planks in a staircase can still be regarded as collections of stones and planks. In that case they can be compared with other collections of stones and planks (including disorderly ones), and it will be noticed that the ordered collections have a distinct property of arrangement. In the same way, the state of strings in a tuned lyre can be compared to the states of strings in all the lyres (including the ones that are not tuned), and it will be noticed that they have a different tension. Alexander seems to understand by harmonia this ‘material’ characteristic of collection that includes the parameters by which a collection ‘with harmony’ can still be commensurate with, and comparable to, a collection ‘without harmony’.

There is a way in which we can regard the stones in a house as a kind of pile particularly ordered. This is what the

166 1041a25: δόξει θ’αν εἶναι τι τοῦτο καὶ οὐ στοιχεῖον, καὶ αὐτῶν γε τού εἶναι τοῦ μὲν σάρκα τοῦτι δὲ συλλαβήν· ὁµοίως δὲ καὶ ἐπὶ τῶν ἄλλων.
notion of harmony means, as distinct from thing the being of which is somehow grounded on *harmonia* (material arrangement).

The comparison with the sounding lyre seems more difficult (AD notice that it is strangely placed). But it can be understood if we think of, e.g., inexpert use of a tuned instrument. The resulting sounds do not have to be a harmony; in fact the effect may be no better than that of a broken lyre.

Thus, both Alexander and Aristotle consider a composite unity, in generalised form. Aristotle distinguishes in its set of elements from the structure; Alexander distinguishes the structural characteristic of the set of elements from the characteristics of the whole structure.

It may be noticed at this point that although Alexander brings something new into Aristotle’s text, he still is not forfeiting his principle of interpreting “Aristotle by Aristotle”: the distinction that he imposes on this text is Aristotelian in its origin, but it is taken from a different text.

Whether this reading of Alexander’s discussion of harmony theory (i.e. assuming as a material intermediary between form and matter proper) answers the charge of non-substantialist view of soul, will be seen shortly.

### 5.2.2.3. Bodily mixture is not a harmony. (26, 3-11)

Alexander says that bodily mixture is not a harmony in the strict sense of harmony. The introduction to the argument is quite general: not all the substances when mixed produce ‘harmony’.

26, 3 Br.: Someone might object that it is not the case that in all cases of mixture the formula is harmony. For the ratio 2:1 is not a harmony when it is in wine and honey. For harmony is in particular composition of rhythms and melodies, not arising in any chance things with respect to any chance formula.

AD notice that 2:1 is not a determinate formula of honeywine, because the wine may turn out to be more or less sweet: the outcome will not be ‘fixed’ as harmony is supposed to be. The next section of the argument is grammatically set in apposition to only the last disjunct of the preceding sentence: not every chance formula is a harmony. ‘Chance formula’ refers to the possible numerical descriptions of different states of a changing mixture, like the one of a living body:

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167 Cf. Burnyeat et al., p.156, ad 1041b27: “συλλαβή and σάρξ are good examples of compounds but not ὀίσια.”
Among too, the substance of the certain of certain things, the according to 26, 13 Br.: But temperament:has concept of The harmony, he would "harmony" is the ratio. For it remains the same soul, while the powers of constituents of the mixture can be stretched and slackened, up to a certain point (εἰς τινάς).

We have just seen that the notion of ‘broad’ definition of healthy state was worked out, in a very elaborate scheme, by Galen.169

It should be noticed also that Alexander claims here that the soul preserves its identity not in virtue of the ‘harmony’ taken in the strict quantitative sense. ‘Harmony’ is to be understood rather metaphorically, as setting certain physical limits for a living being of being alive. The meaning of the concept of harmony seems to be in establishing some kind of commensurability between the ‘material’ level, taken in terms of the elemental theory of matter, and the formal level, understood in functional terms (as faculties, activities and states of the composite substances made up by form and matter). It should show the ‘material’ limits beyond which form ceases to be with body. This idea of form as a ‘limit’ might follow from Alexander’s theory of enmattered form discussed above. It seems that next, leading toward the conclusion, Alexander is trying to distinguish the positions, using the diairetic method. First, there is ‘someone’ who says that any numerical proportion is harmony - this, he claims, is not a real ‘harmony’ theory:

26, 11: For if someone should say in general that the mixture of any chance things in accordance with some ratio is harmony, he would have to admit that all the compounded things are harmonised. For some ratio will be found in all the compounded things.

The sense of this statement seems to be that in this case there is no need of claiming ‘harmony’. This kind of ‘harmony’ theory is not a genuine one, because it lacks any explanatory force. Anything will be harmony, and the concept of harmony will lose its function of a ratio or formula that brings in order. It is unclear whether Alexander has in mind any real historical version of such a theory, or whether this is a dialectical construction.

Next comes the statement of the opposite position, of those who derive soul from a particular mixture and temperament:

26, 13 Br.: But rather according to those who generate the soul from the particular kind of mixture and composition of certain things, the soul would be either ‘harmony’ or composition in accordance with harmony of certain things. Among whom are the Stoics, saying that it is pneuma somehow composed of fire and air, and the Epicureans: for according to those, too, soul is composite of several particular differing bodies. And according to the Platonists, too, the substance of the soul is from the composition of certain things compounded together in accordance with a certain proportion, as he says in the Timaeus.

169 AD refer also to adv. Lycum 5, 11 Wenkebach.
It has been noticed that at this point Alexander is ‘doing doxography’.\textsuperscript{170} It has also been noticed that Alexander in this ‘doxography’ probably has Galen as his source, citing all Galen’s allies as representatives of erroneous view of soul as harmony.\textsuperscript{171} We have noticed on several occasions that when Alexander starts doxography, it is usually a dialectical preparation for the correct solution. The point of dialectical preparation is usually to show that the approaches which are to be refuted contain a conceptual contamination which is a source of logical mistakes, paradoxes and otherwise inadmissible positions. All of these unlikely results follow because one concept is used where two are needed.

26, 20: As I said, it is according to those who say so that the soul is harmony than according to someone who says that it is state and capacity and form that comes forth upon a particular temperament and mixture of the simple bodies (ἐξ ὧν τε καὶ δύναμιν καὶ εἴδος ἐπιγγέλθην ποιά κράσει τε καὶ μιξὶ τῶν ἀπλῶν συμμάτων).

For whom the soul is somehow the compounded things themselves (αὐτὰ τὰ συγκεῖμενα), for those the property of being soul is obtained by the compounded thing from a particular kind of composition (παρά τῆς ποιας συνθέσεως). If this composition is a harmony, then the compounded thing has its being soul from a harmony (παρά τῆς ἁρμονίας).

The wrong assumption that underlies the harmony theory is that soul is somehow the compounded things themselves. If so, then it derives its being from composition. The point that is necessary to make is that the soul is not a thing on is own but an aspect of thing. This is what Alexander is doing in the statement of his own position:

But for someone according to whom soul is not the compounded things in the unqualified sense (ἀπλῶς τὰ συγκεῖμενα), but rather the capacity brought forth upon a particular temperament and mixture of the first bodies (ἐπὶ τῇ ποιῇ τῶν πρῶτων συμμάτων κράσει τε καὶ μιξὶ δύναμις γενόμενη), the temperament plays the role of matter, while being soul will be not according to the harmony and temperament, as it follows from [the doctrine of] those, but according to the capacity which has been brought forth upon it (κατὰ τὴν ἑν’ αὐτῆ δύναμις γενόμενην). (26, 26 Br.)

We can see again that the structure of the compound is tripartite: first, there is the elemental mixture, which plays the role of matter, secondly, there is harmony, which can be understood as a quantitative or configurational property of this matter, and thirdly, there is form, which specifically determines the functional aspects of thing. The notion of harmony is used to account for specific nature of matter necessitated by form in a hylomorphic compound. Alexander’s innovation consists in establishing the precise match between this matter and the elemental matter.

The second argument (25, 9) based on the distinction of the senses of ‘harmony’ is probably based on Aristotle’s distinction between a thing’s form and a sum of constituents which make up a thing, which Alexander interprets broadly. Harmony is in this case understood as a property of a collection of constituents, and Alexander wants to

\textsuperscript{170} Mansfeld 1988, p. 203 and n. 84.

\textsuperscript{171} Donini 1971, p. 96, Caston 1997, p. 351 ff.
point out that this property is different from form, because it does not properly account for the functional characteristics of a thing.

Finally, in the course of the third argument Alexander distinguishes three positions with respect to the ‘harmony’ theory: (i) not a genuine ‘harmony’ theory, whereby ‘harmony’ is understood as any chance ratio; (ii) ‘harmony’ theory in the proper sense, represented by everyone who can be suspected in taking the soul to be the collection of objects (in this attack Alexander repeats Aristotle’s tactics in the critique of the Timaeus); and (iii) his own position, which accepts the notion of harmony in order to account for matter of a living thing, while soul follows upon it as form and power. His position, from the ‘dialectical’ point of view, is supposed to be a golden mean between the (constructed) extremes.

Now we have to consider the sense of “following upon”, because it became an issue of controversy. Form ‘follows upon’ matter not in a technical sense, but in the same sense in which in Aristotle the circle ‘follows upon’ the sum of its segments. In Meta. Z 10 Aristotle distinguishes between the material and the formal constituents, saying that in the first case (which is illustrated by the circle and its segments) the concept of a constituent is not included in the concept of a subject, whereas in the second case (the syllable and the letters) the account of constituents is included into the account of the whole. The segments, says Aristotle, are like matter upon which the circle follows. But because in case of soul and body the verbs ἐπιγίγνεσθαι and γενάσθαι ἐμί seem to get a technical meaning, the general sense of Alexander’s position with respect to harmony theory, and more generally, to the problem of mental causation, became a subject of controversy. We are going now to consider his position on the relation between soul and body as stated in these terms.

5.3. Soul as form: synthetic theory.

In this section I am trying to show how the treatment of the ‘harmony’ theory is related to the central tension of Alexander’s theory of soul as form, between the different theories of formal constitution, ‘hylomorphic’ and ‘by mixture’. It turns out that the application of some concepts of modern metaphysics may prove useful in this respect. In this I am following the suggestion of Prof. Caston who interprets Alexander’s theory of soul as a form of emergentism. The first section discusses the problems of relation of Aristotelian philosophy of mind to the

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172 Meta. Z 10: 1035a: διὸ ὁ μὲν τοῦ κύκλου λόγος οὐκ ἔχει τὸν τῶν τμημάτων, ὁ δὲ τῆς συλλογῆς ἔχει τὸν τῶν στοιχείων· τὰ μὲν γὰρ στοιχεῖα τοῦ λόγου μέρη τοῦ εἴδους καὶ οὐχ ὑλή, τὰ δὲ τμῆματα αὐτῶς μέρη ὡς ὑλή ἐφ’ ὃς ἐπιγίγνεται· ἐγγυτέρω μέντοι τοῦ εἴδους ἢ ὁ χαλκὸς ὅταν ἐν χαλκῷ ἢ στρογγυλότης ἐγγυτέρω.
conceptual framework of contemporary analytical metaphysics, particularly the relation between hylomorphism and
the concept of supervenience. In the second section I concentrate on just one version of the emergentist thesis (of
all the statements in Alexander’s *de anima* that can be interpreted in such sense), which has direct bearing on his
theory of form. I argue that Alexander accepts the principle of supervenience in order to explain the way in which
the form of hylomorphic theory is related to the matter of ‘mixture’ theory, thus reconciling two accounts of form
and matter in one synthetic theory.

5.3.1. Form, matter and supervenience.

I would like to follow the lead given by Prof. Caston in his recent article\(^{172}\), and explore the relation of Alexander’s
theory of soul to the theories of causation of modern analytical metaphysics. This may prove useful, because, as we
have already noticed, Alexander’s theory of soul addresses questions which are generally close to the syllabus of
contemporary philosophy of mind, and more specifically, the problem of the “double ontology” of soul is close to
‘our’ problems of reduction and explanation in philosophy of psychology.

Prof. Caston suggests an interpretation of the history of Aristotelian psychology as a development from
emergentism implicitly stated in Aristotle, through epiphenomenalism as a major tendency of the school after
Aristotle and before Alexander (reconstruction based on the evidence concerning Aristoxenus and Dicaearchus,
Strato, Andronicus), and back to ‘orthodox’ emergentism in Alexander.

Caston suggests a classification of the theories of mental causation based on two criteria, which correspond to the
two possible directions of causation between the mental and the physical. The first criterion says how this theory
deals with the causation of the mental by the physical; the second criterion says how it deals with the issue of
mental causation. Classical epiphenomenalism, which is the first of the four positions distinguished by Caston,
allows only one-way causation:

(1) Necessarily, all mental events are caused by physical events.
(2) No mental event can cause anything whatsoever.

This position, which amounts to “token” dualism (‘type’, i.e. substance-dualism, being barred by definition)\(^{174}\),

\(^{172}\) Caston 1997.

\(^{174}\) The idea is presumably that because type dualism is excluded and the mental still somehow recognised, it should
be regarded in each case as token-distinct from the corresponding physical event; and these ‘mental tokens’ are
such that they can never form a type. ‘Token monism’ is only possible if the mental is separated as a subset of the
physical.
excludes the case when a mental event is also physical, and so cannot be satisfactory for a physicalist view. This is how Alexander's position is sometimes mis-interpreted.\textsuperscript{175}

Caston considers, next, a weaker thesis, developed by the physicalists in the last three decades, in which causation is replaced by supervenience.\textsuperscript{176} He takes supervenience as "a form of (nonsymmetric) covariation", where co-variation is taken to hold across worlds\textsuperscript{177}; this is "strong supervenience".\textsuperscript{178} "To say that the mental supervenes on the physical ... is to say that any two events that do not differ physically cannot differ mentally".\textsuperscript{179} The conversion of the last clause, however, is not true. As a result, token monism is allowed, as well as multiple realisations ("events falling under a single mental type might nevertheless belong to different physical types"\textsuperscript{180}).

The modified epiphenomenalist thesis is as follows:

(1') \textit{Supervenience of the mental}: the mental supervenes on the physical.

(2') \textit{Inefficacy of the mental}: No event can have any effect in virtue of falling under a mental type - every event must have all its effects solely in virtue of falling under a physical type.\textsuperscript{181}

Caston notes that inefficacy of the mental does not follow from supervenience: a mental event has no causal power \textit{qua} mental, but may still have it \textit{qua} physical. This set of tenets seems close to identity theory. Further, a position is conceivable which accepts supervenience and causality of mental \textit{qua} mental:

(1') \textit{Supervenience of the mental}: the mental supervenes on the physical.

(not-2') \textit{Efficacy of the mental}: Some events can have some effects in virtue of falling under a mental type.\textsuperscript{182}

The notion of efficacy here is, however, in fact weak: if all the mental events have just physical realisations, then it is impossible to actually distinguish this kind of mental causation from the physical (it is impossible to tell whether a particular event is causal in virtue of being mental or physical).\textsuperscript{183} To get a 'genuine' notion of mental causation (\textit{qua} mental), physical causation should be somehow restricted. The corresponding position, which Caston terms


\textsuperscript{176} The literature is huge. See Kim 1993, some update in Savellos, Yalçın 1995. I am grateful to Wolfgang Huemer for the discussion of these issues.

\textsuperscript{177} For weak and strong supervenience: Kim 1993, 53-78; for co-variation or covariance Kim 1993, 131-160. Supervenience has been originally designed as a purely modal relation, without any causal assumption, and so non-symmetrical. Later Kim sometimes tended to regard it as a kind of dependence relation: see discussion in McLaughlin 1995. Caston apparently uses supervenience not in the causal sense.

\textsuperscript{178} Caston 1997, p.314. On the distinction between strong and weak supervenience, see Kim 1993, 53-78; 79-82.

\textsuperscript{179} Caston 1997, p.314.

\textsuperscript{180} Caston 1997, p.314. (Italics not mine). The criteria of sameness and difference in each case are outside the scope of the supervenience thesis: by itself it does not fix co-ordination between the mental and physical. Normally, it would be taken to mean that the same 'state' ('on' or 'off') can be realised in two different slot machines. But this interpretation involves a set of implicit constraints on both 'mental' and 'physical', while the thesis as it stands, is quite weak, allowing realisation of the same mental act in different physical types, so in man, dog, eel and slot-machine.

\textsuperscript{181} Caston 1997, p.314.

\textsuperscript{182} Caston 1997, p.315.
‘emergentism’, would hold:

(1*) Supervenience of the mental: The mental supervenes on the physical.
(2*) Downward causation: Some events can have some effects in virtue of falling under a mental type; and some of these effects lack a complete physical cause. 186

‘Downward causation’ is the ‘overriding’ of the lower-level laws by the (irreducible) higher-level laws. 186 In a more general case, this could be thought of as e.g. the constraints imposed by chemical structure on the stochastic distribution of particles; but the modern concept has to do mostly with mental causation. “On this view, genuinely new causal powers emerge from a more basic level”. 187 This is the position which supposedly corresponds to the main tenor of Alexander’s philosophy of mind.

Prof. Caston cites several cases to illustrate Alexander’s commitment to the notion of ‘supervenience’ and to emergentism. The cases include: the text at 12, 9-22 (Alexander’s argument ‘from the activities’ for the inseparability of soul from body, considered at 4.1.2, illustrating supervenience); the text at 25, 2-3, from the argument with ‘health analogy’, considered at 5.2.1 above, illustrating emergence), 19, 21 (from the argument against theories of soul as one of the elements, considered at 5.1.1.4, presumably, illustrating emergence) and 21, 22 (the conclusion of the argument for inseparability, (5.1.2) for supervenience), 26, 21-22 (the conclusion of the argument against ‘harmony’ theory, for emergence); the text from mantissa 1: 104.27-34 (see above 3.1 and 3.2.1, for supervenience and emergence).

Caston translates the verb γενάσθαι ἐπι, which he says is often parallel to ἐπιγίγνεσθαι, 188 as “emerge from”, “for this new, higher power is precisely not a physical power”, 189 noting that emergence is allowed by Alexander even at the level of the elements (lightness and weight) and the medicinal substances. 190 It may be noticed that in cases of the elements and drugs we are dealing with the type of ‘downward’ causation of the classical emergentism more than with that of the contemporary supervenience theory: in the former case at issue is not so much the lack of complete physical cause as the lack of causal completeness in terms of the lower level.

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183 For the critique of physicalist notion of downward causation see Kim 1993, 336-357; cf. ibid., 362-367.
184 Noting that this definition of emergentism slightly differs from that of classical emergentism. Caston 1997, p.315 with note 11.
186 See McLaughlin 1992; on the term and concept ‘downward causation’, pp. 50-51 and n.3.
188 Citing 24, 22-23, 26, 26-30; 80, 16-23.
189 Op.cit., p. 349; citing 25.2-26.2 (Alexander’s arguments 1 and 2) for the irreducibility of the new power to the elemental ingredients.
190 He finds that Galen, too, was committed to the ‘emergentist’ view both in his pharmacology and human physiology (where he explained, e.g. the emergence of perception upon the mixture of the elements none of which
The cases cited above correspond to different versions of the emergentist thesis. They could be divided, according to “what supervenes on what” (the base and the supervenient properties) roughly into the types that express: (1) the supervenience of mental properties on physical properties of organic body, (12, 9-22; 24, 4-13); (2) the supervenience of type-specific souls on type-specific organic bodies (dog’s soul supervenes on dog’s body, and cat’s on cat’s: *ment. 1*: 104, 28sq.); (3) the supervenience of soul as form on matter as bodily mixture (the whole case of ‘harmony’ theory); (4) the supervenience of mental properties on elemental bodily mixture (the problem of ‘mind dust’).

I will not discuss in detail the supervenience of mental acts, as it has to do with the theory of perception and imagination, which are outside the scope of this thesis. But with regard to the principle itself it has to be noticed, that at 12, 9-22, Alexander understands the relation between the mental acts and physical states as a subset of the relation between the activities of an ensouled being and those of the functionally relevant bodily organs. The issue of the intellect does pose a problem with regard to both supervenience and downward causation, because in the case of intellection of separate forms we have an additional factor individuating the mental acts, which makes the correspondence to physical states problematic: the correspondence between thinking and organs is not the same as correspondence between anger and boiling of blood. Alexander seems to acknowledge the inferential character of attribution of intellectual activities to the central organ when he says that the contemplative intellect should be located in the heart because otherwise one would have to assume multiple souls inside one body. The issue of (4) ‘mind dust’ vs. emergence will get some attention below, though not so much in relation to perception; the case (2) is discussed in the next subsection.

I would like to concentrate here on the supervenience of form on matter, which presents most interest for my current topic. There have been several attempts to use the notion of supervenience in the interpretation of Aristotle. Prof. Granger has discussed the issue with respect to the problem of formal causality. His discussion contains a very clear statement of the problem, so it will be useful to consider his argument. The question that he addresses is does the notion of supervenience capture the relation between form and matter in Aristotle’s

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191 For the term and discussion of the problem see Van Cleve 1990.

192 The whole argument: 98, 24 - 99, 15 Br. Clearly, the intellect is in a body in virtue of its relation to the other faculties, and not in virtue of any observable line of ‘upward’ or ‘downward’ causation. This makes its connection with the bodily states indirect and suggests some different type of supervenience (as does also Alexander’s theory of acquisition of the intellect *ev έγκαλοι* (81, 13 sq., esp. 85, 20-86, 6).

193 The references with a brief account of the *status quaestionis* in Granger 1993, p.173, n.1.

194 Granger 1993.
hylomorphic theory? His answer, briefly, is ‘no’.

Granger begins with some general criticisms of the notion of supervenience, of which the main one is that it fails to make meaningful the asymmetrical character of the relation between the base and the supervenient properties.195

He argues that there are three ways in which supervenience fails to capture the relation of hypothetical necessitation between form and matter: (1) hypothetical necessitation involves some bi-directionality, while “in supervenience the determination and dependence are wholly one way”196; (2), the principles of the supervenient domain are causally irrelevant to the subvenient domain, while in Aristotle form is the source of sui generis causation with respect to matter; (3) formal causality involves more than just co-ordination:

Although form does depend upon matter, as a necessary material condition of its existence, matter depends more significantly upon form for its own explanation, since matter is explicable in terms of the kind of dependence form has upon matter. In the relationship of determination between matter and form, the important mode of determination, which explains the arrangement of the material domain, belongs to form rather than to matter. Thus the responsibility for more determination falls to form rather than to matter. Aristotle’s complex explanatory scheme allows then for degrees of determination, but the determination credited to supervenience does not seem to make such an allowance, since its determination is limited to a single line of determination in a single direction.

Aristotle, then, is in no position to accept the fundamental tenet of physicalism, that physical facts determine all the facts, since the physical facts of any interest for his natural philosophy are determined by the forms they support. (Granger 1993, 172).

Granger notes that the explanatory scheme developed by Aristotle involves more complex dependences between the four types of causes than are expressible by the relation of supervenience and concludes that it is therefore “injudicious of students of Aristotle to rely upon the modern notion of supervenience for their explications of his psychology and metaphysics”.197

Although the notion of supervenience that he uses involves dependence on base, which is controversial,198 Granger is correct in pointing out a possible weak spot of any physicalist interpretation of Aristotle. The compatibility with formal causality should be the main concern for everyone who tries to exploit the ‘materialist’ potential of Aristotelian system; and causation by form is, in modern terms, certainly ‘downward’.

Now, it seems that in the most general form, the notion of supervenience should be compatible with that of downward causation. As we have seen, the ‘metaphysical condition’ that the modal concept imposes on the world is: physical indiscernibility involves higher-order indiscernibility, but not vice-versa. In this case, the material entities subsumed under formal causality still possess some kind of structure which is in some (strong) sense independent from the formal structure of the whole. Of course there is the question of the source of downward

195 Granger 1993, 164. (Necessitation in one direction is compatible with necessitation in the other direction).
196 Granger 1993, 171.
causation. Prof. Kim has questioned the position of ‘non-reductive physicalism’, arguing that physicalism should not allow downward causation, because if every mental event has a physical realisation, then this realisation itself, which is physical, and thus lower-level, should be sufficient for the causal account, and the very postulation of mental events as such becomes redundant. The target of his argument must be just mental causation, the case, which is complicated by the incommensurability between physical and mental individuation (although this is not regarded as a major problem in the article itself). The problem with mental causation seems to be that it is impossible to point quite definitively to a physical realisation of this mental event, in a traditional psychophysical framework. As has been noticed, intentional states do not have unique neurological matches, so the construction is hypothetical, and supervenience of mental upon physical is usually spoken of in more generic terms, assuming a good degree of idealisation.

In a general case, when it is assumed that the co-ordination between the base and the supervenient properties can be effectively established, the ‘physicalist’ interpretation of downward causation should present no difficulty, unless we assume an ontological ‘gap’ between higher level and lower level structures. But this we don’t have to do: a higher level type may be instantiated in a physical structure and still remain ‘higher level’ compared to the instantiations of the lower-level type. (We need not assume that analytically lower levels are in any way privileged in terms of being instantiated: the higher and the lower can be sufficiently represented in the same physical domain by different levels of functional complexity.) So, we do not have to assume a radically different ontology of the higher-level structures: they may still be physical realisations. The source of downward causation can be thought of as a set of constraints upon a lower-level structure. In this way physical instantiation of a higher-level structure may still be thought of as higher-level and as a source of downward causation, without any ‘breach’ in the causal closure of the physical laws. Think of chemical combination which is based on the electric properties of the particles, but all of these properties are ‘bound’ in a structure, not available as electric charges, except under special conditions. That they are bound does not mean that they are suspended in any sense; they are just ‘gluing together’ the higher structure.

Assuming that the general case is plausible rather than not, we can now ask a more specific question if the notion of supervenience is allowed by Aristotle’s theory of formal causation. In order to answer it, we have to specify the notion of supervenience by deciding on what will count as the ‘lower level’, or ‘supervenience base’. It is surely not

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198 For the objections, see McLaughlin 1995, esp. p.18 and n.9, p.52 for the notion of supervenience as merely modal relation. Kim is unclear on this point: see above, n. 5 (in cut).

199 Kim 1993, 336-357.
the particles of modern physics, but in Aristotle himself we have several choices: his notion of matter includes the elements, the (controversial) prime matter and the proximate matter, which also has two states: initial (which he sometimes calls "genus") and final (which he says in *Meta*. H 6 is identical with form of a hylomorphic compound).

I suggest temporarily leaving aside prime matter (until we come to Alexander), because all our knowledge of exactly how much Aristotle puts into it is mostly by conjecture.

Let us consider the matter which is undergoing processing by the form, e.g., seed as matter, flower as form (realised in matter). Probably the seed as supervenience base will fail the indiscernibility criterion: conceivably, there are structures which possess unity in a seed and develop into a diversity in the course of maturation. The seed is exactly what disappears in the process of generation of a plant: it does not persist in a higher-order structure, because that structure is formed out of it.

It seems that we are left with two options: form should supervene either on its proximate matter, or on matter understood as the elements which underlie every sublunary body.

The proximate matter, i.e. living body, was the favourite candidate for supervenience base, but in most cases with regard to the issue of mental causation.\(^{201}\) That means that in this case what supervenes is not hylomorphic form-substance, but the activities of a living being that has that form. And in effect the supervenience base is not a body as substance but rather the activities of parts of that body which are functionally relevant to the mental activities of a living being (or broader, any biological activities that involve the interaction between the organism and its milieu).

There was one clear case made for substance-supervenience, by Prof. Shields, whose conception of 'supervenient dualism'\(^{202}\), is supposed to adjust Wiggins' theory of constitution of soul by body to the immateriality of the soul as form by replacing the 'constitution' with 'supervenience'. He argues that Aristotle regards the soul as an immaterial substance and explains that "one substance supervenes on another if and only if it is causally or (non-causally) nomologically related to its base property in the following way:

A group of properties \(\Psi\) strongly supervenes on a group of properties \(\Phi\) iff (1) necessarily for each \(x\) and for each property \(F\) in \(\Psi\), if \(x\) has \(F\), then there exists a \(G\) in \(\Phi\) such that \(x\) has \(G\), and (ii) necessarily if any \(y\) has \(G\) it has \(F\). Thus, if two classes \(\Phi\) and \(X\) are qualitatively indistinguishable classes of properties, and if \(\Psi\) supervenes on \(\Phi\), then there will be some class \(\Omega\) supervenient on \(X\) which is qualitatively indistinguishable from \(\Psi\). (Shields 1988, 132).

\(^{200}\) Kim says in fact that Davidson's 'anomalous monism' is immune to his argument. Kim 1993, p.343.
\(^{201}\) Cohen 1987, now 1996; Wedin 1992; Caston *ibid.*
\(^{202}\) Shields 1988.
Shields assumes that the relation between base and supervenient properties is asymmetrical.\(^{203}\) The ‘substantialist’ assumption is the one of class X, which should be treated as a substance. The argument says that there is a set of properties which uniquely characterises a particular substance (X), and it is subvenient to another set of properties, then there exists a set of properties which supervenes on this substance. The status of this second supervenient set is unclear. Shields claims that it is a substance. But, as Granger points out, if it is a substance, it is not distinct from the ‘subvenient’, so there is no case for dualism\(^{204}\). Granger points out that it is possible to develop a plausible account of substance-supervenience with the notion of co-ordinated multiple-domain supervenience (based on the same type of cases as Wiggins’ ‘constitution’), noting that it will not count as a form of supervenient dualism, “because a material substance constitutes only another material substance”. But in this case, i.e. if we assume that the relation between form and matter is that of constitution, we have to be able to define the matter which constitutes a given form without a reference to form. But since in Aristotle’s hylomorphic theory of substance matter is said to be (in actuality) identical with form, the relation of supervenience seemingly cannot hold. Such is the problem for the ‘proximate’ matter.

Before we see if this problem can be handled, we need to consider the remaining candidate for the supervenience base, namely the elements regarded as matter. Aristotle never dealt with the supervenience of form on this kind of matter, although his system gives fairly good grounds for such an approach: the material causality is regarded in the cosmological treatises as one and the same in type for the whole sublunary region. But the ontological status of the relation between hylomorphic form and elements seems to remain inarticulate in his system.\(^{205}\) As we have seen in chapter two, he never brought them together in one positive conceptual scheme. There are some ‘negative’ developments, in the middle books of the *Metaphysics*, leading to the exclusion of the elements from the proper substances of hylomorphic theory;\(^{206}\) this shows his awareness of their different status in the picture of the universe taken from the hylomorphic point of view. But there is no attempt to clarify this status: presumably, if not substances, they might be considered as some kind of matter. How would this matter be related to form? We have seen that the notion of form is used differently in the hylomorphic theory and in the cosmological treatises (where it seems to express some kind of structural hierarchy). *Physics* does indeed provide some promising links (the

\(^{203}\) Although calls it non-symmetrical.

\(^{204}\) Granger 1994, p.12.

\(^{205}\) Although of course in the biological treatises he often has to consider the role of particular elemental mixture for particular type of functions.
"replacement" scheme of generation, the notion of formal cause), but they are never exploited in explicit way. Such are the problems with the interpretation of Aristotelian hylomorphic theory in terms of supervenience. We are now going to consider Alexander's approach to the problem of soul "following upon" the body.

5.3.2. Alexander's emergentist thesis.

The outcome of our search for the account of matter suitable for interpretation of hylomorphic relation in terms of supervenience is this: the matter of hylomorphic theory is proximate matter; but it does not easily lend itself to the analysis in terms of supervenience, because according to the 'strong' substantialist version of hylomorphic theory we have considered, matter of a compound cannot be defined without reference to form, while the supervenience base has to be independent from what supervenes on it. The problem is how to make the notions of form and matter logically distinct, without violating their identity within one substance.

Alexander solves it by making a theoretical step which he probably considers as warranted within Aristotle's system: he develops a way to account for the proximate matter in terms of the elements. This is the sense of the 'harmony' of the elements specific for each type of a natural thing. We have seen in the previous chapter that it is a specific feature of Alexander's hylomorphic theory, compared to that of Aristotle, that he rejects the notion that matter and genus can be identical in any ontologically significant sense. There are very few, only most general, logical characteristics that matter and genus share (both are the broadest subsuming categories), but ontologically they are contrasted rather than aligned.²⁰⁷

Alexander gives his own interpretation to the Aristotelian scheme according to which the 'generic' antecedent matter evolves into the proximate matter in the process of generation (or production) and becomes indistinguishable from form, as book H tells us. Although he, too, believes that the matter at the start of the process of generation or production must be appropriate to the process, he thinks that any generic matter is constituted by the elements. This nature of matter is not destroyed by the process of generation (or production). So even complex matter underlying the living beings can get an account in terms of the elements. This kind of account is logically independent from the account of the same matter from the point of view of form. It may be noticed that the body of a living being can still get an account in terms of functions (just as an uninhabited house can be regarded in both perspectives: as a complex and specifically ordered pile of bricks, described in physical terms of weight, density, temperature etc.,

and as a dwelling described in intentional terms of walls, floor, ceiling, entrance, sitting room, drawing room, bathroom etc.

Only the second account will be valid for the whole thing proper, but the first account is still valid in its own domain, of matter. The difference between two accounts is formulated by Alexander in terms of δύναμις, which is said to 'follow upon' a combination of the elements.

Now we can give an 'emergentist' interpretation to all the parts of the tripartite hylomorphic structure assumed by Alexander: the first, most basic, part of such a structure is elemental matter, constituent of every material entity. The second part is the elemental matter ordered in a specific way, in accordance with the type of form which it underlies. The third part is form, which accounts for the functions of the whole thing. The second and the third parts are inseparable, while the first part is separable, as we have seen in quaest. II 20 (analysed in chapter three). We can see that this step is made possible by the 'compositional' hylomorphic theory according to which the form of the whole is constituted by the forms of the ingredients of the mixture.

This may bring us back to the problem we have stated in the end of the third chapter: is there a way to distinguish between the 'collective' property of the ingredient forms and the form of a substance as a whole (would not this account make redundant the form-substance of hylomorphic theory of Metaphysics)?

Apparently, Alexander thinks that the notion of δύναμις can sufficiently account for the difference between the two terms. Form is δύναμις, while the collective property is not. The elemental description of a thing cannot go as far as to describe what a thing does, although it can provide a general chart of its possible doings. Alexander's emergentist thesis concerning the hylomorphic structure of natural substance can be formulated as follows:

1) Each natural substance is made up by the mixture of the elements, which are lower-level substances differentiating the prime matter.

2) The process of mixture provides uniform mechanism for all types of generation; hence, each type of substance corresponds to a particular type of mixture, characterised by its specific material properties ('harmony' theory adopted).

3) Each type of substance has certain typical functions which are accounted for by its form. Form, and not elements, is responsible for the functions, because it defines the pattern of the processes undergone by the elements in the bodily mixture, as well as the pattern of activities exercised by a living body. Form, thus understood, supervenes on the elemental matter configured in a particular way.

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207 See above chapter four.
According to this thesis, matter of a living being can have an account without a reference to form, in addition to the account that it has, that contains a reference to its form. This step is a result of Alexander’s systematic approach to Aristotle’s theory of form. The emergentist thesis allows constructing something like a ‘synthetic’ theory of form, which combines Aristotle’s two different accounts in one scheme. The principles of this synthetic theory can be stated as follows:

(1) “Replacement” mechanism of change is satisfied by the elemental forms and forms of mixture. Form-substance ‘supervenes’ on a particular type of material arrangement.

(2) The tension between two opposite senses of ‘adequacy’ is resolved by means of the συμμετρία as tertium quid: the form of the mixture is tempered by the ingredients, but the process of mixture is governed by form-substance.

(3) Form as integral property: mixture is completion (τελειώσεως) of the process of combination and a resultant material property to which all the ingredients contribute; form-substance is the ‘power’ of mixture, which accounts for the properties other than those describable in terms of mixture.

(4) Causality: form-substance is a directive force of generation (which does not mean that it immediately participates in every stage of generation), but mixture is only directive in the weak sense in which the elements are directive (it can act and be acted upon is a selective way, but it cannot act ‘across the stages’ of the process, while form as δύναμις accounts for the whole process of generation, growth, maturation and fading away).

(5) Transfer of structure has a combined account: there is a continuous transfer by ‘prevalence’ at the level of forms of mixture, and there is a complex transfer ‘in stages’ at the level of form-substance.

The evidence that Alexander is committed to this thesis and this conception of form is provided by his account of ‘harmony’ theory, which differs from the corresponding Aristotelian account in that Alexander, as we have seen, assumes that soul as form supervenes on ‘harmony’ which is the characteristic of composite matter. This is not a big difference in terms of ‘net output’, as Aristotle most probably would not object to this as a statement of a fact; the explanation of the fact by Alexander is significant. Alexander re-formulates Aristotelian hylomorphic theory in terms of a unified conception of matter, explicitly taking into account prime matter and the elements. The unified conception of matter makes ‘harmony’ theory sound like a plausible account of material cause, which is ‘overridden’ but never destroyed by the formal cause.

Another passage which is close to the statement of ‘emergentist’ thesis is *manit. 1*: 104, 28, where Alexander says
that the body and its mixture are the cause of the initial coming-to-be of the soul.\textsuperscript{208} We have noticed above that the argument sounds as a reversal of the claim of Galen, who says in the \textit{de usu partium} that properties of the body correspond to the properties of the soul, which shapes and moulds the body in the process of generation and maturation.\textsuperscript{209} He uses many examples of animals which get their bodily properties in accordance with the soul’s dispositions (of the kind used by the Stoics in the expositions of the doctrine of \textit{ophiēma} and self-perception).\textsuperscript{210} We are also by now familiar with Alexander’s critique of a Stoic model of generation by cooling of the \textit{pneuma}, which assumes that both individual soul and nature that forms the limbs prior to the generation of an individual have a common substrate.\textsuperscript{211}

In \textit{manti.1} Alexander says that in fact souls are different in accordance with the organic structure, as is clear from the fact that the differences among the animals are in their ‘parts’, i.e. organic structures. He need not be taken as asserting the generation of soul from bodily mixture: the \textit{ποιὰ κράσις} upon which the soul follows corresponds, as we have noticed, to the proximate matter taken under its ‘elemental’ qualification, so the claim is that the kind of soul corresponds to the kind of body rather than vice versa. ‘Vice versa’ would mean that individual soul somehow exists prior to body, as shaping and moulding agency. Both middle Platonic soul and Stoic ‘nature’ would fit the description. Neither is acceptable for Alexander’s hylomorphic theory of particular form: the former because it violates the principle of enmattered form; the latter because it violates the principle of individual form.

There are several other features that show that he is committed to this type of reasoning. The ‘double ontology’ does contain certain difficulties the solution of which requires some additional conceptual logistics. Most notably, the role of form-substance in the mixture-theory, which by itself provides a powerful mechanism of generation, needs to be explained. The assumption of ‘supervenience’ is helpful. In fact we may notice that in some cases Alexander’s analysis of the structure of substance consists of two items: \textit{συμμετρία} (also called \textit{ἀρμονία}) regarded as

\textsuperscript{208} 104, 28: καὶ ἔστι τὸ σῶμα καὶ ἡ τούτου κράσις αἰτία τῆς ψυχῆς τῆς ἐξ ἀρχῆς γενέσεως. Τούτῳ δὲ δῆλον τίς τῶν ζῴων διάφορως κατὰ τὰ μόρια. Οὐ γὰρ ὑπὲρ τὴν ποιὰν κράσιν ἐστὶν εἰσαγωγὴν αἰ διάφορον ψυχαῖ. \textit{Συμμετέχοντοι δὲ ἀλλήλαις ἐστὶν γὰρ ἀλλήλων ἡ τὰ ἐντέλεσθαι καὶ τὰ ὃι ἐντέλεσθαι. ὅτι δὲ τῆς ποιὰς κράσεως τοῦ σώματος καὶ τῆς ψυχῆς ἐπεὶ διάφορα.}

\textsuperscript{209} Cf. I 1: 1, 14 H.: τὸ γὰρ σῶμα τούτως ὀργάνων καὶ διὰ τούτου πολὺ διενήχηκεν ἀλλήλες τὰ μόρια τῶν ζῴων. ὅτι καὶ αἱ ψυχαὶ.

\textsuperscript{210} \textit{Ibid.}, I 3: 4, 13: ἔνεστι δὲ ἐνσώματος ὑδίων, ὅτι μὴ τὰ μόρια τοῦ σώματος ἀναπείθει τὴν ψυχὴν ἢ δεινὸν ἢ ἄλλημα ἢ σοφὸν γίγνεσθαί, τὰ νεογενή νῦν ἀνθρώπων ἑνεργοῦν ἑπεραίωσιν πρὸς τελευτώντας τῶν μορίων. Cf. Hierocles I 37 sq. BL

\textsuperscript{211} The argument looks very much like an ironic \textit{ad hominem} against Galen, who asserted both that the habits of the soul follow upon the bodily mixture and that the bodily organs follow upon the soul the \textit{formatrix}. Alexander apparently disagrees with both claims: cf. \textit{de fato} 6: 170, 16 sq. and Sharples’ note p.130; Donini 1974, 127-85. But here he uses one of Galen’s notions against another.
the source of unity, and διοικείς grounded in it.\(^{212}\)

Also, as we have seen in chapters three and four, the two theories of formal constitution yield the two different notions of substance, or a τοῦτο πά: a distinction which needs to be either conceptualised or eliminated. It seems that Alexander, although he does not always have quite firm policy on this, wants to work out the single scheme in which both concepts, by different means, would designate the same type of an individual. He says that the forms of the ingredient elements are not identical with the τοῦτο πά of the whole thing. The principle of his own system which does the job of supervenience in this case is most likely the principle of ἕπικρατεῖν, ‘overriding’ of lower forms by the higher form, which is familiar from Aristotle’s theory of mixture.\(^{213}\) But Alexander often uses it to illustrate the more general case of formal constitution (as we have seen with the example of burning coal in \textit{mant}. 5)

He applies the terms of hylomorphic theory to the concepts of mixture theory, calling mixture τελείωτως, meaning apparently the ‘natural’ end of the processes of transformation, when the combination comes to the end-state. Thus, he sets the correspondence between the most complex mixture and the most perfect kind of a hylomorphic compound (of a living body), implying that the principles of ‘mixture’ theory should agree with the principles of hylomorphic theory.\(^{214}\) Alexander treats the Aristotelian model of elemental generation of \textit{GC} as a minimal hylomorphic structure, which consists of a mixture of two primordial qualities (hot/cold, dry/moist) which are active and passive and an one primordial characteristic (weight/lightness) which is not involved in interaction with other qualities. The last characteristic is most regularly compared with the soul as form of a living body (the comparison is so important that in the school treatises it is even occasionally used in the dialectical arguments for knock-down refutations of the unacceptable doctrines, as we have seen in the case of soul’s immobility \textit{per se}).

This minimal hylomorphic structure is inherited by all the complex substances and thus the soul gets individuated as a kind of ‘inert’ property that a particular body has. This reminds one of the modern theories of emergence; the theoretical purposes of Alexander’s construction and the emergentist type of explanation are roughly the same: explain the higher-level phenomena without postulating any ‘extra’ reality and without losing any reality of these higher-level phenomena in the reduction.

\(^{212}\) As is \textit{quaest.} II 20, considered in the previous chapter, 64, 31 Br.: γίνεται δὲ καὶ ἧ τῶν ᾑμῶν γένεσις κατὰ συμμετοχὴν των συμμάτων ἥδη μεμημένων αὐτῶν (οὐ γὰρ ἀπλαὶ σῶμα τὸ ἐμπροσθόν), καθ’ ἴνα συμμετρίαν ἐμφάσις τέ γίνεται καὶ ἀποστάζει καὶ τάδε τινάς τὰς δυνάμεις ἔχειν.

\(^{213}\) In a compound it corresponds to the πλευκτεῖν of the συμμετρία over ἀσυμμετρία. Cf. \textit{quaest.} II 20: 64, 37-65, 7.

\(^{214}\) See chapter three; cf. the same parallel in Galen, above, 5.3.2.
The source of forms (instead of a conclusion).

We have seen that the main motive of Alexander’s theory of form is to get a unified account of natural substances. The characteristic feature of his method displayed both in de anima and in the school treatises is the search for a uniform intermediate factor between soul and body, form and matter, design and function of a natural thing. This is the role played by the ‘common form’ of mixture in his ‘elemental’ theory of forms (ch.3), by the notions ἰπαζίς and ἰπόστασις in the ontology of form-substance, and finally, by the notion of συμμετρία in the theory of the soul. There are no reasons to consider this method as reductivist: what is sought in all these cases is not the explanation of the more complex by the less complex, but rather the adequate conceptual ground for the real true unity of the two distinct principles in the Aristotelian theory of substance. Alexander finds this ground in the hylomorphic structure of substance itself, but we know that in one of the school treatises, quaest. II 3, he outlines an approach to the problem of cosmological source of substantial unity. In this school treatise Alexander gives his account of the source of simple forms. He considers several hypotheses concerning the way in which the divine substance interacts with the neighbouring ‘body’ of the cosmos.

There are three models: one of them is used in the formulation of the main problem, and two are proposed as solutions. The first model is that of ‘direct’ transmission of the divine power to the elemental ‘layers’ in the cosmos: first to fire, then to air, then to water and then to earth, and to its inhabitants. The difficulty of this model, which makes the subject of the quaestio, is that in this form it has nothing to account for: the elements already have the natural places that they have, and the living beings also have all the essential features, so that the divine power is redundant.

The second model, which is the first of the two proposed solutions, is compared by Moraux with mant. 113, 6-12 which is supposed to be a Peripatetic teaching of the divine intellect.

Perhaps then one must say that this power comes to be in the simple bodies, and is added to them, when they already exist beforehand, and that this is the cause for none of these possessing anything divine in itself at all. For this is what soul is like, and they are completely without any share in it, because they do not have in their being the power of this sort, since it is added to them from outside when they already exist, but [rather] they are simply bodies. (48, 22 - 27 Br., Sharples transl.)

The divine power is said to act upon the bodies in accordance with the quantities of the constituent elements, so that those that have more fire and air are light and more subject to the action of the divine power, while those that have

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215 For different ways of analysing the structure of the argument see Sharples 1992, p.93, n.307. See also the discussion of the argument in Fazzo 1988.
heavier water and earth are less likely to be ‘set in action’ by the divine agency.

The solution that Alexander himself obviously prefers agrees with the one just discussed in all that concerns the main concepts and in the description of the action of natural principles. Alexander accepts the principle of distribution of the ‘divine’ properties in accordance with the quantities of fire and air, according to which the bodies which are made up by hotter and drier elements are more likely to be ensouled, but he differs on the question of the source of the simple forms. According to him, the divine power acts upon the sublunary world by imparting the simple forms of ‘hot’ and ‘dry’ to the prime matter, which is deprived of any quality by its own account. The ‘hot’ and ‘dry’, a pair of active qualities, are manifestations of the divine action. As for the remaining pair of passive qualities, cold and moist, they are, says Alexander, privations of the ‘divine’ ones. Some of the simple bodies are constituted by the qualities of the divine origin, some by their privations, and some are in-between. The ‘overall’ distribution of qualities is determined by the movements of the heavenly bodies.

The degree of perfection of the forms of the composite bodies depends on the amount of the ‘divine’ components in their mixture:

For as many things as possess more of the rarer and more pure bodies in their mixture and blending, these [have] a more perfect form; as many as possess less of this sort of body in themselves, and more of the passive and denser [body], these also [have] a less perfect form. (50, 24-27 Br. Sharples transl.)

So, the theory of mixture is shown as originating in the principal structure of the cosmos and intrinsically related to the notion of hylomorphic structure. This can be regarded as another justification, on the more fundamental level, of the ‘synthetic’ theory of form used by Alexander in his psychological works.

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216 See chapter two on the principle of privation.
Appendix I. Translations of some school treatises referred to in the thesis (mantissa 1-8).

mantissa 1.

101, 3. The issues concerning the soul: what it is, and what its essence is, and what its accidents are, - are neither readily accessible nor the easiest to master. Rather the science of these things is of the hardest, even though the fact of there being the soul is most familiar and evident. But there are many entities that are most familiar with regard to their existence and yet their substance is most unknowable; such as movement, and place, and even more so, time. Each of these, indeed, has being that is familiar and not disputed by anyone, while to see what their substance is, is one of the hardest things. And the soul, then, too is something of this kind. For whereas it is most familiar and evident that the soul is something, just what it is, is not easy to learn.

101, 12. If now, having started from top, we should make the beginning of our reasoning about it from division of being into the first genera, and should make it evident, under which genus the soul is, then, perhaps, having that established, we would also get hold of the whole substance of it.

101, 15. So, since being is divided into ten first and highest genera, we claim that one of them is substance, of which, we say, one kind is composite, and others are those from which the composite [substance] has its being. Now we call the substance composite, of which we can predicate a 'this something', sensible, existing in actuality and underlying all the other genera of being. For example: this stone, this wood, this gold, this fire, and everything of this kind. So, all these things, and all the things like these are composite substances. For in all of them there is, on the one hand, something underlying, which we call "matter" and which has a capacity of receiving within itself

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1 A full translation and a new critical edition of mantissa are now prepared by Prof. R.W. Sharples, to whom I am grateful for providing me with copies of his drafts and for reading and discussing with me the drafts of my translations, which saved me from many errors. The defects that remain are of course solely my responsibility.

2 101, 7: τὴν μὲν υπαρξὴν ἔχει γνωριμιστάτην.

3 101, 18: τόδε τι.
some form; and on the other hand, some form, having received which, the underlying, being such indifferently to all things, \(^4\) in accordance with its own nature, becomes different and already a ‘this something’- this silver, that gold, that fire, that something else. For all of these, being the same as one another as regards the matter and the underlying, have a difference due to the form.

101, 28. For as it is with the products of art, so, by analogy, one has to think, it is with natural substances. For just as in the art, say, of sculpture, bronze underlies all things that are brought forth from it by the artificer, whereas the forms that come to be in it in accordance with the art, are the causes of difference and of each of those things being “a this something” - this one “throwing a disk”, that one [a boy] binding his hair,\(^5\) and each of them is a composite of the bronze and of this shape, - in the same way one has to think about the composite substances. For in those, too, one thing is underlying substrate, another form, due to which each of them is a “this something” - this water, that air, that something else.

102. 10. … For it is not the case that animal comes to be in the course of soul’s being \(<\text{destroy}\>\) ed in the bodily mixture.\(^6\)

But if animal is a composite substance in neither of these ways, then it remains that it is in the third way. This was the one, according to which something of the compound was matter, and something form. (For certainly it is not [a composite] in the way in which numbers are: for the compound made up of these is incorporeal, but the animal is not such.) Hence, the animal, being composed of soul and body, has its composition from them on account of one of them being underlying substrate and another form.

102, 16. So it remains that either body is the form of soul, or soul \(<\text{is the form of}\>\) body. But it is impossible to say that body is the form of soul, for body is the underlying.

102, 18. Further, each particular thing, too, is a “this something” due to form, e.g. statue, house, ship, fire, water, earth. And as for the animal, it is animal due to the soul. So it is the soul that is form.

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\(^4\) 101, 24: \textit{fort. \&v} \(\pi\alpha\sigma\nu\) Bruns, but we can understand \(\pi\alpha\sigma\nu\) as governed by \(\overline{\text{ιποκείμενος}}\); cf. 102, 2: \(\delta\ \mu\epsilon\nu\ \chi\alpha\lambda\kappa\alpha\zeta\ \iota\pi\alpha\kappa\iota\epsilon\tau\iota\nu\ \pi\alpha\sigma\nu\ \tau\acute{\imath}\iota\iota\zeta\ \delta\acute{\iota\nu}\ \tau\acute{\imath}\iota\iota\zeta\ \tau\acute{\iota}\tau\iota\nu\).\(^5\)

\(^5\) 102, 5: \textit{διαδο\ss u\ss i\ss enos}. I owe this translation to Prof. Sharples, who refers to Pliny NH 34.55.

\(^6\) Bruns has conjectured that the incomplete sentence is the ending of the argument concerning the generation of a living being from soul and body, similar to the one found in \textit{de anima} at 12.5.
102, 20. Also, since form is that, which when it is not present, or is not in the underlying substrate, at once makes a "this something" cease to be what it was before; and [since] the animal, for its part, will immediately ceases to be an animal when the soul is separated from the body (for just as an axe is axe due to the shape, and this latter is its form, and if it were ensouled, it, and not the iron, would be its soul, so is the soul in the animal, being analogous to the shape of the axe; for it is due to it that the animal is animal), [the soul] would be a substance in the sense of form.

102, 27. Also, if forms are that by which the physical bodies differ from one another, and they differ in such a way, that some are ensouled, some soulless, the soul would be form.

102, 29. Also if that by which we know in the primary sense, is knowledge (for we know by knowledge), and knowledge is not something underlying, but that, having received which, the underlying subject (and in this case it is soul) is said to know in the secondary sense; and that by which, in the primary sense, we are healthy, is health, and that is not an underlying subject (for it is the body, which receives the health, that is the underlying subject, and it is being healthy in the secondary sense); then that by which, in the primary sense, we live, is soul, and soul is not a subject, but that, having received which, the subject itself is also said to live, in the secondary sense, like the body that had received the health, is said to be healthy, and the soul that had received the knowledge, is said to know.

Hence, it is soul that is substance in the sense of form.

103, 3. As for the form, Aristotle calls it perfection and actuality. So, as might be expected, the soul, being a substance as form, is called by him actuality. For since of the things that exist some are said to be potentially, and some in actuality, and the things that are said to be in actuality, are those that already have the form, that they could potentially have, and the structure, it is reasonable that that, in virtue of whose presence some potential being comes to the actuality, is the actuality. That which is potentially an animal, like a seed, becomes actually an animal, due to the presence of the soul.

103, 10. Next, that the soul is form and actuality, could also be proven as follows. Of actuality, a certain kind is first,

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7 102, 22: πεπατωμενον: on this meaning of the perfect see Goodwin, p.19.
8 102, 31: ἵπποειμενον τι.
9 103, 1: δευτέρως.
the other second. Thus, whereas skills, crafts and generally states are first actualities, the activities that proceed in virtue of them and from them are second actualities. For example, someone who is learned is such in actuality (for he possesses his learning), but as such he is said to be actually learned in the sense of the first actuality; while he who is already acting due to his learning, assumes also the second actuality. Now, the actuality being of two kinds, the soul is actuality as a state. For even someone who is not acting with the soul, has it none the less, for instance someone who is sleeping. For this latter, even though he is then not acting with his sense perception, still has the perceptive soul. Soul is, then, the first actuality.

103. 20. Now, since every form and every actuality is of something, it is obviously in order to consider, of what. Well, it has been already pretty much shown that it is of the body. For since the animal is substance composed of subject and form, the subject in it is body, while the soul is actuality. But since of bodies some are artificial, while others natural, of what sort of body is the soul actuality (for it is not in every body that the soul can come about)? Well, certainly, of no artificial one. For [in that case] it would itself be an artificial form, like that of a human statue, and the animals would be artefacts, like the effigies. But in this way it would not be substance at all. For the artificial form is not a substance. So, the soul is actuality of a natural body (and "natural body" means the body that has in itself the principle of motion), accordingly as the animal, of which the soul is part, exists by nature.

103. 32. But since there are further differences among the natural bodies (namely, whereas some of them are simple, others composite, and of no simple body is the soul actuality - neither of fire, nor of air, nor of water, nor yet of earth is the form soul, since none of these is animal)), what sort of a body is [the body] of animal, of which the soul is actuality?

Now, since every body that has soul and is living, feeds and grows by itself (for it is in this that the living differs from the non-living), and nourishment and digestion and accretion and growth need some organs (so some living beings use for these mouth and throat and stomach and intestines, others roots and pith and bark; those of the living beings that are more perfect, need, proportionately to their perfection, more of the organs and of all the faculties of the soul acting through certain organs proper to each, as is clear in case of perception), the soul would be first actuality of a natural body endowed with organs. For no body is capable of living or having soul, which is neither

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10 103, 8: εἰς τὰ ἐντελεχείᾳ γίνεται.
11 103, 12: ἐπιστήμηα.
12 103, 12: ἔξεις.
organic, nor has any auxiliary means for the faculties of the soul. And this would be the definition and the most common account of the soul. For in it is encompassed also the soul of plants.

104. 10. Now, our account of the soul has to do with the soul that exists in mortal bodies. So when we say that the soul is of the natural body that has life potentially, we in this case do not predicate “potentially” as we habitually use this expression about things that do not yet have some property, however are naturally able\textsuperscript{14} to accept it. For [it means] not that this [given] body first exists separately from the soul, then receives the soul, but rather [that] what has life potentially is what is capable of living, that is possessing organs for the activities of life, and “having life potentially” is equivalent to “organic”.

104, 17. Now, if the soul is form and actuality of the body, it is clear that it will be incorporeal. For every form is incorporeal. For if that form is itself also body, then it will be either formless and qualityless (and such is the matter), or, if it has form, and the form, being itself a body, another form, then there will be a regress to infinity.

104. 21. Now, the soul, as it is actuality, extends through the whole body. For every part of an ensouled entity is ensouled. And the soul is actuality not in the way in which the shape is [actuality] of the shaped things, nor as the position\textsuperscript{15} and order\textsuperscript{16} of the composites, nor as some disposition\textsuperscript{17} and passion\textsuperscript{18}, nor like mixture or blending (for it is pleasure and pain that are passion and disposition, but the soul is neither of these), but assuredly while all these things are present in the body (for it is by them that the organs exist which the soul uses), the soul is some power\textsuperscript{19} and substance which follows upon them\textsuperscript{20}.

104, 28. And the body and its blending is the cause of the original coming to be of the soul\textsuperscript{21}. And this is clear from the difference of the animals in respect of their (bodily) parts. For it is not the souls that mould\textsuperscript{22} the shapes\textsuperscript{23}, but

\textsuperscript{13}103, 13: αἰ δὲ κατὰ αὐτὰς καὶ ἀπ' αὐτῶν ἐνέργεια.
\textsuperscript{14} 104, 13: ἐπιπεδεῖαν. On the use of this term in Alexander, see Todd 1972.
\textsuperscript{15} 104, 23: ὑπέρ.
\textsuperscript{16} 104, 23: τάξις.
\textsuperscript{17} 104, 24: διάθεσις.
\textsuperscript{18} 104, 24: πάθος.
\textsuperscript{19} 104, 27: δύναμις.
\textsuperscript{20} 104, 27: ἐπὶ τοῦτος γενομένην.
\textsuperscript{21} 104, 28: καὶ ἐστὶ τὸ σῶμα καὶ ἢ τούτου κράσις αὐτία τῇ ἀρχῆ τῆς ἀρχῆς γενέσεως.
\textsuperscript{22} 104, 30: διαπλάσσομαι.
\textsuperscript{23} 104, 30: μορφᾶς.

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rather the different souls follow upon the specifically qualified constitution of these latter, and the former and the latter [i.e. souls and bodily constitutions] change along with one another. For the actuality and that of which it is the actuality are correlatives. And that upon a specifically qualified bodily mixture the differentia of the soul follows, is also indicated by the case of beasts, which, too, have souls subject to more diversity in accordance with a specifically qualified bodily mixture.

104. 34. As regards what we call the activities of the soul, they are not of the soul by itself, but of the one who has the soul. For just as it is not the soul by itself that walks or wrestles, but the man who has it, so too what suffers and desires and rejoices and is angry is the one who has the soul, but not the soul. For all the so-called movements of the soul are of the whole living being.

105. 2. Now, the faculties of the soul are the kind of entities that have a certain order with respect to one another. That is, one of them is first, another second, and yet another follows upon these. The evidence of this is, that what has the first one may do without partaking of the second one, while it is impossible to have the second one without the first one.

105. 6. And the first one is the nutritive, the growing and the reproductive, which kind of soul the plants also have. For this is not "nature", as some think, but the first faculty of the soul, since as for nature alone, even simple bodies have it, yet we do not call these living. For nature is a principle of motion. But plants have more than just that; namely, they have the capacities to feed by themselves, and grow and beget their likes, - all of which is defined as pertaining to living. But living is due to the presence of the soul.

105. 12. The second faculty of the soul is that of sense perception, by which the animals are defined, which it is impossible to have in the absence of the first one. However, plants, which have nutritive soul, do not have the perceiving soul. Besides these faculties there is the appetitive faculty coupled with the perceiving: for there would be no use from the sense perception for the animals, if they did not have appetite inherent in them, as it is this latter that is the principle of any act. So, these are the three most necessary and foremost parts of the soul, which are

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24 104, 30: ἐπὶ τῇ τούτῳ νοὶ ποὶς συντάσσει ἐπηκαλούθησαν αἱ διάφοραι ψυχαῖς, συμμεταβάλλουσαν δὲ ἄλλῃς.
25 I owe this translation to Prof. Sharples.
26 104, 33: διαφορὰ.
common to all the animals - the vegetative\textsuperscript{28}, the perceiving and the appetitive\textsuperscript{29}, each of them being useful for some of the functions\textsuperscript{30} in which consists the being of an animal. As for the functions of the animal, the first are being and living, the second, judging about the circumstances\textsuperscript{31}, and besides these also activity and action\textsuperscript{32}. Now, accordingly, the vegetative faculty of the soul contributes to the being and living of animal, the perceiving one to judgement, and the appetitive one to acting. The acting, which pertains to the animal in the principal sense, is the activity involving the joint use\textsuperscript{33} of organic parts of the body, such as walking or speaking. The nutritive faculty divides into the functions of nutrition, growth and generation; the perceiving one into those of perceiving and forming images\textsuperscript{34}, and memory and assent; and the appetitive one is like some kind of end\textsuperscript{35} of the \textit{phantasia} and assent. For these are for the sake of that. For in all events, the assent leads the impulse, and is in turn led by \textit{phantasia}.

105. 31. Of this appetitive faculty which has to do with action something is principal and something auxiliary: the principal is what is properly called appetitive and desiderative, and the other is motor\textsuperscript{36}, which includes also the speaking\textsuperscript{37}. The appetitive part divides into desiring, spirit and will\textsuperscript{38}. These are the kinds of appetite. Of these will already seems to partake also of reason, for it is appetite with deliberation.

106.2. There is still another faculty of the soul, judging or reasoning, which arises in the most perfect animals; and this is man, in whom deliberation\textsuperscript{39}, apprehension\textsuperscript{40}, and opinion pertain to this capacity.

106, 5. The soul moves the body not as being moved itself and in this way moving it (for in itself it is unmoveable), but as a cause of movement for the animal, as the weight which is inherent in the earth is for it the cause of

\begin{itemize}
\item 104, 35: \textit{ἐνεργείας}.
\item 105, 18: \textit{φιλικῶν}.
\item 105, 19: \textit{ὀσμητικῶν}.
\item 105, 19: \textit{ποιός τι τούτων κτλ.} I am grateful to Prof. Sharples for this suggestion.
\item 105, 21: καθὼς τὰς προοπτικὰς. Cf. LSJ reference to Aristotle \textit{Politics} 1286a11.
\item 105, 21: \textit{ἐνέργεια τε καὶ πράξεις} - note the expository construction "narrowing" sense of \textit{ἐνέργεια}.
\item 105, 24: \textit{μετὰ συγχώρησις}.
\item 105, 27: \textit{φαντασίωσθαι}.
\item 105, 29: \textit{τέλος}.
\item 105, 33: \textit{νευροσταστικῶν} (Cf. SVF III 473 = Galen \textit{PHP} IV 6: κατὰ τὸ νευρῶδες).
\item 105, 33: \textit{φαντασίων} (SVF I 143= \textit{Nemes. de nat.hom.} 72, 9 Morani; II 827 = \textit{Aēt. Plac.} IV 4,4; 828=DL VII 110, 830=Porph. de an. ap. Stob., cest.).
\item 105, 34: \textit{ἐπιθυμεῖν} καὶ \textit{θυμοῦσθαι} καὶ \textit{τὸ βούλευσθαι}.
\item 106, 4: \textit{βουλευσθαι}.
\end{itemize}
downward movement. For not all the movers move in the like way. Thus, in one way the oxen move the cart, and in the other the good, that is the object of striving and desire, moves whatever aims at it, for it is [itself] not moved thereby. Hence, the movement of the ensouled beings is by this latter sort. As for the soul, it causes movement because it is due to it that we think and deliberate. So, while the good moves in virtue of its being the object of thought, the soul moves in virtue of being the agency of thought. For just like the craftsmen are moved by the arts and due to the arts, and these arts are for them the causes of this particular movement, [arts] themselves not being moved, in the same way also the ensouled beings are moved by the soul, which itself is not moved. It is the appetitive and desiderative faculty of the soul, owing to which the animals are moved. For it is for the animals the cause of their proper movement.

106, 5: καταλαμβάνειν.
mattissa 2. On the intellect.

106, 19. Intellect, according to Aristotle, is threefold: for there is, first, a certain material intellect¹, which I call "material" not because it is some sort of an underlying subject, like matter (for I call matter a certain subject which can, through the presence of some form, become a "this"), but [rather] because matter has its being of matter in its ability to become everything, that in which there is the power,² the "potential" itself, insofar as it is such, is material. And it is in this manner that the intellect, too, insofar as it is not yet thinking, but is capable of becoming such, is material. And the power of the soul which is such is material intellect, as it is nothing in actuality, but has a power of becoming everything, if only it is possible for there to be a thought of all the things.³ For something which is supposed to apprehend all things, should not be one of them in actuality and by its own nature⁴. For its own form, superimposed on the apprehensions of the external things, would likely become an impediment⁵ for the intellection of these latter.

106, 30. For the senses, too, do not apprehend the things, in which they have their being. It is for this reason⁶ that the sight, since it is such as to apprehend colours, has the organ in which it is and through which it has the perception, colourless. For water is colourless, as regards its own colour⁷. In the same way olfaction is [constituted] by air, (which is odourless), while being such as to apprehend the odours. And touch does not perceive the objects that are as warm, cold, hard or soft as itself, but it does perceive those that differ [from it] in the intensity [of these states]. And this is so because it would have been impossible for it [the sense of touch], while it is a body, not to have those contraries⁸. For every natural and generated body is tangible.

As with the senses it is impossible that any of them that has something in itself [as its constituent] apprehend and

¹ The Arabic has a gloss here, 31, 17 Bad.: “And by saying “material” I mean an underlying intellect (‘aqṣān mawdū‘‘an), capable of becoming perfect (kāmilan), as is the case with matter”.
² Arabic 32, 2 Bad.: “But since the being of matter (wujūd il-hayālā) is indeed in that it is able to become everything by means of the ability (min tariqī l-imkānī) itself, then in the same way, again, that what is itself “in potency” (ma bi-l-qawwālī nafsūhu: āwīn ṭo ḍu’dārū), insofar as it is such, is also material”.
³ 106, 26: Bed. 32, 7 ayy fort. an
⁵ Arab.: tasa‘awwāwu hu ( =έμελλεν κτλ.)
⁶ Badawi: kāḏālīka, ZB: ligālīka.
⁷ DA 418b26-27.
⁸ DA 424a1-10.
discern what it has, so the intellect, too, since it is some kind of apprehension and discerning of the intelligible things, cannot itself be any of the things that it discerns.

107, 8. But it apprehends all things, if only it is possible to know all things. Hence, then, it is none of the things in actuality, but all of them potentially. For this is what it is for it to be intellect. For senses that arise through bodies, are not identical with things that they apprehend, but are some different things in actuality, and are a power of a certain body. This is why the apprehension of sensibles things happens when a body is subject to certain affection. And for this reason it is not the case that every sense can apprehend all things. For [each one] is itself already something in actuality. But the intellect, neither apprehending its objects by means of body, nor being a power of a body, nor being affected, neither is in actuality any of the things at all, nor is potentially any particular thing, but it is some power, in the unqualified sense, of a particular kind of entelechy, which is soul, receptive of forms and concepts. Now, then, this intellect, being material, is in all the beings that share in the perfect soul, i.e. in the humans.

107, 21. Another is that which already thinks and has the disposition to think, and is capable of grasping the forms of the intelligibles by its own power, in a way similar to the craftsmen who have mastered their skill and can themselves make their products. For the first one was not like these, but rather like those who can pick up the profession and become craftsmen. But this one is the material intellect which has already taken on the disposition and thinking and acting. Such intellect is in those beings that are already more accomplished in that they think. So, this is the second intellect.

107, 29. The third intellect in addition to the two mentioned is agent, through which the material one comes into being in disposition, while this agent intellect is analogous to the light, as Aristotle says. For as light causes the colours potentially visible to become so actually, so, too, this third intellect makes the potential material intellect into the acting intellect by making in it the disposition of thinking. This [third intellect] is that which is intelligible by its own nature, and actually so; for it is this that produces thinking and leads the material intellect on to the state...

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9 107, 17: οὐδὲ ἐστὶ τὸ ὁρνεῖν: ως λὰ ἔσαιαν μυσαραν ιλαιη.
10 Arab.: "And this intellect is the material intellect after it has acquired the state and disposition (makalatu'n wa sti 'dādum: รวิ กวิ รักบะ?) to think and act." (Bad. 33, 18-19) (Badawi's (an) yataqabbala is to be replaced by what must be (an) yaf'ala in the Tashkent).
11 But cf. Schroeder 1990 ad loc. on ἐγν.
of actuality.

108.2. It is then itself also intellect: for the immaterial form, which is the only thing intelligible by its own nature, is intellect\(^{13}\). For enmattered forms become intelligible due to the intellect, being themselves potentially intelligible. For the intellect, separating them from matter, with which is their being, itself makes them actually intelligible\(^{14}\).

And each one of them becomes intelligible and intellect at the time when it becomes an object of thought in actuality\(^{15}\), and not before, as they are not such by their nature. For the intellect in the state of actuality is none other than the form that is being thought, so that each of those, that are not intelligible without qualification, becomes intellect when it becomes an object of thought.

108.9. For as knowledge in actuality is identical with the object of knowledge in actuality, and as the actual sense perception is identical with what is actually perceived, and again what is actually perceived is the same as the actual perception, in the same way intellect in actuality is identical with what is actually intelligible, and what is actually intelligible is identical with the acting intellect.

108.14. For intellect, grasping the form of the object of thinking and separating it from matter, on the one hand makes it intelligible in actuality, and on the other itself becomes intellect in actuality\(^{16}\).

And if any of the existing things is actually intelligible by its own nature and of itself, because it is immaterial, rather than because of the intellect that separates it from matter, that sort of thing is intellect that is always acting. For what is intelligible in actuality is intellect.

Now, it is this very thing, (i.e.) which is intelligible by its own nature and is intellect in actuality, that, being the cause due to which material intellect, by reference to this form, separates, reproduces\(^{17}\), and thinks also the

\(^{12}\) 107, 33: ευμνόω: causing the noetic state. Arab.: *malakatan li-t-tasawwuri l-'aqliy\(\) (Bad. 34, 2)

\(^{13}\) Cf. *DA* 430a19-20; 431a1-2.

\(^{14}\) Arab.: "Because the enmattered forms only become intelligible in actuality when they have been intelligible potentially, and this because the intellect separates them from matter with which is their being in actuality, and so makes them intelligible", Bad., 34, 4-6. Cf. ZB who suggest *bi-l-'aql* for *bi-l-fi\(\)l* (p.317, n.25). I am grateful to Prof. D.L. Black for helpful criticisms of the earlier version of this translation.

\(^{15}\) Cf. Moraux 1942, p.128. Arab.: *li-j-t-taqabbuli*: to accept. (Bad. 34, 20) ZB p.317, n.25, *tamattuli*.

\(^{16}\) *DA* 430a3-9.


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emnattered forms, thus making them intelligible\textsuperscript{18}, which is the agent intellect, which has got the name “from without”. because it is not a part of our soul, but comes about in us from outside, when we think of it\textsuperscript{19}, if at any rate thinking happens by the grasping of the forms, and this thing [under discussion] is immaterial form, which is at no point with matter, and is not separated from it when it becomes an object of thought\textsuperscript{20}.

108, 26. But it is reasonable that, being such, it should be separate from us\textsuperscript{21}, since it gets its being intellect not in its being thought of by us, but is such by its own nature, being in actuality intellect and intelligible.

But this kind of form, which is substance without matter, is incorruptible. This is why the agent intellect, which, insofar as it is actual and “from without”, is such a form, is reasonably called by Aristotle “immortal intellect”. For each of the other intelligible forms, at the time of intellection, is also intellect, but none of them is intellect “from outside” or “from without”; rather each becomes intellect when it becomes an object of thinking. Whereas this intellect, which exists as such also prior\textsuperscript{22} to its being thought, when it is thought, reasonably is and is called “from without”.

109, 4. The intellect “in a disposition”, when it is acting, can also think itself: not [just] itself as intellect, for in that sense thinking and being thought will belong to it immediately by simple identity\textsuperscript{23}, but [also] in the way, in which the intellect in actuality is identical with the actual objects of its thinking. Thinking them it in fact thinks itself, if the things that it thinks become intellect in the process of thinking. For if the intellect in its active state is the objects of its thinking, and it thinks them, then it becomes thinking itself\textsuperscript{24}. For it is when it thinks that it becomes identical with the objects of thought, while not thinking it differs from them.

In the same way the sense could be said to perceive itself, when it perceives the objects which become identical with it in actuality. For as we said, the sense in actuality is [the same as] its sensed object. For both the sense perception and the intellect apprehend their proper objects\textsuperscript{25} by grasping the forms without matter.

\textsuperscript{18} Arab.: “if it becomes a cause for the material intellect to separate, receive and think (\textit{tasawwuri}) about each one of the enmattered forms, where each is intelligible by ascension (\textit{taraqqihi}) towards that form” Bad. 34, 20-21. Tashk. \textit{Trf}, Esc. \textit{tref}, ZB loc.cit. suggest a derivation from \textit{radda} (cf.41, 8) or \textit{jama'a} (41, 16).

\textsuperscript{19} 108, 24: \textit{voo:vev}. Badawi: \textit{idā kamala 'aqlunā bihi} (Tashkent); Esc. and Jar. both have preferable: \textit{id nahu aqlunā bihi} (Bad., 34, 22, n.2).

\textsuperscript{20} 35, 1 Bad.: \textit{yufrāqu}’ Badawi \textit{yuqrāimu} ZB.

\textsuperscript{21} Arab.: “\textit{fa-iḍān iḍā 'aqlu huwa finā, fa huwa mufāriqu}” (Badawi’s deletion undue; Bad. 35, 1)

\textsuperscript{22} 109, 3: 35, 8 Bad. \textit{miṇ ajli} Badawi \textit{miṇ qibali} ZB.

\textsuperscript{23} Arab.: \textit{liannahu yaqūzimu miṇ dâlika alla yakuna ma‘a fī hālin wāhidatin ya‘qīlu wa yu‘qālu} (35, 11 Bad.)

\textsuperscript{24} cf. Alexander de \textit{anima}, pp.90-91.

\textsuperscript{25} 109, 14: \textit{tānu shikawu aṭtum}. 299
Also, the intellect could be said to think itself not insofar as it is intellect, but insofar as it is itself intelligible. For it apprehends itself as intelligible, in the same way as [it does] any one of the other intelligibles, not as intellect. For it should be an incidental property\(^{26}\) of the intellect to be intelligible; for since it also is one of the beings\(^{27}\), and it is not sensible, it remains that it should be intelligible.

For if it were thought of by itself as intellect and on account of its being intellect, it would not think of anything else, other than intellect, so that it would think only of itself. But thinking the intelligibles, which are not intellect before being thought, it also thinks itself as such, as that which is one of the intelligibles. So, this intellect, coming forth from the material intellect, is incidentally thinking itself.

And the first intellect, which is the actual\(^{28}\) intellect, too, thinks itself in the similar way, and by virtue of the same reason. But it has some advantage compared to that one.

(i) For it does not think anything else except itself.

(ii) For it is in virtue of its being intelligible that it is an object of thinking for itself,

(iii) and because it is intelligible in actuality and by its own nature, (iiiia) it will always be thought, (iiiib) and this, clearly, by that which is always\(^{29}\) thinking.

(iv) But only it is the intellect that is always thinking in actuality; so, it will always be thinking itself.

(ivb) And it will be the only object of its thought, because of its simplicity. For the simple intellect has as its object of thinking something simple, but there is no other thing which would be simply intelligible, except itself. For this one is unmixed and immaterial and contains nothing potential. So, it will be the only object of its thinking.

(ii) So, on account of its being intellect, it will think itself as an intelligible; (iiiia) while on account of its being in actuality intellect and intelligible, it will think itself always\(^{30}\); (iiib) and on account of its being the only simple it will have only itself as the object of its thinking. For since it is the only simple being, it will have

\(^{26}\) 109, 17: \textit{συνεδήγησ}.  
\(^{27}\) 109, 17: 36, 3 Bad.: Esc. and Jar.: \textit{wāhidan} for \textit{kulla wāhidin} and \textit{lam} for \textit{in} seem to be correct (against Tashk. and Bad.)  
\(^{28}\) 109, 23: \textit{ἐνεργεῖα}.  
\(^{29}\) 109, 27: \textit{άι}: Freudenthal, p. 26 \textit{abadan} Arab.  
\(^{30}\) 110,1-2: the exemplar of the Arabic version seems to have had the same omission as \textit{K} ms, which has been corrected by the translator. “And on account of its being \textit{the only simple}\(^*\) in actuality, indeed it thinks itself only, because since it is the only simple, it can only think something simple, etc.” (* must have been inserted by the translator to make up for the missing sense).
something simple as an object of its thinking, and among the intelligibles it alone is simple.

110, 4. I have learned some of Aristotle's teaching about the 'intellect from without', which I have preserved. The considerations that compelled Aristotle to introduce the 'intellect from without' are said to be the following: the analogy of the sensible objects and that of all the things generated. For just as in all the generated things there is some 'passive' aspect, and some 'active', and thirdly that which is generated from both of these; and similarly with the objects of sense where, that is, the sense organ is 'passive', the sensible object is 'agent', and the generated thing is the apprehension of the sensible through the sense organ; he assumed that in the same way in case of intellect there should be some agent intellect, which could bring the potential material intellect to actuality (where its actuality consists in making all things intelligible for itself).

110, 13. For just as there are sensible objects that bring the sense to its active state and make it actual\(^{31}\), so should there also be some things that would make intellect active because they themselves are intelligible. For a thing cannot be productive of something, not being that something in actuality.

110, 16. But of these things that are thought by us nothing is intelligible in actuality\(^{32}\). For our intellect has as objects of its thinking sensible things, which are potentially intelligible, and they are made intelligible by the intellect\(^{33}\). For this is the activity of the intellect: to separate by its own power\(^{34}\) the actual sensibles, abstracting them from their concomitants with which they are sensed [conjointly], and to define the forms per se’.

If indeed\(^{35}\) this is the actuality of the intellect which has existed prior to it in the potential state, and if, on the other hand, what comes to be by being led from potentiality to actuality must be brought about by something which itself is actual, there has to be also\(^{36}\) some intellect which is agent and actually present, that would make the so far only potential intellect capable of acting, i.e. thinking. And the one that enters from outside is just such. These,

\(^{31}\) 110, 13: 37, 6 Bad.: “for as there are some things that are actually sensible, so etc.”

\(^{32}\) 110, 16: 37, 6 Bad.: “and it is not the case that among these things which we think everything is intelligible in actuality” (wa laisa fi hadithi l-‘aiya‘i l-latī na‘qūluhā kullā sayin hawā ma‘qūlun bi-l-fi‘li).

\(^{33}\) 110, 18: 37,8 Bad.: bi-l-fi‘li) fort. bi-l-‘aqlī (in actuality) by the intellect)

\(^{34}\) 110, 19: χωρίου om. Arab. (Or misread: 37,9 Bad.: bi-qwawwathī l-latī takassuhū<την αυτοῦ δονάμει <τοῦ> χωρίου? ) I am grateful to Prof.Magee for helpful comments on this point.

\(^{35}\) 110, 20: Bruns' suggestion in the note (haplography from: καθ’ αὐτά τὰ εἰδή, εἰ δὴ κτλ.) seems plausible and is to some extent supported by the Arabic: "hatta turā s-suwaru ‘alā hiyālīhā l-mawsīṣīyīn". (“So that the forms be demonstrated, even though they are sensible.”)

\(^{36}\) 110, 20: εἰ δὴ om. in Arab.

\(^{37}\) 110, 21: 37, 12 Bad. minhumā Badawi aidān ZB.
then, are his decisive considerations.

110, 25. Indeed, there will be something actually intelligible that is such by its own nature, just as there is something sensible, too, which is not produced as such by the sense.

But this thing is intellect, some nature and substance\(^{38}\), which is not knowable by anything else but intellect. For it is certainly not sensible, nor is it the case that all the things that are being thought are made intelligible by our intellect, not being intelligible by their own nature, but rather there also exists something which is intelligible also by itself, and which is such by its own nature.

It is this very thing that the potential intellect thinks, when it has matured and grown. For just like the ability to walk which man possesses directly as he is born, is led into actuality as he matures with time passing, not by way of being affected\(^{39}\), - in the same way also the intellect, when it has been accomplished, on the one hand, thinks the natural intelligibles, but also on the other, it makes the sensibles intelligible to itself, since it is agent. For the intellect is not passive by its nature, so as to be brought to being by another\(^{40}\), or be affected, like sensation: to the contrary. Namely, sensation is by way of affection, for it is passive, and its apprehension happens through the affection, while the intellect is [something] agent.

In being intellective of most things, it also simultaneously becomes their maker\(^{41}\), in order to be able to think them, unless someone would want to call the intellect, too, passive, on account of its receptivity of forms. For receptivity conceivably would seem to be passivity.

And this it has in common with sensation, but since each of them is characterised and defined not by something that it has in common with something else, but by something proper [to each one], this feature, too, which it has in common with sensation, should be ascribed to it under the qualification of its proper being, so that if\(^{42}\) it has in common with sensation receptivity\(^{43}\) of forms, even if not in the similar way, and if its proper feature is to be

\(^{38}\) 110,27: 37,18 Bad.: jáuhar.
\(^{39}\) 110, 32: probably alludes to the distinction between genesis and perfection (Phys. VII 3). Prof. Sharples refers also to DA II 5: 417b2f. and Alexander's quaest. III.2-3. 38, 2 Bad.: “iqā am'ana bihi z-zimānu wa kamala s-sayyū l-kaḍi bihi yakānu l-maṣī” (“If the time does its work and that thing perfects by which he is walking”); ò wāqā ṭādūt tū om. On am'ana see ZB, p.318, n.26.
\(^{40}\) 111, 3: imā om. in Arabic. 38,5 Bad. ZB: min qibāli annahu yakānu šayyān ādhara -> miṣl annahu yakānu min šayin ādhara.
\(^{41}\) 111, 5: The exception which makes it “most” rather than “all” presumably is the case of separate intelligibles. I am grateful to Prof. Sharples for the discussion of this construction.
\(^{42}\) 38, 12 Bad. eī om. yakun Badawi in kāna ZB.
productive of those very forms which it receives, it would rather be defined by the <category> of agency\textsuperscript{44}. So that the intellect would be something agent, and not passive.

111. 15. Also, agency is its first and substantial feature\textsuperscript{45}. For first it makes an intelligible by abstraction\textsuperscript{46}, then assimilates one of those things which it cognises and defines as “this something”.\textsuperscript{47} For even if it separates and assimilates simultaneously, still separation is conceptually prior. For this is what it is for it to be receptive of form\textsuperscript{48}.

111. 19. And just as we call fire ‘the most productive’, because whatever matter it gets hold of it destroys and makes food for itself (even though insofar as it is fed it is being acted upon), in the same way one should consider also the intellect inside us as productive\textsuperscript{49}. For it makes intelligible those things that are not intelligible in actuality.

111. 22. For nothing else is intelligible but the intellect which is in actuality and by itself. And the things brought to be intelligible by a thinker, and the activities [of a thinker] are also intellect when they are thought. So that if there were no intellect, nothing would be intelligible. Neither what is so by nature\textsuperscript{50} (as in fact it, i.e. the intellect, alone is such), nor what has been made by it\textsuperscript{51}. For not existing, it would not make anything.

111. 27. The intellect which is “from without” and “natural” would be such as to co-operate with the one inside ourselves, since\textsuperscript{52} other things, too, would not be intelligible\textsuperscript{53}, even though being so potentially, if there were not something that is intelligible by its proper nature. This, that is intelligible by its own nature, that comes about in a thinker by way of being thought, is intellect that has come to be in a thinker and is also being thought of, as the one

\textsuperscript{44} I am grateful to Prof. Sharples for clarifying to me the sense of this sentence.

\textsuperscript{45} 111, 15: \textit{οἰκονομεῖν}. (The previous argument has dealt with the “agency” as a proper category by which the intellect should be described. This one has to show that among the transactions performed by the intellect that of “agency” has the first place and pertains most properly to its essence).

\textsuperscript{46} 111, 16: \textit{οἰκονομεῖς} om. in Arab, 38, 16 Bad.

\textsuperscript{47} 111, 17: 38, 17 Bad.: \textit{kαδα}. This seems to say that the mode of reception of forms is not intuitive; it receives what it has already separated and defined.

\textsuperscript{48} 111, 17-19: 38, 18-19 Bad.: “And indeed if its separation of things one by one and its grasp of the same happen simultaneously, still indeed the former is experienced prior to the latter, and this is indeed the grasp of the forms”. ZB: \textit{γενμα} \textit{μυαγεμματος} \textit{λι-λ-αθαρί} (\textit{μυαγεμματος}) \textit{το} \textit{μερίκως} \textit{επιστρεφε} \textit{γενμα} \textit{μυαγεμματος} \textit{λι-λ-αθαρί}.

\textsuperscript{49} Alexander uses the case of fire imposing its form on the combustible in the \textit{de mixtione}, as a counterexample to the Stoic explanation of heating by the corporeal pervasion. \textit{de mixt.} 222, 36.

\textsuperscript{50} 111, 25: \textit{ά δοκεῖ} read \textit{δ} (scil. \textit{άνθρωπον} \textit{ερυθ})

\textsuperscript{51} 111, 25: 39, 3-4 Bad.: “And for that reason if there were no intellect, there would be nothing intelligible, because nothing is intelligible by nature, except only it, as we said. And nothing will be brought into being by it, because if nothing is intelligible, then it does not think anything”. (The last sentence looks like a mis-paraphrase).

\textsuperscript{52} As has just been argued.
that is from without and immortal\textsuperscript{54}, which imparts to the material intellect the disposition to think what is potentially intelligible.

111, 32. For as light, being productive of the actual sight, is itself an object of sight, together with its concomitants\textsuperscript{55}, and through it the colour, so in a way intellect is the cause of thinking in us, by being itself also thought, not making itself\textsuperscript{56} intellect, but rather perfecting the existing intellect by its own nature and leading it onto its proper objects\textsuperscript{57}.

111, 36. So, intellect is intelligible by nature; while other things that are intelligible are so by its craft\textsuperscript{58} and as its productions which the potential intellect (for it was intellect even prior to its acting\textsuperscript{59}) produces not due to being affected or induced by something\textsuperscript{60}, but in virtue of being grown\textsuperscript{61} and maturing\textsuperscript{62}. And having matured, it can think both things that are intelligible by nature and those that are so by its own activity and craft\textsuperscript{63}. For the proper character of the intellect is agency. and to think\textsuperscript{64} for it is to act rather than to be affected.

112. 5. Intending to prove that the intellect is immortal and to escape the paradoxes that they bring up because the intellect from without by its notion has to change place\textsuperscript{65}, while on the other hand, on the assumption that it is incorporeal, it cannot either be in place, or go over, and be at different times at different places, he\textsuperscript{66} said the following, in accordance with his own theory\textsuperscript{67} about the intellect resident in every body that is called “mortal”.

\textsuperscript{53} 111, 28: \textit{nuṣṭā} om. Arab. 39, 7 Bad.
\textsuperscript{54} 111, 31: \textit{δανταν}οτος present in the Arab. 39,9 Bad.
\textsuperscript{55} 111, 33: \textit{τά σὺν αὐτῷ}: cf. 110, 19: \textit{σὺν φίλον ἐστιν αἰσθήτα}. ZB: \textit{wa ma’aḥū} \textit{→ wa mā ma’ahū}.
\textsuperscript{56} 111, 35: \textit{αὐτόν} \textit{λέγω}, the Arabic paraphrase is probably correct 39, 12 Bad.: \textit{fa-laiṣa yahilih dānuḥu ‘aqlun} \textit{id} \textit{huwa bi ‘t-tabī‘ati ‘aqlun} ("so that it does not itself become intellect, because it is intellect by its nature"). Schroeder’s “makes the intellect itself” would require at least \textit{αὐτόν} \textit{τοῦ νοῦ}. (Schroeder 1990).
\textsuperscript{57} 111, 36: \textit{τά όικεῖα}. (Alternatively, it can refer to the proper activities).
\textsuperscript{58} 111, 36: \textit{τέργη} for which Arab. \textit{talattuf} (39, 14 Bad.)
\textsuperscript{59} \textit{ya’qil} Badawi (39, 15) \textit{ya’al} ZB
\textsuperscript{60} 112, 1: \textit{ο ναθων και γνώμενος} \textit{υπό τινος}; 39, 15 Bad.: \textit{min gairi nфт ‘alın minnā (?)} \textit{wa yakānu ‘an šayin etc. Badawi min gairi nфт ‘alın minhu au yakun Finnegan: min gairi nфт ‘alın minhu wa ičāwununin ZB
\textsuperscript{61} 112, 2: \textit{αὐγήδεις} om. Arab. 39, 16 Bad.
\textsuperscript{62} 112, 2: \textit{αὐγήδεις και τελειώμενος}
\textsuperscript{63} 112, 2: \textit{τέργη}; \textit{luf} 39, 17, cf. supra 111, 36.
\textsuperscript{64} 112, 4: \textit{νοεῖ} om. Arab. 39, 17 Bad.
\textsuperscript{65} \textit{Yniz} Badawi \textit{yubaddil (δαλαττεν)} ZB (cf. 42.1)
\textsuperscript{66} The authorship of this doctrine is a matter of controversy. P.Moraux 1967b argued for Aristotle of Mytilene, and this opinion seems prevailing. See also Moraux 1985.
112, 9. He said that the intellect is present in matter as substance in substance, and is in actuality, always
performing its own activities.

Now, when from a bodily blend there comes forth fire or something such from mixture, as could provide an
instrument for the intellect which is in that mixture (for [as has been said] it is in every body, and this mixture, too,
is a body)*68, this instrument is called potential intellect, which is a certain power, which follows upon a particular
sort of bodily blend and is suited for receiving the actual intellect. At the time when this latter gets hold69 of this
organ, it acts as70 by means of an instrument, both as upon the matter and as by means of the matter, and at this time
we are said to be thinking. For our intellect is composed71, on the one hand, of the power, which72 is the instrument
of the divine73 intellect, and which Aristotle calls “potential intellect”, and on the other hand, of the actuality of the
former [divine intellect]. When either of these is not present, we cannot think.

112, 21. For the actual intellect is there at the moment of the first sowing of a seed, since it is pervasive of all
things and actual, in the same way in which it is [present and active] in any other occurrent body74.

But when it also acts through our power, then this intellect is called ours, and we think75, just as one might regard
a craftsman as at one point acting in accordance with his art but without the tools, and at another with the tools,
when his activity76 in accordance with the art comes about in matter. Somewhat in the same fashion the divine

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67 112, 8: κατ’ ιδίαν εἰπώνων 40, 2 Bad.: “by way of allusion” (’an tariq l-istārat).
68 112, 11-14: nōd om.Arab. 40, 3-5 Bad.: “And when from this body, while it is blended by a blend from all the
mixture, it comes that it suits to be an instrument for this intellect, which is in this mixture (l-halti), since it is in
every body. And this instrument is also a body, called “potential intellect” (’aqīnum bi-l-qawwāti etc.”
69 112, 17: ḥāẓratu: 40,7 Bad.: tasabbata.
70 112, 17: acts as] “a craftsman and owner of the instrument acts” addit Arabus 40, 8 Bad. (sānī’ dā l-ālati )
71 112, 18: the exemplar of the Arabic must have had a transposition of the beginning of this and the end of the
previous sentence. 40, 8 Bad.: “It acts as a craftsman and owner of the instrument acts by means of the instrument,
both with regard of its being matter, and by means of matter, and at this time it can think, because we think as a
composite of, etc.”
72 112, 19: ḏū j ḍ fort. ḍ
73 112, 19: 40, 9 Bad. Tashi. ḏāḫi is probably correct against Bad. and Jar. ḏāl but see Badawi’s note on intellectus
instrumentalis, n.1, p.40.
74 112, 23: 40, 10-12 Bad.: “And if we are deprived of one of the two - whichever one - it is not possible to think
(ya qula: fort. nu’qula?), but only with the first implanting of seed into the womb there is the intellect which is in
actuality, since it has been penetrating (nafda) always in every thing and it has been in actuality. However at that
time it was only acting with the same kind of activity it has in all the other bodies (l-ajrāmi: inorganic bodies),
whatever occur”.
75 112, 23-25: 40, 13-14 Bad. punctuation (full stop into a comma).
intellect, too, always acts (that is how it is actual), and does so by means of an instrument⁷⁷, when such an instrument comes to be from a well-tempered combination of bodies⁷⁸. For then already it acts with some kind of a material activity, and this is our intellect.

112, 31. And it gets separated [from matter] in the same way, as it gets admixed⁷⁹. It does not change location⁸⁰, as though being situated in a different place, but rather, due to its being everywhere, it remains also in the body which is released from the separation when the organic part has perished, in the same way as the craftsman who has put his tools aside can still act even then, though not with the material and instrumental kind of activity⁸¹.

113, 2. So he said that if⁸² it is at all to be assumed that the intellect according to Aristotle is divine and immortal, this is the way to think about it, and no other is valid.

And he said that the text⁸³ in the third book “On the soul” should be related to these considerations, and the “state” and the “light” should be interpreted as describing this omnipresent intellect.

113, 6. And this intellect either itself alone manages⁸⁴ the sublunary things in accordance with the divine [bodies]⁸⁵ and composes and decomposes [them], so that it is also the maker of the potential intellect, or [it does this in cooperation] with the well-ordered movement of the heavenly bodies⁸⁶.

For the sublunary things⁸⁷ are brought into being by this movement, due to the comings and goings of the sun: they either are brought into being by it and by the intellect which is in the sublunary realm, or it is nature that is brought about by those and by their movement, and it, in its turn, orders particular things with the intellect.

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⁷⁷ 112, 28: 40, 17 Bad.: lā delendum.
⁷⁸ Probably to understand as the homoiomerous bodies. ἐκκοσία om. Arab.: 40, 18 Bad. l-fi’l Badawi l-‘aql Finnegan m-maz/ ZB
⁷⁹ 112, 31: 40, 18 Bad.: wa yahnuhu bi-hāḏiḥi l-jihati wa yufāriqu min qibali l-wajhi l-laḏī yufāriqu*; *fort. yuqārihu.
⁸⁰ 112, 32: μετασαίνει: yatabarrak 41, 1 Bad. probably correct (pace ZB, l.c., yatabahuwal) since in the Arabic sentence (and in Greek in this case) it means specifically local motion.
⁸¹ When the craftsman puts aside his instruments, there is no change in his physical presence with regard to them, as he is still around (so, co-exists with them in space and time); the change concerns the nature of his activity, and this cannot be sufficiently described by any pattern of physical presence. 41, 3 Bad.: laisā yaf’alu fi hayūlah bi-lā ‘ādatin.
⁸² 113, 2: 41,4 Bad. an] should be in.
⁸⁴ 113, 7: διοικεῖ: yudabbir 41, 8 Bad.
⁸⁶ 113, 10: τῶν ἑισιων: l-aqrāmi l-ilāhiyat 41, 9 Bad.
113, 12. It seemed to me⁸⁸ that against this doctrine it could be objected that according to it the intellect while being itself divine, should be found even in the lowest kinds of being, as the Stoics⁸⁹ believed; and that generally in the things in this part of the universe there is intellect and some kind of leading providence⁹⁰, and yet that the providence concerning the things sublunary is by reference to the things divine⁹¹; and that thinking is neither up to us, nor our function, but rather immediately as we are born, both the constitution of the potential and instrumental⁹² intellect and the activity due to the intellect from without, become naturally inherent in us.

113, 18. Perhaps that which comes to be in something due to thinking does not change place⁹³. For neither do the forms of the sensibles, when we perceive them, come to be in the sense organs by way of local presence.

113, 21. And the intellect from without is called separate and is separated from us, not as residing somewhere and then quitting the place, but it is separate as being by itself and not with matter, and becomes separated from us in the sense that it is not being thought, not in the sense of going to another place. For this is also the way in which it has come to be in us.

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⁸⁷ 113, 10: رَبَّ يَا ذَلِكَ: مَحْيَة 41, 9 Bad.
⁸⁸ 113, 12: 41, 13 Bad.: Finnegan’s adunnu probably correct against Badawi’s an-nutqi. The sentence should go: "wa aqunnu aidân annahu yadadu, wa gair."
⁹¹ It is not clear whether the providence issue was addressed by the reported doctrine, or is Alexander’s dialectical construction in the polemic.
⁹³ 113, 18-19: Bad. 41, 17 - 42, 1 fort.: l-ladī bi-l-qawwati l-âlī wa fi’lu l-‘aqli l-ladī min hāriji. Lā yazaru illa annahu wa lāisa wa gair.
mantissa 3: That the soul is incorporeal.

113, 26. Now, to show that the soul is incorporeal, that argument alone would suffice, according to which the soul is proven by Aristotle¹ to be form (for no form is body), but it could also be proven to be incorporeal from the following arguments.

113, 29. If the qualities of every body are perceptible by senses, but the qualities of the soul are not perceptible (for the excellences and the vices are certainly not such), then the soul is not a body.

113, 31. Also, if the soul is a body, and every body, by its nature, is perceptible by at least one particular sense² (I am speaking now about the bodies which are in actuality, and, as they themselves call them, are endowed with qualities), then the soul, too, would be perceptible by the senses (for they surely will not call it a body without qualities, as in that case it will be matter); but it is not; hence, it is not a body. For indeed it is not imperceptible in the way in which the bodies are imperceptible because of their smallness.

114, 1. Also, every body is either an actual or a potential perceptible, but soul is neither an actual, nor a potential perceptible; so it is not body.

114, 3. Also, if soul perceives itself as being perceptible, then it will by the same token perceive another soul, too. But it does not perceive another [soul], so it does not perceive itself as a perceptible.

114, 4. Also, if soul is body, it is either ensouled or soulless. Well, it seems absurd to assume it to be soulless. But if it is ensouled, then it will be itself animal, and of this again, the soul will be either ensouled or soulless, and so on to infinity.

¹113, 27: παρὰ Ἀριστοτέλους.
² I am grateful to Prof. Sharples for clarifying to me the sense of the construction.
Now, should they, objecting to the division of bodies that says that some of them are ensouled and others soulless, say that it is not sound, because there are the ensouled, the soulless and the souls, it should be replied that the two parts of the division by contradictory terms cannot be properly opposed [in the same division] by that [character] of which there is the negation. For instance, if dividing a class of bodies we say that some of them are coloured, and some colourless (for in the same genus susceptible of a certain state privation has equal force with negation), we still cannot continue and say: “and some are colours”. For the differentia with respect to the bodies would be ‘to be coloured’ or ‘to be colourless’, but not ‘to be colours’.  

114, 15. And again, some bodies are such that have odours, others such that do not, and are odourless, but we do not add: “and some are odours”. And: some have quality, others have not and are qualityless, but not “and some are qualities”. Or some of the bodies are composite, some not composite, but not also: “and some are compositions”. For composition is not a body.

Similarly also some animals are mortal, some are not mortal, and are immortal, but not consequently: “and some are deaths”. For death is not an animal. Again, of animals some are rational, some not [rational], but irrational, but not: “and some are rational principles”. For animals are not rational principles.

In the same way we shall also say that of bodies some are ensouled, and some are not ensouled, and are soulless, but not: “and some are souls”. For souls are not bodies.

114, 24. Also, if soul is body, it is held together either by something or by itself. But it cannot be held together by itself, because it is single and the same all the way through. For it is impossible for the same thing and in the same respect, to both hold together, and be held together. So it remains that a part of it [is what] holds, and another part is [what is] held, together. But if that is the case, then soul should be the part that holds together rather than the one that is held together, which, if it is also body, is either held together by another or by itself, and so on to infinity. For if they said that soul as a whole both holds together and is held together, being one and the same, something could as well possess and be possessed by itself, and produce and undergo the same [affection]. For not even the hand than <both> rubs and undergoes rubbing affects and is affected according to the same capacity. And generally
none of the things that are possessed by something itself also possesses. Thus, such is not the case with either heat or sweetness, or shape or colour or health or harmony, and not even with excellence and knowledge. But such is also the soul.

114, 36. Also, if the soul, being some sort of a fine body, on the one hand holds together a body, on the other is held together by it, then that coarser body will also be soul, if, that is, the thing that holds together is the soul. So the body will be the soul of the soul, insofar as it holds it together.

For that nothing holds together itself, is clear from the fact that not even the things that seem to be that way are so in reality. For it is not the case that glue holds together itself and the things glued. For one part of it is holding, and another is held together. For insofar as it is corporeal, it is held together, whereas the thing that holds together is a quality and a power, which is incorporeal. At any rate, when this quality is destroyed, the remaining material and corporeal part cannot any more hold together either itself or the wood.

115, 6. Also, if the soul is body, then it is either fire, or the fine pneuma going through the whole ensouled body.4 But if that is the case, then clearly they will not say that that is either unwrought or disposed in some chance way. For not any fire or any pneuma has that kind of a potency. So it will be with some special form and formula, and power, and, as they say, tension.5 But if that is the case, then the soul will be not pneuma or fire, but rather form and power and tension that is in these, due to which they differ from other things of the same kind.

115, 12. Also, just as matter is formless body,6 so should the form reasonably be immaterial and incorporeal. For the [hylomorphic] complex7 is made of these.

115, 14. Also, if the body is soulless, why should the soul not be incorporeal, too?

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4 115, 6: ἡ πῦρ ἡ πνεῦμα λεπτομερέστερα ἐστὶ διὰ ταῦτα διηκόν τοῦ ἐμηφύλου σώματος.
5 115, 8: ἀργόν: as a technical term in the medical texts implies the contrast between the “organic” and “inorganic” structures, which might be Alexander’s point here. Another possible translation is “idle”. I am grateful to Prof. Sharples for the discussion of this term.
6 115, 10: λόγον.
7 115, 10: τόνου.
8 115, 12: ἔτι ὡς ἡ ὕλη σῶμα AD p.135.
9 115, 14: τὸ συνεμφότερον.
115, 15. Also, if the soul is a body, it is either simple or a compound. But if it is simple, then it is either earth or fire or air or water. However, if one of these is by itself soul, then each and every such thing is soul (for instance, every bit of fire and every one of air), and every body that encompasses is it ensouled. So that if the air is soul, then the wind-pipe will be an animal, and also the lung and the blown up skin will be animals, and every body that has air in it. And if water, then a barrel full of it [will be an animal]. But this is absurd.

115, 20. Also, if the soul is a certain one of the simple bodies, then every compound, in which this body is present among others, will be ensouled and animal. But if the soul is a compound of the simple bodies, then ours [ i.e. the bodily compound] is also soul.

115, 23. Also, every body has some proper motion, like the simple simple, and the composite mixed or according to what prevails, but soul does not have any local motion that would be its proper. So, it would not belong to either the composite or the simple bodies. For neither the movements according to perception and imagination or affect, which are changes, nor the local movements are of the soul by itself, but they [all] are of the complex entity made of both.

115, 28: Also, if the soul is body, how does body partake of soul? And how is the soul in it? Perhaps as a part; but in that case no other part of the body will be ensouled, or rather none of it at all will be ensouled, but soul and body will be separate.

But the soul should not be in the body like in a vessel, either. For in this case also the body would not be wholly ensouled.

But neither by juxtaposition. For in this case the body will not be an ensouled whole, but rather will be wholly un-ensouled. For neither in the heap [of grain] is the wheat in the barley.

14 115, 15: τὸ σύγκριμα.
15 115, 17: περιέχων.
17 115, 21: σύγκριμα.
18 115, 23: τὸ ἰμέτερον: σῶμα sugg. Bruns, σύγκριμα is possible, esp. note the meaning ‘anatomical structure’ in Galen, LSJ entry.
19 115, 24: κατὰ τὸ πλεονάζων.
20 115, 27: οὐ τοπικαὶ οὐτε αἱ τοπικαὶ Sharples.
21 115, 28: τοῦ συμανιφοτέρου.
22 115, 29: μετέχει.
But if it [is in a body] as a whole pervasive [another] whole, assuming that all of the body is ensouled, then it is necessary to demonstrate, how body goes through body. For indeed, if the qualities of the soul are bodies, according to them, as well as [the qualities] of the body, then there are many bodies in the same [body], different, and passing through one another, and in the same place, which requires a rational account and a demonstration.

Also, why will the additions and withdrawals [of qualities] neither increase nor diminish the body? Also, when there is a change of qualities, the former qualities, separated, and being bodies, will perish into non-being, for they are nowhere; and accordingly they will also come from non-being.

Also, if the soul is so related to the body as to penetrate it and blend with it totally, then the animal will not any more consist of the soul, on the one hand, and of the body on the other hand, but there will be some third unity from both melted and transformed together, like the honeywine. And it will not be the case that one thing will be leading and another assisting, nor that one thing will be more valuable, while another inferior, and neither will the body have a soul, nor will the soul be in a body. For it will not be the case, to begin with, that in the animal one thing is soul, and another body, but there will be one single animal, the mixture of both and some unity and whole equal to itself, like a blend of wine and honey, which is absurd. For in the animal there is on the one hand soul, on the other hand body, so that one is one thing, and another, another. For which reason both can be separated.

116, 13. Also, if the excellences are bodies, as well as the arts, why does the acquisition of them neither compress nor increase the body?

116, 15. Also, if that due to which a thing has its being what it is said to be is form; and it is due to the soul that animal has its being animal, then the soul is form. And that the soul is form is also clear because in any other way it is impossible to demonstrate that animal consists of soul and body.

116, 18. Also, if a body does not differ from [another] body as a body, but differs insofar as it has soul, soul is not body. For things which are the same in genus have a common nature. Things that have a common nature are not

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23 116, 5: ὡς ἐὰν δὴ ὅλου δηνέκει καὶ κεκαὶαθαι τῷ σώματι.
27 cf. de anima 11,15sq.
distinct with regard to what is common. So, the things that are common in genus, are not distinct with regard to genus, but their genus in this case is body; consequently, bodies are not distinct insofar as they are bodies. So, a body does not differ from a body as a body. Consequently, that in which the bodies differ from one another, are not bodies.

But things which are incorporeal are not the same in genus. It follows that they are not indistinct as incorporeals. For the ‘incorporeal’ is said homonymously. Of the incorporeal things some belong to [the category of] substance, some to quantity, some to the other categories. But should anyone say that body does not differ from body when taken as body in general, however as a particular sort of body, each of them is different, it is to be replied that each of the bodies has its being one from the proper difference, and the proper forms, which are different from one another, and these are incorporeal; so those things in which certain particular bodies differ from one another, are not bodies.

116, 31. In addition, if the primordial soul is pneumma, or in the pneumma or in the fire within us, then it will be capable of being in them even when they are separated [from the rest of the body]. For they still persist in being pneumma and fire, when separated from the body. But if this is the case, then both the pneumma and the fire should be animals. So, if this is impossible, it is equally impossible that soul should be in any of these; rather it should be in the mixture of the four [elements], which is mixed and composed in some such way in which the body of animals is mixed.

116, 37. Now, what they say trying to prove that the soul is a body, is not sound. For it is not the case that it should be body because “similarity” is predicated about it, as “similarity” is not a property of bodies. For indeed similarity is found in lines and shapes and surfaces, and even more so in the colours and qualities, all of which are not bodies.

And speaking in universal terms, body is substance, but the special property of substance is that with respect to it identity is predicated, rather than similarity. Similarity is [properly predicated of] quality, since this latter is incorporeal, so that if anything else [viz. except the quality] is said to be ‘similar’, it will be so called on account of

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28 116, 21: ἀδιάφορα
29 116, 28: κατὰ τὸ κοινὸν σῶμα
30 116, 29: τὸ Ψ
31 116, 33: χωρίζομενα γὰρ τοῦ ζώου διαμένει καὶ πνεῦμα καὶ πῦρ ὁ μὲ.
32 117, 2: τὸ ὄμοιον.
its partaking of a quality. Consequently, a soul can be similar to another soul, but not qua soul. Not qua soul, but insofar as it partakes of a certain similar quality or disposition.

117. 9. But also that argument is false which says that the incorporeal should not be co-affected along with a body, and for that reason the soul is not incorporeal. For not only is it not true that an incorporeal is not affected by the same thing as a body (for when the bodies are affected, the incorporeals that are present in them are co-affected, mostly incidentally, although in some cases also in the unqualified sense, as for instance the surface of a body which is crushed), but also it is not the case that the soul is co-affected with the body as something other than it and separable, like the friends are said to be co-affected, but rather affected is the whole, namely the animal, made of soul and body, so that it is cut with respect to its body, but it feels sore with respect to the soul. And it is the animal that is feeling sore, just as it is the animal that walks, sees, desires, loves and hates, whereby the affects are proper to the body, like “being heated” or “being cut”, but not by the same token also of the soul, and for his reason body can exist even without the soul, but not the soul without the body. For it is the actuality and the form of the latter.

117.21. Again, the argument is not sound which says that no incorporeal can be separated from the body, but soul can be separated from body, so it is not incorporeal. For “to be separated” is twofold: on the one hand, by way of subsistence, when each of the ingredients is preserved upon the separation, on the other, by destruction of one of them, as the white is separated from the body which becomes black. It is in this second sense that the incorporeal is separated from body, and so also the soul from the body. Some incorporeals are separated conceptually, as form from matter, and body from place.

117. 28. Nor is it true to say that those things are separated from one another which are in contact with one another. For all the accidental properties are separable from each other, while surely they are not in contact.

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33 117, 5: τὸ ταύτων κατ' αὐτὴν.
34 117, 7: καθ' οἴκητος μετέχει.
35 117, 11: τὸ ἀσύμματον σώματι μὴ συμπάσχειν.
36 117, 20: ὑφίσταται.
37 117, 22: μηδὲν ἀσύμματον σώματος χωρίζεσθαι.
38 117, 24: ὑποτάσσει.
39 117, 29: ἢ σοι ἀπέτειμι ἄλληλαν.
117,30. Also it is incorrect that we are breathing beings by what we breathe in, and ensouled beings by the soul⁴⁰. In
the same way, it is not the case that if the animals could not be without the connate pneuma, for that reason that
pneuma should be the soul. And, indeed, there are also other things without which an animal cannot be, which even
they themselves would not call soul. For example, the animals with blood are not without blood, and generally not
without liquid.

item Chrysippus: una et eadem, inquit, certe spiramus et vivimus. Spiramus autem naturalis spiritu: ergo etiam
vivimus eodem spiritu. Vivimus autem anima: naturalis igitur spiritus anima esse inventur.
That the powers of the soul are many rather than one.

118. 6. That it is not the case that there is one power of the soul, which, as being the same but differently disposed, sometimes is reasoning, at other times is angry, and still at other times in turn desiring, is to be demonstrated from the struggle of affects against reason which takes place in someone who is in control and in someone who is not. For in these two the victory and the loss is not of the same [power].

118. 10. Further, if some [part] of the soul is worse and some better, it is reasonable that each of them is different [from the other], and consequently, that the faculties are separate and not existing “all in all”.

118. 12. For that the vegetative [power] is soul and part and power of the soul, of which, in turn, nutrition, growth and reproduction are parts. and not, as some say, nature, we shall prove from the fact that not all the things that have nature and exist in accordance with nature, have those powers. Thus, even the simple bodies exist in accordance with nature and have their nature, but neither feed through themselves, nor grow, nor reproduce. Also, if nutrition and growth and reproduction belong to nature rather than soul, while perception to the soul, it should either be said that we do not live when we are not perceiving, or that there are two lives present 2 in us, which is absurd.

118. 19. Also, if life is due to the presence 3 of the soul, but those beings which have only the vegetative power, also live, then the vegetative power should be soul. For nourishment through oneself and growth is life.

118. 21. Also, if to use nature is to live, then the simple elements 4 that move according to nature, would live.

118. 22. Also, if the entities that use the soul, are living, while those that use nature, are not living, then nature is not [the same as] soul.

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1 Discussion in Inwood 1985, pp. 34-35.
2118,19: ἑπαυγέω.
3118,19: παρουσία.
Also, if the beings that use the soul, live, and those that have the vegetative and the nutritive power, live, then the nutritive and the vegetative power is soul.

Also, if they say that the reproductive is part of the soul, but it is under the [kind of] vegetative, then also all the vegetative power should be of the soul.

The proof of this is most useful for the demonstration that the differences within the soul are not due to the objects of the soul’s activity, but that the powers of the soul themselves differ from one another, and that it is impossible for the same power [to do something else], e.g., for the perception to intelligise and for intellection to perceive.

For if the vegetative [power], too, belongs to the soul, and it is impossible for the same power to be engaged at the same time in multiple, and different, acts, but the nutritive power is constantly active in the living beings, then either we shall not be active with any other activity of the soul, since the power of the soul is single, or, if we act in regard to the other ones, e.g. we perceive and feed in the same respect, then the power of the soul is not single. nor is it the case that the principal part acts as so-and-so disposed with respect to the particulars. For surely, the arts, too, differ [from one another] not by virtue of difference in kind of their instruments, or objects or means, but their difference is due, first of all, to their proper powers.

Also, we perceive simultaneously with different senses.

Also, if doing is an activity involving the use of the organic parts of the body, e.g., talking, walking, doing something with hands, in that case neither contemplation nor thinking would count as acting, nor, consequently, the power of judgment as something practical.
119, 3. Also, since the end of perception is contemplative (for it is judgment), despite its being [carried out] through body (and for that reason also with affect), while the end of conation is practical and is the actions, these [perception and conation] should be different with respect to the end. And also [they would differ] in that they do not mutually follow from each other, nor are they both present at the same time, and the perception is leading, and the conation does not always follow upon the perception, and the conation, whenever it comes to be, always comes to be after perception.

And it is the appetite, the spirit and the desire that belong to the desiderative and conative power.

119,10. Also, the rational power is that of judgment, and that in the leading sense. In fact, the leading part of judgment is the power of reason, which we also call noetic. Following and subordinate to it is perception, to which pertain the imaging\(^\text{11}\) and the assent\(^\text{12}\) and the memory\(^\text{13}\).

119,13. That the common sense is yet another one, apart from the particular senses, is evident from the fact that vision though perceptible, yet is not visible. The case with the other [senses] is similar.

119,15. Also, the contemplative intellect has as its object neither things practical, nor the matters of preference or avoidance.

119,16. Also, responsibility\(^\text{14}\) is in action and deliberation, but neither in conation, nor in the assent, nor in the imaging, nor in perception. And nor in the vegetative [power].

119,19. Also we are moved by the soul through our desiderative power, and not through any other power, so it is different from those.

\(^{11}\) 119,12: τὰ φαντασματικά.
\(^{12}\) 119,13: τὰ συγκατατηθέντα.
\(^{13}\) 119, 13: τὰ μνημονεύματα.
\(^{14}\) 119,16: τὰ ἐφ' ἔμεν.
**mantissa 5: That the soul is not in a subject.**

119.21. Aristotle says in the *Categories* that no substance is in a subject. So, if the soul is substance, then it should not be in a subject. But since it is possible to object to this that he said this about those substances of which he made a mention in the *Categories* (and those are individual substance, the genus and species), and not about the matter and substantial form (for he said there that nothing is opposite to substance, even though he says that to the natural form, which is substance, privation is opposite, but as for those substances, none of them had any opposite), why don’t we examine this question by itself, namely whether it is possible for the soul to be in the body as in a subject, or, generally, for form in matter.

119.31. Maybe then, along with “being in a subject”, there is some other way of “being in something”, and that is the way in which form is in matter. For form cannot be in matter as in a subject if at any rate that is in a subject, which, being in something not as its part, cannot exist separately from that in which it is; (for the subject of that which is “in” a subject must be a “this something”), but nothing, apart from form, can bring about being “this something” in actuality even of that “in’ which it [this form] is said to be.¹

120.2. It is, at any rate, for this reason, that matter, too, cannot have subsistence by itself², because the form is not yet in it. For each thing is a “this something” with form. Indeed, everything is what it is said to be, due to the form. So, the natural form should not be in matter as in a subject. The form which comes to be due to the art is in a subject, because the subject is a “this something” and has a form upon which³ the craftsman produces and bestows the form designed by the art.

120.7. But the natural form cannot be said to be in matter in this way. For the matter by itself is neither a “this something”, nor a subject in actuality.⁴ So, if the natural form is not in a subject, and the soul is a natural form, the

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¹ See the discussion on p.177 (and n.115) f.
² 120.2: αὐτὴν καθ’ αὐτὴν ὑπόστασιν ἔχειν δύναται.
³ 120, 7: ὑ Bruns.
⁴ 120, 9: ἐνεργεῖα.
soul, too, will not be in a subject.

120.11. For the soul does not come to be in body without qualification, since [if it did], it would be also present in the simple [bodies], fire, air, water, earth; which is absurd. But its subject and matter is organic body, which neither can be organic before it has the soul, nor continues to be organic after it has lost the soul. For no soulless body is organic. So, for this reason it is impossible to posit that “in” which the soul is. For it is organic by being with the soul just like lead is [lead] with weight.

120.17. But neither is fire in coal as in a subject. Indeed, what is called “fire” in the first and principal sense is neither in coal, nor in wood, nor in any other such matter (because that [kind of fire] has subsistence per se, as also do air, earth and water), but the “working” fire, which needs the matter of our [i.e. sublunary] region, is also, itself, not “in” its underlying wooden pieces or coal, but each of these is matter to the fire. For when fire has come to be, it is no longer either coal or wood, but rather it is actually fire, potentially coal. So, if it were coal, the fire would have been in it as in a subject. But that it is not coal, is evident from the fact that it has no properties of the coal, while that which has something in itself as in a subject has that thing while preserving at the same time its own nature. Thus, as the air which comes to be by change from water is water potentially, but not actually (for that reason air is not in water as in a subject), in the same way the coal which has become fire will not have in itself fire as in a subject, since it no longer remains coal. For it will not be as in a subject in this thing, which has its being [fire] at the present moment, nor in the one, which was coal prior to this, but now that the fire has been produced in it, is not any more, but has been destroyed.

120.34. It should be noted that Aristotle in the second book of Physics says that nature is in a subject, while being form. For nature is always some kind of a subject and in a subject. Again, he says in the beginning of the second book On the soul: “For the body is not something predicated of a subject”, meaning by “of a subject” that which is in a subject. Saying that body is not such, but soul is, he may be meaning now that “of a subject” is not “that which is in a subject” but rather “that which needs a certain subject for its being”. But this is the way of being of a

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5 120, 20: κατ' αὐτὸ γὰρ ἡ ὑπόστασις ἐκεῖνη.
6 120, 21: τὸ διακοινικὸν πῦρ.
7 120, 21: παρ' ἕμαν ὄλης.
8 120, 31: ἡ (ὑπ' supra lin.) Β: πῦρ Κα: fort. πῦρ Bruns.
9 Phys. II 1: 192b34 (Bruns' reference).
form which is in matter.

121.7. That form is [in matter] in this way, could be proven so. If form is body, it will be either without a form, or that body will have a [further] form. Well, then, if it is without a form, then form will be matter. If, on the other hand, the form will have a form, that other form will either itself be body, and the previous argument will apply to it, or if it is incorporeal, then the form of the initial assumption will also be incorporeal.

Also, if that form, which has been assumed to be body, will have a form, then that form, according to which the corporeal form is soul, will be either incorporeal or a body. If it is incorporeal, and the body had its being soul$^{11}$ in virtue of form, then soul will be incorporeal. If on the other hand that, in turn, is body, the argument will progress to infinity.

121.15. Now, why is the soul substance, while it is actuality? Or is it that the principal parts of all the natural things, which are substances, are substances?$^{12}$ In fact the artefacts$^{13}$ are substances not insofar as they are artificial, but insofar as the natural bodies underlie them. But of the things that exist by nature, even the forms and the actualities are substances, according to which each of them is a "this something", for example earth, fire.

121.20. And the animal is natural substance, and the soul is its form and actuality, due to which it is animal. So, it, too, is substance. For substances are [formed] of substances.$^{14}$ For from non-substances there would not be a substance.$^{15}$ So, since natural substances are [composed] of matter and form, form and matter are substances.

121.23. Also, natural substance is [composed] of natural matter and form. But those things of which natural substance is composed, are substances. Hence, form and matter are natural substances.

121, 25. Also, since a distinctive feature of substance is to be receptive of opposites in turn, and soul is receptive of opposites in turn (namely of vice and virtue), it should be substance.

$^{10}$See discussion on p.181.
$^{11}$ 121, 14: ψυχή Bruns.
$^{12}$ 121, 16: ἡ πάντων τῶν φυσικῶν οὐσιῶν ἀτίμα κυρίως οὐσίας] πάντων τῶν φυσικῶν (γένεσις ἔξ οὐσιῶν Bruns. See discussion on p.182.
$^{13}$ 121, 17: τὰ τεχνητά.
$^{14}$ 121, 21: ἐξ οὐσιῶν γὰρ οὐσίαι.
$^{15}$ 121, 22: σῶκ ἄν οὐσία γένοιτο.
121.27. Then how is it that while it is impossible for substance to be from non-substances, body is from the incorporeals? For matter is not body, nor is form [body], but body is from these.

Or rather, if body has come to be, it has come to be from non-body, as everything that comes to be, comes to be from its opposite.

In the same way, if there were the coming to be of substance in the unqualified sense, it would have come to be from the non-substance. But since neither of these [body and substance] comes to be in unqualified sense. For since neither matter ever exists by itself, nor form, it is not the case that they, existing separately, produce a body when they come together. Rather whereas they can be separated conceptually, still matter is always in some form, and there is no time when it is separate from form, and the coming to be of things that come to be happens not from matter in unqualified sense and form, but from this body into this, due to the change16 of form. So that a certain body comes to be from a certain body, not just body from body. Just body would come to be if at some point form and matter, actually separated, came together, and in this way [the body would come to be] from non-bodies.

122.4. How is it, then, that we call parts of substance substances, and for that reason say that form and matter are substances, and yet not that parts of body are bodies, if these, too, are parts of body, as form and matter? Perhaps form and matter are not parts with respect to body. For it is the things that complete the body17 that are parts of the body. But with respect to substance they are parts: for that reason, they are of the same nature as that, of which they are parts, and they are not the same as that of which they are not parts.

Now, that they are parts with respect to substance, is evident from the fact that the compound of the two is called substance both on the account of its being a subject18 and on account of its being a “this something”. For substance is a subject; but nothing can be a subject not being a “this something”. So substance is as it were assisted by its form for being a subject. So, those [elements] from which substance qua substance has its being a subject19, are

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16 122,1: ὑπαλλαγῇ.
17 122, 7: συμπληρωτικά. I am grateful to Prof. Sharples for clarifying to me the construction and for the discussion of the term.
18 122,12: καὶ καθ’ ὑποκεῖται.
19 122,15: τῷ ὑποκεῖσθαι.
substance.
mantissa 6: That qualities are not bodies.

122.17. If quality is a natural body, and every natural body is a substance, quality is substance. Or rather: quality is different from the nature that underlies it; (for water is not the same as its coldness, since [in that case] everything cold would be water, and all water cold); and the nature that underlies the quality is substance. Quality is not substance, because it is of a different nature. This should be confirmed by induction. For for every substance [any] quality of it is different. But the first. Hence, the second.¹ So, quality is different from substance, that which is different from substance is not substance, hence quality is not substance.²

122.24. But if every body is substance, and quality is not a substance, it follows that quality is not a body.

122.25. Also, if whiteness is natural body, and every natural body is tangible, then whiteness is tangible. However it is not tangible. So, it is not a body. For if whiteness were tangible, then our sense of touch should be affected by it. However, it is not so affected. Hence, it is not tangible.

122.28. Also, the touch is disposed and affected in the opposite manner by the opposites, i.e. by the hard, soft, hot, cold. So it should be affected in the contrary ways by whiteness and by blackness, which is the opposite of white, as well as by sweetness and by bitterness. However, it is not affected in the contrary ways. Hence, whiteness is not tangible.

122.30. Also, every natural body that moves [something] as a body moves [it] locally and "corporeally"³, that is as a tangible [thing] (namely, either pushing, or throwing, or pulling, or striking, or spinning, or bearing and carrying, or in any other way of corporeal movement), but no quality by itself moves [anything] locally. So, quality is not a body.

¹ Stoic scheme of deduction in the first 'indemonstrable'.
² The whole argument corresponds to the Aristotelian mode Camestres: 1. (A) All bodies are substances. 2.(E) All qualities are not substances. 3. (E) All qualities are not bodies. Proof of (2) is where the Stoic derivation is applied: 1. Quality is different from substance. What is different from substance, is not substance. (The last statement has to be done empirically). 3. Quality is not substance. I am grateful to Prof. Sharples for the discussion of this passage.
123, 4. Also if quality is body, and every body either has, or is able to receive, a quality, then quality, too, would have, or be able to receive, a quality, which is absurd. Hence, quality is not a body. For if it did receive [a quality], the succession would go to infinity.

123, 7. Also, if quality is body, and every body, while it exists in actuality, has a quality (for matter is body potentially), then quality will also have quality which is absurd.

123, 9. Next, the quality that it has, is either a body or not a body. Then, if it is not a body, then the quality is already not a body, and what is the method by which it is decided that the quality assumed before this one is body, while this one is not? If, on the other hand, it, too, is a body, then it will also have a quality, and so ad infinitum.

123, 12. Also, there would be many bodies in one. But that this is impossible, we have proven elsewhere. 5

123, 13. Also, if qualities are bodies, how is it that bodies do not increase and diminish accordingly with their presence and absence? But should they say that this is so because while some of them go, others come, a good question will be, how all the ones that come are equal to those that go. Also, where do the coming ones come from, and where do the ones that separate go? Surely, since they are bodies, there must be some place for them.

123, 18. Also, how is it that with the things that have odour, when the odour is continuously emitted, the thing that has it and from which it is emitted, does not diminish? For in this case another [quality] does not come in its stead.

123, 20. Also, since bodies acquire new properties without losing the ones they have, like the air which does not have any odour, becomes transmitting smell, when any one of the things that have odour is carried by, and someone who takes on a virtue or a vice, not having been previously in the vice, then how is it that they do not increase in size?

123, 23. Also, if quality is body, the quality of smell in an apple evidently goes through the whole body of the

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3 123, 1: σωματικώς.
4 123, 4: ἐν add. Bruns.
5 123, 13: ἐν ἀλλως de mixtione (Bruns).
apple, and occupies the place equal to it. Yet, when the apple is carried over to another place, the surrounding air, which is many times as large, is also filled with the scent, so that this quality has gone through it, too, and has occupied the equal place with it, and should the apple again be carried to some other place, it will again fill the other air. How then is it that, remaining the body of the equal size and extending also through the apple, it remains occupying that place together with the apple, and at the same time [occupies] another place many times larger, and on another occasion, yet another? For neither this sweet odour in the “first” air is carried over along with the apple, nor is new and new sweet odour brought forth from the apple each time. For how is it possible that from a little body the one that is much larger is issued, nothing being added to the former one?

123, 34. Also, no body is destroyed into nothing, but qualities are destroyed into nothing. Hence, qualities are not bodies. For the whiteness has not become blackness while [at the same] time remaining [whiteness].

123,36. Also if quality is body, and every body is either matter or a conjunction of matter and quality, then quality would be one of these. But certainly it cannot be matter. Then it remains to say that quality is a conjunction of matter and quality. But if this is the case, then, first, quality is not quality but matter and quality (for they are different from one another), next, the quality conjunct with the matter would itself, in turn, be matter with quality, if it is body, and so ad infinitum, and in each quality there would be an infinite amount of matters.

For if matter is quality, each actually existing body would be a conjunction not of matter and quality, but of quality and quality, that is of matter and matter, on the assumption that matter and quality are the same [thing], and matter will differ in nothing from the actually existing body. But if such is the case, and matter is qualityless, then the actually existing body would also be qualityless, and either there would be no quality at all, or body will not be different from quality.

124,9. Also, if qualities are bodies, and the light is quality, and, as they believe, body, how is it that from the lamp which is a small body, there issues a body so great as to be able to become equal to the surrounding air which is so great, and whenever it is carried over, there issues forth to another air, yet another body of this size. Or how is it that the air does not grow when the body of as great a size is added to it? Or how does the light go through and

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6 122, 22: ἰδιοσμός: a Theophrastean word, according to FHSG.
7 124,7: τὸν κατεξέχειμαν σώματος.
8 124, 7: ἐπισκέψεις δὲ ἡ ὅλη.
blend with it. When it is full? Or if that body is carried over along with the lamp, how is light which is outside the lamp attached to it?

124,16. Also, how does the air in the room not grow in size while it acquires many qualities? For in it, which is the same, there are light and heat and odour and colour and sound. How, indeed, all of them being bodies and being extended through the whole of the air in the room do they at increase it or rather how do they not tear up the house? For the air in a bag tears it up with a slight increase.

124,21. That quality is different, conceptually and in definition, from the body that has a quality and is endowed with a certain quality. is evident from the following. “Body” and “body with a quality” are either the same or different. If different, then it is evident that it is through some addition or difference that “body with a quality” is different from “body”. Now, just that in which the “body with a quality” differs from “body”, is “quality”, so that due to the presence and addition of the quality “body” has become “body with quality”. But that which acquired something, is different from itself before the acquisition; and what is acquired is different from what acquires. Now, just that in which the “body with a quality” differs from the “body”, is “quality”, which clearly is not a body. For “body” is common to the “body” and “body with quality”, and “body with quality” differs from “body” not by “body with quality” but by “quality”. One indication of this is that defining “body with quality” and “body”, we put as a difference between them not “body with quality” but “quality”.

124,33. And if anyone says that “body” and “body with quality” is the same, first of all their definitions should be the same, so that there will be the same definition of “white body”, and again of “body”, and of “black body”. And if so, then the definition of “black body” will be the same as he definition of “white body”. For each of them will be the same as definition of “body”.

124,39. Also, if to be body and body with a quality is the same, the body that underlies the white will be the same

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10 124, 19: ὥτα | fort. δήκοντα Bruns.
11 124, 21: πεποιμένον cf. mant.113, 31
12 124, 21: τὸ ποιημένον σώμα.
13 The marginal gloss deleted by Bruns says: “But it is clear that it is different in being. For their definitions and accounts are different”.
14 124, 34: λόγοι.
as the one that has already received whiteness and is white, and when the white is destroyed, the body underlying it will also be destroyed. But we do not see this happen. For this thing that has until now been white, while remaining numerically the same, takes on the opposites.
**mantissa 7. Against those who say that none of the four bodies that we call “elements” subsists in its proper state**.

125.6. If the four bodies are always mixed with one another, and each one of them is called a “this something” from that which is prevalent in it, but none of them can be grasped in its proper state, because the distinctive property of the earth is “resistance”, while of the fire “being visible”, and of each of the others something else, and for that reason each of them is perceived by several senses, insofar as each has also a share of others (for in this way the fire is tangible and solid, because it has some earth to it, and the earth is visible, because there is fire in it), what then will they say is the distinctive property of a body, and what account will they give of the common and natural body, as a body? For if resistance is not the property of every body, and if its definition is not “tridimensional thing with resistance” (for they say that this is the distinctive property of the earth), what would be the definition of a body in general? For there must be some, of course if there is some definition of the genera, which is different from that of each of the species. For it is in this that the genus differs from the homonymous expressions.

125, 19. Also, if the air is tangible because it has some earth, and if it does not have too much resistance, because it has a small amount of earth, then why is it that when someone fills a bag with pneumata, then it displays more resistance? For they will have to say that in that case the pneumata has partaken of more earth, of course if [they want to hold] that resistance is from earth. But if [they claim that] it is because it cannot pour out, being locked in, that it has its resistance, then its property of resistance is not due to having more or less of the earth, but to its own nature. For it, while remaining itself, sometimes resists more and sometimes less, so the resistance must be due to something else.

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1 125,3: κατ’ ἵδιαν ύψηστασθαι.
2 125, 9: ἀντιτυπές. Cf. SVF II 319 = Plot. Enn. I, 1, 28: οἴδε γάρ ὁ ἄρχως τὸ ἀντιτυπές αὕτη δίδοσιν: ποιότης γὰρ τοῦτο; in definition of the body - in de qual.incorp. 26:365 Giusta (= SVF II 381). Alexander’s source for this account of the elemental properties is unclear.
3 125, 10: καὶ διὰ τούτο ἐκαστον αὐτῶν πλείον αἰσθησθεςν αἰσθητῶν εἶναι.
4 125, 16: τοῦ κοινοῦ σώματος.
5 125, 20: ἀντιπτια.
6 125, 19: πνεύματος: understanding “breath” with Prof. Sharples.
125. 27. Also, if these bodies change into one another, while the common matter underlies them, and if the opposition they have with respect to one another is in form; and [the body] that prevails always turns to its own nature that upon which it prevails, why is it that in case of the things that are separated externally, when they are next to each other, the ones that are in lesser amount are destroyed by the more numerous ones, if these are opposites, while the lesser amounts [of opposite nature] that are inherent in each body among the prevailing [elements] which are for that reason [of prevalence] called a “this something”, are not destroyed by their own nature by the overwhelming one? For those who say so turn out to account for the coming to be as with the homoiomeries of Anaxagoras, by composition and division of the elements, and not by change [of one into another].

125,35. Also, if everything that can be assumed has the four [elements] in it, and it is not possible to assume anything pure, there will always be an infinite regress of the taken and separated [parts], since whatever one assumes and whatever one separates, will share in all four elements. For if it is when they escape the perception due to the smallness, that they are, according to them, perceived in their pure state, then it is already not the case that they are all mixed.

126. 5. Also how will the visible come about from the composition of this kind of things? For clearly the composition of the unmixed [things] will not make a mixture of anything of the others. But if the composition of such things is not visible because each of them in unmixed with fire, then it will be possible for some body that is so composed to remain invisible while growing infinitely. And similarly [it would remain] impalpable if it were composed of the elements purified from the earth.

126, 34. Also, if something which is not yet seen is mixed with the fire, it is not due to its being visible that it partakes of the fire; for in that case that which is not yet visible seen and is not seen, should have partaken of fire.

126, 10. Also, would they say that it is impossible for matter to receive the hot and the dry and for there to be fire without the cold and the dry, in which the earth has its being, or can it take on the hot even without the cold? For should they say that it is impossible, how is it not absurd that it, in the same respect, be receptive of both the cold

7 126, 2: εἰλικρίνη.
and the hot, the opposites of which it is impossible to receive any one separately? But if, as is reasonable, they can be received [in the subject], each one separately from another (for it is impossible for them to be received in the same respect)\textsuperscript{8}, how will the subject, that has both the hot and the dry, not be accessible to touch? For in this case the hot will not, according to them, be perceptible with respect to its own nature,\textsuperscript{9} if, that is, it cannot, while subsistent in actuality, fall under the perception, unless the coldness is mixed with it; for in this latter is the being of earth, and it is by this that it differs from the fire. So that it will be perceptible due to its opposite. And similarly with the others, so that, as none of them exists not mixed with its opposite, none will be sensible in its pure state.

\textsuperscript{8} Transposed following Bruns.
\textsuperscript{9} 126, 16: namely, for the opposites.
\textsuperscript{10} 126, 18: post φορτιν comma Br.
mantissa 8. Air is naturally hot.

126. 25. If fire, being hot and dry, is by its nature light, then that which is light derivatively\(^1\), would share with it the feature, due to which it is light. But fire is light insofar as it is hot\(^2\), as the dry is also naturally inherent in earth, which is heavy; hence, air, since it is light in the secondary way, is hot. Also, if other neighbouring elements are neighbouring due to some common property, it is reasonable that air, too, have some shared feature with fire. But since it is moist, what other common property would it have with it, apart from being warm? For whereas the cold is common to earth and water and the moist to water and air, the hot is left for air and fire.

127,3. Also if the hot and the cold and the moist and the dry are simple [qualities], and these are formative\(^3\) of the elements, then they, that differ by a simple tangible\(^4\) difference, would differ from one another in form. So that if water and air are different in form, they would be different by some kind of a simple difference. But the moist is the same in them, so it remains that their difference is in being cold or hot.

127,8. Also, if things that differ from one another in ‘more or less’\(^5\) do not differ in form, and air is cold and moist, then it would not differ in form from water. For it, too, is cold and moist. And even if someone says that one is ‘more’ and another ‘less’, they still will not differ in form; hence both are one, and the elements are not four any more.

127,12. Also, if while there are four combinations of dry, moist, hot and cold, the three of them form\(^6\) the other elements, it is reasonable that the remaining pair should form the air. For the hot and the dry form fire, the dry and the cold, earth; the cold and the moist, water, and so the hot and the moist will form air.

127,17. Also, that of which the coming to be is by means of the hot, is hot by its proper nature. But the coming to be of air happens from water by means of the hot. For water when heated changes into air. But also whatever

\(^1\) 126,25: τὸ μετ’ αὐτὸ καυσὸν.
\(^2\) 126, 27: καῦσον τὲ καὶ θερμοῦ libri: fort. καῦσον καθ’ θερμῆν Bruns.
\(^3\) 127,4: τὰ εἰδοποιοῦντα.
\(^4\) 128, 5: ἀπτική.
\(^5\) 128, 8: κατὰ τὸ μέλλον καὶ ἔττον.
\(^6\) 128, 14: εἰδοποιοῦσιν.
amount of earth changes into air, it changes and turns into it under heating. Consequently, air is hot by its proper nature.

127.21. Also, if the elements change into one another easier by means of a common mark, and among the three of them there are common marks shared by every two, then there should be a common mark also between the air and the fire. And it cannot be other than the hot. Hence, air is hot. So, the common mark for earth and water is the cold, for fire and earth the dry, for water and air the moist, for fire and air the hot.
Appendix II. Translations of the Arabic versions of school treatises referred to in the thesis.

I. The treatise of Alexander on the matter, privation and coming to be and the solution of the question of the ancient philosophers by which they denied the coming to be, from Aristotle's book "On understanding nature". *


44, 3. He said: Indeed the Philosopher mentions in the book called "Lectures on Nature", in the end of the first treatise, that some of the ancients denied coming to be because of the misgiving to which they were subject, which consisted, according to them, in the following: Indeed every change is either from something or from nothing. And it is not possible that something is from something, because this first thing would have been prior to a coming to be from it. And coming to be only follows the thing which is not after. And as for the thing that came to be from something else, it only is from that which is before it. And it is impossible that something come to be from nothing at all.

44,10. And the Philosopher solved this problem at this place, saying: Indeed a thing is either per se, or accidental; and either potential, or actual. And when one attends this premise of his, his investigation concludes that the matter is that which is per se, and not accidental; and that it is potential // and not actual. And if the

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1 maddati
2 'adami
3 kauni
4 44, 6: min lā šayin
5 44, 7: takwīn
6 44, 7: yaqi'u. Tashk.: balaga.
8 44, 10: bi dāithi: kath'awtō.
9 44, 11: bi-l-armoradi (katā sümbeistikós)
10 44, 11: bi-l-qwawati = doxámēi.
11 44, 11: bi-l-fi'lli.
characteristics of matter are such as we mentioned, then there certainly should be coming to be from it.

44, 15. And we say: Indeed matter is per se, because it is in its nature something, and it is not accidentally, because privation is essentially non-being, and it is an accident in matter. For it is impossible, if something comes to be in matter, that the privation of this thing, which comes to be, should not be in matter as its accident.

45, 3. And we say: Indeed these two descriptions with which the Philosopher characterises matter are different, because one of them starts from [the assumption of] some real presence, i.e. potency, the being which is antecedent to the material thing that comes to be; and indeed it is the nature of matter that it is by itself a being and accidentally it is non-being, for privation is its accident.

45, 6. And as for the second description, it starts from [the assumption of] the disposition for receiving the coming to be, i.e. matter is disposed to receive the coming to be something, and to be transformed into it; and if it were not in the state of a thing that comes to be, nor in its structure, nor in the change into it, then this case would not fall under the generation, because no impossible thing can come to be.

45, 10. And if this is so as we have recounted, we return and say: indeed, since matter is capable of being changed into a thing that comes to be, and since it does not transform after it [has reached] the state of actuality, the thing that comes to be no doubt has existence, and has this existence in matter. For in matter there is a power due to which the coming to be is from it, and it deserves its name, i.e. the name of matter; and on the
other hand, from privation it has [the property] not to be in actuality prior to the thing that comes to be from it.

45. 15. So, now we go back and say: indeed we can draw a distinction in the argument of the Philosopher by which he dispelled the difficulty of the question of his predecessors by which they disproved coming to be.

And we say: indeed part of his argument is about privation, and part of it is about matter. For privation "is not" essentially and "is" accidentally, because it is an accident which is in matter. And in the same manner, matter, "is" essentially and "is not" accidentally, because the privation which "is not" essentially is an accident in it.

45. 20. And if this is as we have recounted, let us go back and solve again the difficulty of the question of the ancients. We say: indeed composite things come to be from nothing, that is, from privation, viz., [the privation] of form, and from something, which is something potentially, i.e., matter. And it is not possible that a being should come to be from one of these without the other, but things come to be from both of them, because it is not possible that a thing should come to be from 'a nothing' alone, nor from that which is something potentially, alone. So it is clear that both of them together are the cause of thing's coming to be, but one of them is the cause of thing's coming to be accidentally, and not essentially, that is, privation. For if privation could on its own change into its opposite then coming to be would be from it essentially. But this is impossible, because it is not possible that privation should be a substrate upon which things succeed one another, while it itself does not exist at all. Nor is it possible for an opposite to receive its opposite, while remaining in its initial state, without passing away.

46. 8. Further, a thing that comes to be comes to be from privation accidentally, for the privation necessarily occurs in matter before coming to be occurs, so that coming to be is from it. And in this way coming to be is from something which does not exist essentially, but accidentally.

46. 10. And as for matter, indeed, things that come to be come to be from it essentially, for it exists essentially prior to the form of the thing that comes to be, so that it does not at all pass away. And the change of matter takes place

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\[20\] 45, 11: *wa lam takun tustahilu ba'da bi-l-fîlî*: Gr.: μηδέπω δὲ εἰς αὐτὸ ἐνεργεία μεταβολὴν 38, 11 Br.

\[21\] 45, 17: *'aida*

\[22\] 46, 12: *tagyyiru*: ἀλλαίοται or: *tagyiru*: μεταβολή.
in its reception of the form of the generated being, to which change contributes this state of privation of a thing that comes to be, which is in matter prior to the things coming to be, and accidental to it. And this is because in all material things privation is prior to form; and for this reason things change from privation to form.

46, 15. And if this is as we have said, then it has been made very clear that things that come to be are not from privation alone, because it “is not”, namely it is an accidental property in matter initially, and that, on the other hand, coming to be is not from matter alone, because it only “is” essentially. And coming to be is only from “non-being” into “being”, that is to say, from the change of privation to the form. But this is with respect to something which is existent in itself, that is, the matter.

46, 20. And now it is clear and obvious how the coming to be is, and what is matter, and what is privation, and that generation is from it necessarily, as the Philosopher said it is.


I assume a lacuna in the Arabic where Greek has πρὸς ἤν μεταβολὴν ἡ στέφης αὐτὴ τοῦ γεγομένου συνελεί, 39,1Br. I am grateful to Prof. Sharplees for the discussion of this passage.
II. Treatise of Alexander of Aphrodisias (stating that) growth and augmentation indeed have to do with form and not matter. *

[Subscription]: Edition\(^1\) by Abū Uthmān Al-Dimashqī.

Tashk 402b

51.5. [Alexander said]: Indeed Aristotle mentioned in the book “On coming to be and passing away” that growth and augmentation happen in form, not in matter. Some schools had denied that and said: Indeed, the body\(^2\), and whatever admits of growth, only grows in its form and its substrate\(^3\). And then the Philosopher said: Indeed growth happens in form, and is not in matter.

51.9. [Alexander said]: we want to remove this difficulty (as we did), that is to say: Indeed the matter is changed gradually\(^4\) in the course of growth, i.e. the substrate of a given thing. For some of it gets removed and some comes from without, in such a way that not all of the matter goes; because if it all went, then the form would not persist in its state. And we go back again and say: Indeed the form of something and its matter grow together, and indeed matter is similar to the quantity and form is similar to the quality. And the quantity of a thing changes and alters, and does not stay in its initial state. And as for the quality, which is the form that persists and stays in its initial state, since the quality of a thing is its persistent form, and the quantity is changing, and not persisting, the cause of its changing and disruption\(^5\) being in the flux\(^6\) of matter, - the Sage said: indeed the things that grow do not strive\(^7\) for the matter, but they strive for the form, because form persists in its initial state without change. And alteration and growth indeed happen with respect to something stable and persistent.

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*This text is close to quae 5. Discussion in Zimmermann 1994. See also Sharples 1992, ZB.

\(^1\) So ZB, p.319. (ihraj). See l.c. also for some observations on the style of the translation.

\(^2\) 51.6: jirm.

\(^3\) 51.7: 'Some schools': on the ‘animation’ technique in the translations of doxographical sections, see Zimmermann 1994: unsur: the translator’s Arabic equivalent for “matter”; meaning: stock, race, origin (trying to convey the idea of a substrate).

\(^4\) 51.9: qatīlan qatīlan: παρά μικρόν.

\(^5\) 51,16: ʿunsur.

\(^6\) 51,16: sayāla: πόνος.

\(^7\) 51, 17: tatašawwaqu: our Greek has only ဆွေးသော်ေ.
51. 19. And we say again: indeed, that which grows, even though it grows with both its matter and form, still is a perfection⁶ of the flow of matter, which is its substrate; growth is not to be <predicated>⁹ of the substrate, because the substrate, as we said, changes and does not persist in its initial state. So if one had to <predicate> of it [the substrate],¹⁰ it should only be predicated with "change of matter and its alteration". For we may not find the substrate in that which grows: it flows and swells¹¹ till nothing from it remains in its initial state. And as for the form of that which grows, it remains constant as long as the growing thing persists without passing away.

52. 4. And we say again: indeed the growth is a kind of movement, and indeed movement only happens to something that is at rest. And we have said that the form is persisting even though the matter changes. And therefore growth only happens in the form of something alone¹².

Hereby is clearly explained the saying of the Philosopher that growth happens in form but not in matter.

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⁶ 51.19: kamāl: τελειότης.
¹⁰ 51,21: in bu’īta bihi
¹¹ 52,1: yunsu: Badawi: in the meaning of yatahathalu.
¹² 52, 4-7: this can be derived from the beginning of Aristotle’s chapter on growth: GC I 5: 320a8-27.
III. The treatise of Alexander on the opposites that they are the principles, according to Aristotle. *

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47, 3. [Alexander said]: Indeed Aristotle mentioned in the Physics that all the ancients\(^1\) agreed that the opposites are the principles of all things, and they were correct concerning the term “the principles”, and applied it to them correctly. For it logically follows from the “primary” that it should not be that they are from one another, nor from the things other than them, and that all the things be from them. And such is the definition of the primary things. And this is because if they are primary, then none of other things are prior to them, and none are apart from them, and if they are opposite to one another, then it will not be the case that they come into being from one another.

47, 10. [Alexander said]: and we want to examine the reasoning of the philosopher, for indeed it is very abstruse and ambiguous, for he said: “the opposites are not from one another”, and then says, a little bit after this “indeed the opposites do come into being from one another”. For he says, “indeed everything that undergoes generation and corruption, comes into being and passes away from one opposite into another and into the intermediate.” And I only mean by the intermediate the intermediate of the opposite things, like the colours being from black and white. And if this is so, then everything that comes into being naturally, is either an opposite, or is from the opposites.

47, 16. [Alexander said]: then after this he said again: “indeed the first opposites are not from one another”. And I explained this terse saying in a more extensive way, and I said: As for the meaning of Aristotle’s saying that the primary opposites do not come from things other than them that would be prior to them, and not from one another; and his saying after this to the effect that they do come into being from one another, and indeed that if they were from the other opposites, then this name [scil. primary] would not apply to them - I say: indeed those that are


\(^{1} 47.4: awwalina\)
primary, if they came into being from one another, they would not have done so except by way of change of one of them. And if the opposites were changed, then certainly they would not be staying in their state eternally without passing away.

And if they did not change one into another and were established in one state eternally, then things would not come to be from them by change and alteration, but rather things would come to be from them by composition and compaction, and things would pass away due to mutual incompatibility and division. And if the opposites did not come to be from one another, and not from anything that is prior to them, then how would they not come into being from something other than themselves, rather than from one another?

48.8. [Alexander said]: And I resolved this question in that I said that indeed Aristotle only meant by this that "indeed the primary opposites do not come into being from anything other than themselves", because if they did come into being from something other than themselves, they would not be primary, as we said above, for indeed this is how the primary are. But he means by this saying, "the opposites do not come into being from one another", that an opposite is very much unlike its opposite, as our saying has it: indeed the form is not like its privation, e.g. the heat does not become the cold, nor does the cold become heat; and the moist does not become dryness, nor dryness the moist.

48.14. And as for his saying again, "indeed the opposites come into being from one another", - he meant by this something that is changeable into the opposites, I mean the matter, for indeed it requires the opposites, in turn, and it changes into one opposite after another.

48, 16. And indeed, now it is clear and certain how the opposites come to be from one another, and how they do not come to be from one another, in the sense that changes are in a substance, and permanence is in matter, as fire becomes water, and water air; but it is not the case that heat should become cold, rather this is absurd; but matter keeps the cold, and matter remains in its state.

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2 48,2: istiḥāḥ:  μεταβολή.
3 48, 4: bistihālatin wa ta'irr: κατὰ μεταβολὴν καὶ ἄλλωσιν.
5 48, 5: bi-tanāqūdīhā wa firāqīhā: διαφορά; the second word probably corresponds to the πρὸς ἄλληλα of the Greek text (28, 24 Bruns).
48. 21. And if this is so, then the primary opposites are not prevented from changing into one another, in this sense which we mentioned, nor from being the cause of coming to be for all things that are posterior to them. And if someone said: "If these primary opposites changed in this respect, then how would it be possible for them to exist eternally? And what is the difference between them and the opposites which are eternal, I mean, e.g. the colours also change in this sense [that was described]?", I would say: indeed, their substrate changes into the opposite colours, in turn.

49. 4. As we said: indeed, a certain difference between these [scil. primary and secondary opposites] is that all the things come to be in the primary opposites. I say: indeed, the coming to be of things and their passing away happens through reception by matter of the form of one thing and privation of another. And their passing away does not happen from the white or black, nor from the sweet or bitter, nor from anything like these at all.9

49. 9. And we say again: indeed these [latter] opposites are secondary, and although they change into one another, and I say, indeed they come to be in matter, in the way in which the opposites do, yet they only come to be in the primary opposites. For the coming to be of shapes and colours and all the things similar to these opposites is only in the disposition for receiving the primary opposites, their forms, and their privations in their change into one another. And as for the primary opposites, they do not come to be due to the change of other things, due to their disposition for receiving them. Rather, they come to be from the change of one of them into another, in the way that we mentioned previously.

49. 16. And we want to explain the expression of the Philosopher that says, "indeed the primary opposites are eternal", and we say: indeed, eternity is said in two ways: one of them, as something which does not cease to be in one state, having neither beginning nor end, [which is] impassive, does not change from one state to another, being the primary agent; and the other one, as something that does not come to be from something else, prior to it, but from which all the things come to be by way of its passivity and change, because [it is] not produced and not

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5 48, 18: jauhar.
7 49, 4: hàmil.
8 49, 5: fi] fort min.
9 Note the slight difference with the Greek text 29, 6-9 Br.
10 49, 11 fi] fort. min
11 49, 11: aštâh; χωμόν in the Greek text.
12 49, 12: tahiyatu: ۋۋۋ. 

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49. 21. And should someone say: if the form and the privation of something are in turn in the substrates\textsuperscript{14} and change into one another, then how can they be eternal? - we would say: Indeed form and privation succeed one another in matter, and it is not possible that matter should be in actuality without form and privation, as we have frequently said, and for that reason the opposites are eternal. And the evidence of their eternity is matter, for indeed it is eternal, too, and it cannot be without form except in thought.\textsuperscript{15} And if matter is eternal and cannot be but with form and privation, then the form and privation are surely eternal.

50. 6. And we say again: indeed matter is receptive of the opposites simultaneously in potentiality, without them being in it in actuality. For if one of the opposites is in it in actuality, then necessarily the other one would be in it potentially, and it is never free from them. And if matter is eternally with some form and some matter, and the opposites are never in it all potentially, nor all in actuality, but some of them are in it potentially and some in actuality, no doubt the primary opposites are eternal, according to the word of the Philosopher.

50. 11. And now it is clear and certain that the primary opposites are the first principles of things that undergo coming to be and passing away, and that they do not come to be from other things, prior to them\textsuperscript{16}; and also clear is the meaning of the words of Aristotle “indeed the opposites do not come to be from one another”, as well as of his saying “indeed they do come to be from one another.” Also the meaning of the saying “the opposites are eternal”, is explained by the precise and clear statements that were said more than once about these things.

\textsuperscript{13} 49, 20: liannahā 'aira maf 'ulatin wa lā hadātat: the gender of the pronominal suffix is somewhat puzzling; grammatically, it can refer to the infīl and isrīl, but most likely it is an anacoluthon, with -hā referring to hayyūlā which has not yet been named.
\textsuperscript{14} 49, 22: 1-hawāmil.
\textsuperscript{15} 50, 3: bi-l-wahm: énvoiq. Prof. D.L. Black suggests to me ‘imagination’ as the possible meaning of the Arabic translator.
\textsuperscript{16} 50, 50, 12: wa lā qablahā: this construction that occurs several times renders not a separate clause but φανεροπροτεύουσα, which the translator might have understood as a separate construction.
IV. Treatise of Alexander of Aphrodisias on that matter is not a genus, and what is common in them and in what they differ.*

Tashk 403A

52. 11. [Subscription]: Translated Ishaq ibn Hunain.

52. 12. [He said]: Indeed matter and genus have it in common that each of them is common to many things, and [each] is primary [to those things] by natural priority, and [each] is different from [those things] when it is combined with some form.

52. 14. And I say: indeed, the matter of all things is one, and when a form is set in it, matter receives it and its differentiation from anything is in accordance with the differentiation of the forms that are set in it. And the same applies to the genus, namely, it is common to all things, and when forms and differentiae are set in it, then there is a variation of genera is in accordance with the variety of forms and differentiae that are set in it; for something one gets varied when a compound is made of it, and receives the different form. And this aspect genus and matter share.

And they are different and distinct, in so far as the composition of forms does not happen in them in the equal manner, for matter is the subject of forms because they are moving with respect to it.

53. 1. [Said Ishaq]: form is moving with respect to matter, and genus is moving with respect to form, e.g., form proper to the genus: this one is braying, and this [other] one is neighing; and the genus moves, now to this one and

*Quaest. II 28 (Sharplees 1992; for the Arabic: ZB, pp.319-20)
1 Gätje 1966 argues against the attribution of this translation to Ishaq.
2 52,12: ya`ummu
3 52, 13: wa yanfasilu `anha ida rukhiba bi-ba`di s-suwar: kai to prwta tis phous twn up` auta te kai dou esti kopi. to tis eidos twn svthei pros auta tais diaforous lamabane.
4 52, 15: infisaluha min al-a`sy`a`i: apparently the Greek Vorlage of our translator had diaforons here, agreeing with the other extant mss. of the Greek tradition. Cf. 78, 2 Br.
5 52,20: li-tataharruki `ala`iha. ZB understand it as an indicative form, ZB 320: “5220 hat die Übersetzung tataharrak `ala`iha, wo man ruhmal `ala`iha erwarten würde.”
6 53,1-11: Badawi questions the first line; in fact it seems that at least till after the “braying and neighing” example the text is by the Arab. The mention of ‘motion’ in the previous sentence is also problematic. The presence of Alexander’s text in the background is indicated by the contrast between genus as kataxroounen and matter. The question is whether some version of Alexander’s text really included at this point any reference to movement as the factor of distinction (or it was supplied by the translator on the basis of Alexander’s example of the bronze and the shape at 78,10).
now to this [other] one. As for the matter, form moves with respect to it and ceases to be with respect to it. And genus ceases to be with respect to form, yet so that neither of them is subject to destruction. And form follows upon matter in such a way that it is subject to destruction, I mean the form, not matter; or rather they [forms] succeed one another, because [matter] is the substrate that receives the progression of form and is common to them.

53. 6. And as for the genus, indeed, even though it is common to forms, it is not the case that it receives the movement of forms, but rather it describes them and is predicated of them, i.e. it underlies them and is predicated of them. And for that reason matter is not a genus, i.e. because matter is a subject, and forms succeed each other in it in their movement. And forms are not in this way in the genus, yet still forms are in it. This is the first difference, i.e. that forms are moved with respect to matter and are not moved with respect to genus, but have it predicated [of them], because genus is predicated of the things to which it is common as we have always said.

53. 12. And we say again: matter is not a genus, for all matter is universally common, because all material forms are in it, and every single part of it is also common universally to all the forms. And this is because each part of it can receive all the forms, in temporal succession. And as for genus, indeed, even though it is common to all the forms that are under it, still it is impossible that each part of it should be universally common, that is to say, it is impossible for the ‘animal’ which is in Socrates to be numerically the same as the one in Plato, or in someone else.

53. 18. And I say again that matter is not a genus, for matter is a thing that is a substrate for all things, underlying them as a subject, contributing to their being, and the being of each of them is dependent on the form that they have.

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7 This is a gloss which should not be taken as anything stronger than explanation of how genus exists in the actually existent species.
8 53.3: wa l-hayâla tatakharraqu ‘alaihâ s-sûrata wa tantaqîlu ‘alaihâ.
9 53.4: tat‘aqqubu l-hayâla] Badawi suspected a scribal (or usage) error for tat‘aqqubu ‘alâ.
10 53, 6: ta‘ummuhâ: 79, 8 Br.
11 53,7: yasuffuha wa yanhatahu: Greek κατηγοροῦμενον 78,9 Br.
16 53,19: al-hai‘a instead of the regular sûra. I am grateful to Prof.D.L.Black for drawing this point to my attention.
And as for the genus, indeed it is not a thing which has an essence, if it is taken in its definition\textsuperscript{17}, but it is only a name, and its persistence and being is in thought, not because it has essence and subsistence\textsuperscript{18}.

54. 1. And we say again: indeed matter is not a genus, for matter is something permanent\textsuperscript{19}, which persists numerically, while genus persists in kind, but not numerically. That is, its form persists because of the succession of one being by another that takes place in it; and as for the numerical [i.e. individual] being [of genus], indeed, it is subject to passing away.

54. 4. And we say again: matter is not a genus, for matter persists in the decomposition of the composite substance, because the substance is composed from matter and form. And when the substance is decomposed, one of its parts passes away and withdraws and the other one, that is matter, persists.

And as for the genus, indeed, even though it is one of the simple things, such as genera, species and accidents, for it is not composed of the first form and matter, however, it is composed of material substance and some form. And for this reason genus is said to be composite, whenever it is conjoined with the material substance. And for the same reason substance is also said to be composite, whenever it is conjoined with prime matter.

And I say: just as the individuals are composite whenever they are conjoined with the “animal”, in the same way the forms of the individuals and their genera are composite, when they are conjoined with what is above them,\textsuperscript{20} for the sign\textsuperscript{21} “animal” signifies their form along with matter, and not [either] one of the two parts of the composite, e.g. its matter, because the name “animal” only applies to it [scil. a part, when it is] in conjunction and composition of both of them. And for that reason they are not distinct except in passing away, which is the distinction of matter and form, for the former is without passing away, for matter persists in its state, and as for the “animal”, indeed, when its form passes away, it passes away also, because its form is inherent\textsuperscript{22} in the being of the genus, i.e. “animal”, and in its definition\textsuperscript{23}, and when the definition of a thing passes away, that thing itself passes away, and does not remain in its initial state.

\textsuperscript{17} 53,20: idā mā adana ‘anhu l-hadd] Badawi suggested adīla; I read: idā ma ‘hādun ‘anhu l-haddu Gr.: ὦς τὸ γένος λαμβανόμενον.
\textsuperscript{18} 53,21: ὀλθς for ὑπόστασις.
\textsuperscript{19} 54,1: dāīmūn.
\textsuperscript{20} 54, 10-11. This clause may have been supplied by translator. Cf. Greek: ὣς γὰρ τὰ καβέκαστα ἐν τῷ ζύμῳ σύνθετα, οὕτω δὴ καὶ τὰ εἶδη αὐτῶν καὶ τὰ γένη. 78, 28-29 Br.
\textsuperscript{21} 54, 12: rasm: ex ‘ism?
\textsuperscript{22} 54,16: dāḥīla.
\textsuperscript{23} 54, 17: hadd: λόγος Gr.
And the definition of a thing only passes away in the passing away of its form, and for that reason if Socrates passes away the "animal" that is within him does not at all remain, viz., the "animal" which is a part of the whole genus. And in the same way again whenever each [particular] living being passes away, the generic living being will pass away, too. And the matter does not have anything of what we have just described, at all, for matter does not pass away, with the passing away of its form.

54. 22. And I say again: indeed, matter is not the genus, and this is because forms are not in the genus24 and in the matter25 in the same way26, for the primary and universal form27 has already been, by way of forestalling, in all the genera and species. And for this reason the particular and secondary form does not come to be as a whole in a genus28, because its part29 has already beforehand completed the nature of genus30.

54. 25. And as for the differentiae, indeed, they differentiate31 the common part of form32, and are conjoined to the genus, viz., of this distinct form, and genus for this reason comes to be not separable from the things of which it is the genus, and to pass away with their passing away, and to receive parts of forms rather than the whole forms, and to be receptive of parts of forms not on account of its possessing essence, constancy and persistence33, but rather it is receptive of them in such a way that it has being in thought, separate in its subsistence; and in this way it comes to be after the things which are its subjects, underlying it by way of matter. For matter is prior to and before every material body, because matter is not actual, but potential.

And whenever it receives form, at that time there34 comes to be from this a primary substance35, and matter is prior and before the composite thing.

55. 8. And as for the genus, indeed, it has its being from all the material individuals, that is the thinker thinks of

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24 54,22: comma post l-jins delenda.
25 54,23: huwa awlwun delendum (fort. ex hayyála bis scripto)
26 54, 22: wa dálíka anna s-súra laisat fi l-jinsi, wa l-hayyála huwa awlwun 'alá darbin wáhidin] read wa dálíka anna s-súra laisat fi l-jinsi wa l-hayyála 'alá darbin wáhidin.
28 54,24: kulluhá.
30 54, 25: deleting Badawi's <min>.
31 55,1: tatagayyar] mayyaza ZB.
32 55, 1: kulliyata s-surati Gr.: το κοινό τοι εἶδους 79, 5 Br.
33 55, 4: dātiyun, qātimun, jābitun Gr.: 79,8: ως ἵπποικεῖσκαν.
34 55, 7: That this is the sense of this clause seems to be indicated by the use of fa- rather than wa as a conjunction, probably to mark the change of the subject.
everything in which all the individuals share, and takes it as one thing and makes it into a genus of these individuals, and the genus is persistent so long as it has its persistence in thought, because it has essence and "this-ness" in the absolute sense.

55, 12. And we say again: indeed, genus is not matter, because matter is the cause of being of all things that are subject to coming to be and passing away, and of their subsistence. And as for the genera, indeed they occur as posterior with respect to the things that have their being and subsistence in matter, and they are the result of someone who composed them by separating some of them from others by the peculiarities of their classes and differentiae.

55, 16. And now it has been explained clearly and truly by various arguments that matter is not a genus, and that it is a thing persistent and permanent, and genus has no proper essence, but has its being in thought. And this is what I wanted to explain.

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35 55, 7: l-jauhar il-ulā: Gr.: τὰ ἐν 79, 11 Br.
36 55,11: tābitun.
37 55,11: lianna lahu dātan wa anniyatan albatatan] fort. lianna lâ lahu dātan wa anniyatan wa ghair, but it is hard to decide because the text is evidently an addition by the Arabic editor.
38 55,13: qawāmi wa tabātihā: Gr.: καὶ ἑπεξεργάσατο 79, 15 Br.
Appendix III. ὑπάρχεις and ὑπόστασις in Alexander.

1. Aristotle.

As far as one can tell, these terms, as ontological, have no history in the Peripatetic tradition prior to Alexander. ὑπόστασις occurs in the biological works both of Aristotle and Theophrastus, in the regular meaning of "sediment" or sometimes, referring to a process, "sedimentation", in which it was used in the Hippocratic literature; and this is in accordance with the meanings of the verb ὑφεστάναι.1 The term ὑπάρχεις has a single occurrence in the spurious treatise On Plants.2 The verb ὑπάρχειν deserves, probably, more attention, because even though it does occur, of course, frequently in the non-technical meaning, there are also cases of nearly technical use which are inherited by Alexander and incorporated by him in the term ὑπάρχεις which Aristotle does not use. So it will be useful to review briefly the relevant meanings of ὑπάρχειν in Aristotle. In this I will largely follow Bonitz's list of meanings, focussing on the meanings of potential interest in connection with Alexander.3

Non-technical meanings include the one that Bonitz signifies as "fere id quod esse". The verb originally means inception, but it can refer to just being. It is frequently used as a part of participial and adjectival constructions.4 There is also a variety of meanings of ὑπάρχειν+dative that refer to possession of a thing, property or being subject to affection (πάθος). The examples of this type of meaning are familiar and numerous.5

Then there is a more interesting variety of technical meanings of the term. This verb is frequently used in logical

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1 See Bonitz, p.801ab8-802ab7. The meaning (3) listed by Bonitz is derived from the treatise de mundo (on which see below), and cannot be attested as Aristotelian. The corresponding meaning of the verb ὑφεστάναι (Bonitz, p.808ab24) is based on fragm. 183: 1509b24 (ὁ ἀποθέτως ὁ κατ᾿ ἱδίαν ὑφεστάνος) which must be post-Aristotelian. See also Dörrie 1955, pp.46-48, 58, n.1.
2 de plantis I 2: 817b17 (Bonitz, 788b38). The Greek text of this treatise is actually the “back” translation from the Latin (to which it was translated from the Arabic) of the work of Nicolaus of Damascus.
3 For a broader survey see Glucker 1994.
4 A representative example would be Mete.118: 365b23; Mete.11: 353b17; III 2: 372b11; DC II 13: 295a2; Memor. 2: 451a20; EE VIII 14: 1162a12; Poet. 10: 1452a13; MA 3: 340a17; PA 1 I: 640a23; II 10: 668a21.
5 Representative examples would be PA 1 III 2: 663b25; τὰ γεώδες πλείων ὑπάρχειν τοὺς μεῖκρες τῶν ζώων. EE IX 1: 1164a11: οὐ γὰρ αὐτοῖς ἐστινον. ἀλλὰ τὰ ὑπάρχοντα, οὐ μόνον ἀνά. Bonitz cites also Mete.II 4: 360a5; I 3:339a1;
and metaphysical works to signify the relations (a) between the terms in the sentences of the language, (b) between
the objects in the world, (c) between terms on the one hand and objects to which the terms refer, on the other. The
new meaning which is added by this use is the meaning of being as “truth”. Bonitz complains:

haec significatio verbi ἐπάρχειν sicuti ad rem et veritatem ita pariter ad cogitationem et enuntiationem referitur, ut
discerni vix possit, ubi ab altero ad alterum transeatur.

But we are probably dealing here with a situation where the terminological ambiguity is ‘genuine’ and not
misleading in any significant respect. The same term is applied to depict the verbal dependences and the relations
between objects because the logic of both is the same: verbal dependences are grounded in the real relations; so the
most general statements should equally pertain to both. ⁶ This does not mean that Aristotle confuses things with our
concepts of things: when it comes to methodology, the distinction is well-pronounced;⁷ yet the rules of reasoning
have it as their underlying principle that our concepts of things should follow things. This approach can be seen in
most of Aristotle’s expositions of logical theories.

The meanings of the verb ἐπάρχειν in these technical contexts include ‘being’ with connotation of the truth of
corresponding statement; various senses of ‘being predicated (of)’.⁸ The short chapter 37 of the first book of the
Prior Analytics contains an indication of the link between logic and general ontology as outlined in the system of
Categories:

τὸ δ ἐπάρχειν τὸν τρόμο καὶ τὸ ἀληθεύεσθαι τὸν κατὰ τοῦτο τοσαυταχῶς λαττέτων ὁσακώς αἱ κατηγορίαι διήρθηται, καὶ
taῦτας ἡ πη ἢ ἀπλᾶς, ἢ τα ἀπλᾶς ἢ συμπεπληγμένας ὁμοίως δὲ καὶ τὸ μὴ ἐπάρχειν. 49a7-10.

Several peculiar uses should be noted: in the classification of modal premisses ἐπάρχειν stands for the degree of
modality, as distinct from ἔσεϊ ἠκύρωσης ἐπάρχειν and ἐκάθεσθαι;⁹ in the classification of tenses ἐπάρχειν can occur as a
word for present tense.¹⁰ The neutral technical character of the verb ἐπάρχειν appears from its use in the

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⁶ An example of such “meaningful ambiguity” is the law of contradiction itself, e.g. as presented in Meta. Γ 3:
1005b19: τὸ αὐτὸ ἃμα ἐπάρχειν τε καὶ μὴ ἐπάρχειν ἀδύνατον τῷ αὐτῷ. And Bonitz notes that the verb is used in this
way frequently in Meta. Γ 3-6.
Knowledge and being are distinct, yet knowledge should be being-oriented to keep its validity.
⁸ Standardly: ἐπάρχειν παντὶ for universal predication: An.Pr. I 4: 26a2.5.8.24; b33.37 etc.; ἐπάρχειν τινὶ =
cat'ηγορεύεσθαι κατὰ τινὸς An.Pr. I 2 et seep; in the meaning of ἐπεστάθη An.Pr. I 28: 44a15.13, in the same meaning
¹⁰ Rhet. II 6: 1384a15.
constructions ὑπάρχειν καὶ αὑτῷ to signify natural attributes. But Aristotle never uses a substantive and never uses the verb ὑποστάσαι in the close context. So, though Alexander might have, and did have, as we shall see, Aristotelian sources for the notion ὑπαρξείς the word itself came from a different context, and had some different history, apart from the one that relates it to the exegesis of Aristotelian texts.

2. The Stoics.

Unfortunately, the sources for this different history are particularly difficult to handle: there are very few first-hand records of use of these terms in the Hellenistic schools, although it is very likely that it is in those schools, with their spirit of dialectical argumentation and respect for all kinds of hair-splitting techniques that both terms had their birth. There is a fair amount of second-hand evidence in the philosophical literature, particularly Neoplatonic, but there is still much to be done for the interpretation of such evidence, since the Neoplatonic authors, beginning with Plotinus, assigned these terms new meanings in their systems, so even a separation of evidence of earlier uses of the terms may be a problem.

In case of Alexander, we have independent access to at least one of his sources, Aristotle, so it should be possible to say how these terms can function in the Aristotelian system.

Both terms were used in the ontological sense by the Stoics. H. Dörrie in his study of ὑπόστασις distinguishes three major developments in the history of this term. The usage which he regards as historically first is twofold: the verb ὑποστάσει may refer to some kind of indeterminate being which exists prior to the individual things; and to the

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11 *Meta* Δ 30: 1025a31,30; Γ 2: 1004b5; Ε 1: 1025b12, 1026a32; Z 5: 1030b23; *Phys.* Π 1: 192b35; ΙV 4: 210b33.
12 References in Bonitz: expressing the non-modal character of a statement (distinct from ἐξ ὑπάρχειν ὑπάρχειν and ἐνδέχεσθαι); expressing the present tense; ὑπάρχειν (ἐν) τιν referring to the possession by something (or inherence in something) of a thing or property. 788b40 - 789b4. The use of the term ὑπάρξεοι by Aristotle in the logical contexts is discussed by Hadot 1969; cf. Graeser 1970.
13 This does not mean that they invented the word; there is no reason to assume that anyone invented it (as Glucker seems to assume in case of Philo, p.19: "whether the noun ὑπαρξείς is Philo's own invention, because he badly needs such a term, we shall probably never know"). The word is found in the Septuagint (*Pr*.18.11) in the meaning of "possessions", close to the first meaning of αὐσία, and must have been common in this meaning in late Greek (see *LSJ* entry, ΙΙ 2). The "analytical" tendency in word-building and syntax, which is characteristic of late Greek of the written sources, reflects earlier conversational practices; and the derivation of a substantive from a verb in this case does not seem lexically unusual.
14 On the meaning of ὑποστάσαι and ὑπόστασις in Porphyry and Plotinus Shchalin 1986 is useful (article in Russian, with an English abstract).
15 Dörrie 1955, 36-83.
reality that depends on a certain set of conditions.16 Dörrie notes that the noun ὑπόστασις occurs only in connection with the second of these meanings.17 Dörrie draws the distinction between ὑπόστασις as the substrate for qualities and ὑποκείμενον as follows:

Wohl liegt das ὑποκείμενον allen Dingen zugrunde; wenn es aber gilt, den Vorgang zu bezeichnen, daß die ἀποικία ἄλη wirklich den Qualitäten zur Grundlage dient und sie aufnimmt, so wird dieser Vorgang mit ὑφισταθείν bezeichnet. Das ὑποκείμενον ist die immer vorhandene Art des Seins, gleich ob sie manifest ist oder latent; ὑφισταθείν aber ist das Übergehen vom latenten Zustand in den manifesten.18

Dörrie also argues that in the Stoic doctrine the notions οὐσία and ὑπόστασις must make a meaningful unity,19 because ὑπόστασις refers to the process by which what is latent in matter becomes manifest.

The second point of development that Dörrie distinguishes is incorporation by the notion of ὑπόστασις of more general meaning of well-foundedness. Dörrie discusses the passage from Plutarch in which the terms ὑπάρχειν and ὑφεστηκέναι express the opposite meanings:20

Chrysippus, eager to practise the art of distinction, says in ‘On the Void’ and elsewhere that the time that has gone and that is to come does not really exist, but only subsists, while only that exists which is present. Plut. comm.not. 41.

and argues that the distinction reflects the meaning of ὑφισταθείν as a substrate for qualities, hence something more stable, whereas ὑπάρχειν refers to the flowing reality of the present moment. In this he is followed by P. Hadot, who lays such a strong emphasis on the fluid nature of reality referred to by ὑπάρχειν, that he finally makes ὑπάρχειν signify the mode of being of an incorporeal (as opposed to the “well-founded being” referred to by ὑφεστηκέναι).21

This approach is criticised in the ὑφεστηκέναι part by A. Graeser, who defends the view that ὑφεστηκέναι refers here

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16 Dörrie cites as the examples: Ar.Did. fr.phys.20 (DG 458,4 = SVF II 317; Dörrie apparently accepts the mss reading of the first sentence; but note that the emendation of Wilamowitz which von Arnim printed changes the meaning of ὑφιστηκέναι from Dörrie’s second to first); Plutarch, comm.not. 50: 1085C (=SVF II 380: this is an example of the first meaning); Ar.Did. fr.phys. 37 (DG 469, 12 = SVF II 599; the example of the first meaning).
17 But Dörrie says that the substantive, in this sense, occurs first only in Poseidonius. He cites Ar.Did. fr.phys.27 (DG 462, 26): ἐπὶ δὲ τῶν ἰδίων ποιών φασὶ διὸ εἶναι τὰ δεξτικά μόρια, τὸ μὲν τι κατὰ τὴν τῆς ὀυσίας ὑπόστασιν, τὸ δὲ τι κατὰ τὴν του ποιών. Dörrie, op.cit., p.51.
18 Dörrie, op.cit., p.50.
19 Dörrie, op.cit., p.51.
20 1081F: Κατανύστατος δὲ θεουλέμνου φυλοτεχεῖν περὶ τὴν διάρεσιν ἐν μὲν τῷ περὶ τῷ Κενῷ καὶ ἄλλως τοῦ τὸ μὲν προσφρέσκειν τὸν χρόνον καὶ τὰ μέλλον οὐκ ὑπάρχειν ἀλλὰ ὑφεστηκέναι ὅπως μόνον δὲ ὑπάρχειν τὸ ἐνεστήκος.
21 Hadot, op.cit., p.123: “So eröffnet ὑπάρχειν also sowohl in der Definition der ‘ersassenden Vorstellung’ wie in seinen anderen Verwendungen die Perspektive der Aussage, der Diskursivität, also des Unkörperlichen”.

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to the mental being as opposed to real existence, and, in its ὑπάρχειν part (with some suggestions concerning the interpretation of ὑφεστηκέναι) by V. Goldschmidt\textsuperscript{22}. Goldschmidt, in particular, convincingly argues that in the Plutarch's text which has been a basis for distinction between ὑπάρχειν and ὑφεστηκέναι the paradox (the unreal present which is referred to by ὑπάρχειν and the real future and past which are ὑφεστηκέναι) is not a Stoic theory, but a polemic consequence from it, in which the term ὑφεστηκέναι is transposed from the theory of incorporeals, where it belongs, and where it is opposed to ὑπάρχειν as designating the being of the incorporeals, while ὑπάρχειν refers to the reality of corporeals, into the theory of time, where it is improperly opposed to "non-being". So, the explanation of Plutarch's text is that here Plutarch uses the terms ὑπάρχειν and ὑφεστηκέναι without their technical meaning, in the ordinary sense: hence the paradox.

Such is, very schematically, the early history of the term in the Stoa. We can see that the distinction mentioned by Plutarch is between the 'immediate' being of corporeals (referred to by ὑπάρχειν) and the being which is dependent on the the being of corporeals and yet irreducible to it (referred to by ὑφεστηκέναι). This distinction might have been lost with the decline of the semantical theory of incorporeals; and we do not meet with it in Alexander's time (Plutarch's reduction above is a good example of a confusion based on the lack of interest in the system.)

The next interesting development, which influenced the way in which the term was used in Alexander's time, and by Alexander, too, is linked with the name of Posidonius, who added to the meaning of ὑπόστασις an epistemological dimension, distinguishing, on the one hand, between ὑπόστασις and ἐμφασις, and on the other hand, between ὑπόστασις and ἐπίνοια.\textsuperscript{23}

The distinction between ἐμφασις and ὑπόστασις apparently was introduced in the course of a discussion of the nature of meteorological phenomena: which of them are real and which are only visual effects. The text that is usually quoted as evidence for this distinction in Posidonius, is Aēt. III 5: 371, 27 DG, περὶ ἱδέως, the explanation of rainbow which he thought to be a mere ἐμφασις:

Γιὰ τὸν μεταρρύθμισιν παθὼν τὰ μὲν καθ' ὑπόστασιν γίνεται ὁμοίῳ ὑμβρίῳ κάλαβα, τὰ δὲ κατ' ἐμφασιν ἵδιαν οὐκ ἔχειν ὑπόστασιν·

Dörrie notes that with Posidonius the distinction "appearance-substance" has become a well-grounded principle in the Stoic system. This was a distinction between the two types of real processes: substantial and not substantial.

\textsuperscript{22} Goldschmidt 1972.
The non-substantial processes that exist κατ’ ἐμφασιν are still real: “nur kommt es im Bereich der ἐμφασις nie zur materiellen Konsolidierung”. 24

The distinction between ὑπόστασις and ἐπίστασις is of a different kind: thought is something that is itself unreal and unfounded, but can make something seem real. It needs a constant critical examination for the reality of its contents. This distinction is well attested in the later philosophical literature, without references to Posidonius. But of Posidonius we have some reports that indicate that he used this distinction. 25

The most important points of the Stoic treatment of ὑπόστασις are its clear ontological intention (substantiality; yet manifest sensible being; opposed to mere appearance and opposed to mere thought).

We find the terms ὑπαρξίς and ὑπόστασις in the meaning of “reality”, as opposed to mere thought and unreality, in Sextus Empiricus. With him, it is one of the boundary-concepts: the central sceptical questions are based on a distinction between what is real and what is unreal; and the strategy is to show that the appearances do not satisfy the conditions of the real. 26

3. Alexander.

With the exception of the logical texts, where the meaning of both terms is somewhat more technical, the occurrences are rare enough to indicate a specific theoretical context.

In what follows I distinguish four different types of occurrences, on purely formal grounds: (a) logical texts, where the noun ὑπαρξίς follows in meaning the verb ὑπάρχειν used in this place by Aristotle. Since the meaning is quite technical, usually the words ὑπόστασις and ὑφιστάμαι have nothing to do with these contexts. (b) and (c) where the terms occur separately: normally, there is a distinction of meanings between the two, ὑπαρξίς signifying being in the unqualified sense; existence of a thing or state of affairs, while ὑπόστασις may signify a dependence relation in that which is dependent, or the source of this dependence; to put it very roughly, the first term is more likely to

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24 Dörrie notes that the Stoic Boethus of Sidon might have been Posidonius' predecessor in this. Dörrie, op.cit., p.55, n.32, citing Aët.II 31,5 (= SVF III 8 Boeth.)
25 Dörrie, op.cit., p.56. On the other hand, cf. Aristotle's report, in Meteorology, of the opinion of Cleidemus, who said that lightning has no real being, but exists only in appearance (II 9: 370a11) and Aristotle's own explanations of rainbow and halos in Mete. III 1-2 by reflection of vision.
26 Dörrie, op.cit., p.57, cites Posidonius' treatment of surface ap. DL VII 135, which he recognised as being both κατ’ ἐπίστασις and καβ’ ὑπόστασις; and Ar.Did. fr.phys. 20 (DG 458,8), where Posidonius is quoted as saying that the distinction between ἅληθεν and ὑνήμια has its being only in thought (κατά τὴν ὑπόστασιν ἐπινειά μίων).
27 This context for the concept of reality might have been supplied by the Late Academy. Dörrie quoted Antiochus' argument which Cicero ac.2, 19 put into the mouth of Lucullus: non enim is sum qui quidquid videtur tale dicam esse quale videtur.
refer to the immediate character of reality, presence and inherence, while the second has a slightly more expressed emphasis on the groundedness, some sort of dependence-structure.

It has to be noted that these four types of contexts do not correspond to the meanings of the terms: there are more different meanings in the first group, and there may be no difference between some of the meanings in the second and third group compared to the meaning of the same words in the fourth group. The technical distinction that interests me most is described by Alexander himself in several school treatises, it the distinction between ἐπαρξία/ὑπόστασις on the one hand and ζωή on the other hand. In this brief survey I arrange the occurrences of the terms by their ‘pragmatic meaning’. Of course ‘pragmatic’ should be understood quite specifically, because we are dealing here not with any kind of ‘conversational’ practice, but remain within the bounds of philosophical language. By ‘pragmatic’ I mean, accordingly, a variety of stable non-technical meanings which these terms have in Alexander’s writings.

I need to say that what follows is neither a full terminological, nor a full lexicographical study (I omit much of the grammatical detail, and am not attempting any specific analysis of the logical contexts here). It is also not strictly a complete survey of all the occurrences of these terms in Alexander, as I omit the fragments of his commentaries quoted by later authors, and limit myself to the full works published in the CAG.27

This short study has two tasks: first, help to clarify the technical meaning of the terms ἐπαρξία/ὑπόστασις with the help of the features of their ‘pragmatic’ meaning; second, see what philosophical tendencies are reflected in a variety of ‘pragmatic’ meanings.

(1) In the “logical” group there are several subgroups:

(1a) reality, as opposed to conditional or modal being/ affirmation, positing: close in meaning to κατάφασις;28 hypothetical syllogisms do not show any ἐπαρξία, but only ἀκαλούθησι (for that reason the procedure of finding the middle term by selecting the antecedents and consequents of the extreme terms is not applicable there);29

explaining that the different term used by ancients and moderns for the assumption in the scheme of inference: the moderns call προσλαμβανόμενον, (‘assumption’), because it is a part of a conditional sentence, but is assumed as real

27 These include: commentaries in an.pr., in metaph. A-Δ, in top., in de sensu, in meteor.; treatises de anima, de mixtione, de fato; and school collections: manitissa and quaestiones. I am grateful to the Classics Department of the University of Toronto and to Leonard Library of the Wycliffe College at University of Toronto for the access to their computing facilities which enabled me to do the TLG search.
28 in top. 48, 26 Wal.: τὸ δὲ εἶναι ἐκάστῳ ἐπάρξει καὶ καταφάσει.
in the inference; but the ancients called it μεταλαμβανόμενον (‘trans-emption), because it is assumed not in the same mode in which it is posed as an antecedent of the conditional: the ‘real’ mode of assumption is referred to by the terms ὑπάρχειν and ὑπαρχείς;10 (hypothetical removal of an incidental property does not destroy the nature of a thing).31

(1b) acception of a term in a sentence, or mode of being of a corresponding object: the structure of premisses is isomorphic with the “states of affairs” that they depict: in an.pr. 26,1732; mode of being in sense of modality:33 modality (of an antecedent is transferred to a consequent);34 signifying specific mode of being corresponding to each category: this context is both logical and ontological.35

(1c) inheritance (from Aristotle’s ὑπάρχειν + dative): “simple” ἑπαρχείς of an accident, as opposed to the qualified way of presence in a subject of genus (simple ὑπαρχείς of entities like soul, gods, can be sought without the assumption about the mode of their being);36 mode of inherence;37 presence in this subject;38 distinguishing between essential and incidental predication;39

We can see that the first group has as its focal meaning unqualified being, in contradistinction to all kinds of modal, temporally determined, conditional being. The second group, where there the term is used ‘absolutely’ (not in comparison to their modes of being) is characterised by the mode of being which is somehow specific for a given thing, or of acception of a term (taken so, it can also refer to modal and conditional states). The focal meaning of

20 in an.pr. 1 29: 330, 29 Wal.: 21 in an.pr. 1 23: 263, 36 Wal. I am grateful to Prof. Sharples for making this point clear to me. 21 in an.pr. 1 12: 155, 130 Wal. 22 in an.pr. 1 12: 155, 130 Wal. 23 in an.pr. 1 115: 184, 24 Wal. 24 in an.pr. 1 37:366, 21: οὐ γάρ τοις ὀνόμασιν ή τη τῶν ὀνόματων πτώσει προσέχοντας χρή τάς κατηγορίας ἐν τοῖς προτάσει ποιεῖσθαι, ὡς εἰ μὲν κατ᾿ ἐνθέαι λέγοντα, καὶ δὴ ἡ ἀρχή παραστημάντων αὐτών, οὕτως καὶ τάς προτάσεις σχηματίζει; in meta. Δ 7:1017a7 - 371, 22-26: τὴν γὰρ οἰκεῖαν ὑπαρξὶν ἐκάστου σχημαίνει τὸ ὁμόμοιον; εἰ δὲ δέκα αἱ κατὰ τὰ ἀνωτάτου γένους διαφοραί, δεκαχώς καὶ τὸ ὑπὸ θεό καὶ τὸ ὑπὲρ οὐκ ἡθοποιήται, τὸ μὲν γὰρ τῇ ὑστορ κατηγορίας εἶναι τὴν ἐνσώφορην ὑπαρξίᾳ σχημαίνει, τὸ δὲ τῷ ποιῇ τὴν ὡς ποιή, καὶ τῷ ποιῇ τῷ ὡς ποιή, καὶ θεῷ τῶν ἄλλων ἑνών ὁμοίως; ibid., ad 1018a29 - 387,8: φθορὰ δὲ, ἐπεὶ τὸ ἐνάνθρωπον (δεκαχώς γὰρ), τὸ κατὰ τὸ ἐνανθρώπῳ πράγα καὶ κατὰ τὴν ὑπαρξίαν φθορα εἶναι τὸ πάντα ὑποκείμενον τοῖς ἄλλοις, τοιοῦτον δὲ τὴν ὑστορ εἶναι καθαρὸ συναναφεῖ μὲν μὴ συναναιρεῖται δὲ, προὶ τῶν ἄλλων. Cf. below n. (in metaph. Δ 14: 1020a33 - 399, 14 H.) 35 in top. 53,8-9 Wal.; the same meaning at 295,2-4.7; cf. 502,5; 422, 11 Wal. 36 in top. 55, 12; 178, 1; 179, 5.7; 377, 1 Wal. 37 in top. 375, 17 Wal.
the third group is due to a different grammar: the case construction determines the meaning of incidental presence of a property (incidental predication of a term). Although Alexander uses the term ἰπαρξία in the absolute form, I think, that in relating it to all the categories other than substance, he draws on this meaning; for substance is the only category which does not lend itself to being construed with ἰπάρξειν in dative.

(2) ἰπαρξία in the non-logical contexts not in conjunction with ἰπόστασις.

(2a) signifying inherence of something in something: *manta.25: 172, 12;*

(2b) signifying being as existence: *in meta. Ι: 2: 1003b22 - 247, 19 H.*

(2d) signifying a stable mode of being, distinct from, and parallel to, ὀνήματα; rationalising this use;

(2e) continuous being;

(2f) mode of being of objects in combination (? - 432, 4: τὴν τῶν πραγμάτων ... τὰ τινά σύνθεσιν ἐστίν ἡ ἰπαρξία τοῦτων γινομένη).

(2g) being as opposed to φαντασία; thinking or belief about a certain object does not entail its existence; as opposed to ὀνήματα, epistemologically;

(3) ἰπόστασις not in conjunction with ἰπαρξία: signifying some kind of dependence in general sense (which may also include dependence of an entity upon itself). ἰπόστασις generally refers more to an individual being, in any of the categories (than to the "state of affairs"), and more readily, it seems, to the individual being of an abstract object than of a property:

39 *in meta. Ι: 2: 1007a20 - 285, 16 Wal. (ἡ τῶν συμβεβηκότων ἰπαρξίας).
40 Τὸ ὅπως διὰ τὴν τοῦ μὴ ὀνήματος ἰπάρξεις εξομολογούμενος τὴν συνήθειαν τῶν αὐτῶν τῶν ἐν ὑμῖν τὸ ἐδώ ἐχοῖν 247, 18-20 H.: κατὰ διάφορον δὲ ἐπίνεια τὸ τὰ ὑμᾶς καὶ τὸ ἐν καθηγορούμεν, διὰ μὲν τοῦ ἐν ὑμῖν ἐπὶ τῷ τῶν ἰπαρξιῶν εὐθαλάσσομεντος αὐτοῦ, διὰ δὲ τοῦ ἐν τῶν ἀπό τῶν ἀλλίων χωρισμόν καὶ ἀπὸ τὸ πλῆθος.
41 *in metaph. Ι: 1014b16 - 359, 37 H.: ἐκαστὸν γάρ καὶ τοιῶν οἰκείων τῶν ὀνήματι καὶ ἰπάρξεις ἔχει, καὶ αὐτῇ φύσις καλεῖται εἰδος ὧν αὐτῶν, διό καὶ λέγεται οἰκείαν ἐκείνην ὀνήματι.
45 *in metaph. Ι: 2: 1011a28 - 322, 21 H.: εἰ δὲ ἡ ὀνήματι τῶν ὄντων ἀπαίτησιν πρὸς τι καὶ ταῖς δόξαις τῶν δοξαζόμενων καὶ φαντασίαις καὶ αἰσθήσεως ἡ ἰπάρξεις αὐτῶν ἐπειδή, οὐκ ἐστὶ τοι τῶν ὧν μὴ προδιδόμεται διὰ τούτου; 323, 10: μὴ συναναφερέσθαι ἐν τῷ δοξάζοντι τὴν τῶν δοξαζόμενων ὀνήματι τε καὶ ἰπάρξειν; cf. 326, 8.
(3a) in the meaning of nature, foundation; dependent mode of being with the indication of the source of dependence;

(3b) signifying the mode of being: with connotation of dependence; being of the intelligible objects: incidental; in the intellect; mode of being of the intelligible objects, in the explanation of identity between the intellect and the forms which are intelligible per se; the mode of being of emmattered forms; mode of being which involves the material circumstances; the mode of being of matter involves form; qualified mode of being, as opposed to tode ti; the three dimensions of geometry do not have being on their own;

(3c) signifying reality: real existence (with the connotation of proper, individual existence); proper existence; often about the abstract (mathematical) objects; real being which is natural; real existence of mathematical

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48 man. 1, 101, 7: ἐστὶν πολλά τῶν ὄντων, ἡ τῶν μέν ὑπάρχει ζητεῖ γνωριμιάταν, ἀγνωστόταν δὲ τῶν ὑφάσθη, ὧσπερ ἦ τε κίνησις καὶ ἡ τόπος, ἐπὶ δὲ μάλλον ὁ χρόνος.
50 quae. III 3: 85, 11 Br.: ἡ μὲν ὑπόστασις καὶ τοῦς (scil. τοῖς καθέκαστα) καὶ τοῦ εἶναι ἡ αἰτία ἐν τοῖς καθέκαστα.
54 de an. 88.7 Br.: ἐπὶ οὗ τοῦ νοοῦ νοῦς ἐν τῷ νοεί ὅνοι γίνεται, καὶ ἐν ἕνι ἔνως νοῦς, οὕτως δέ ἐστι καθ’ αὐτὴν ἐν γάρ τῷ νοεῖσθαι, ὃ αὐτῶς ἐκεῖνος τίτι γίνεται ὡς ὧστε γάρ εϊστι κατὰ τὸν οἰκείαν ὑποστάσας καὶ χωρίς τοῦ νοειθαί (ἀπλὰ γὰρ τοιοῦτω), καὶ ἐν τῷ νοεῖσθαι αὐτὰ γίνεται.
55 de an. 90, 4 Br.: ὅταν μὴ νοεῖται τὰ τοιοῦτα εἰδῆ, οὐδὲ ἐστὶν αὐτῶν τι νοῦς, εἰ γὰρ τῷ νοεῖσθαι αὐτοῖς ἡ τοῦ νουτος ἑαυτῶν ἐπούστασα.
56 quae. I 3: 8.2 Br.: τὸ γὰρ ζυσον λογικῶν θυσίων, εἰ μὲν λαμβανόμεθα μετὰ τῶν υλικών περιστάσεως τε καὶ διαφορών, μεθ’ ᾗ ὑπόστασις αὐτῶς, εἰ αἰτίαν ἐγερθήσει, ποιεῖ τοὺς Σωκράτη καὶ τοὺς Καλλῆς καὶ τοὺς καθέκαστα ανθρώπους.
57 quae. I 26: 42, 16 Br.: σὺν εἰδῆ ἡ ὑπόστασις αὐτής. IV 30: 162, 19 Br.: ἢ ... ὑπόστασις αὐτῆς (scil. υφής) ἢ ἐμὲ μετὰ τὸ γὰρ τοῖς νοείσθαι, εἰς ᾗ μεταβαλλεῖ παρὰ μέρος.
58 quae. II 24: 75, 18 Br.: οὐκ ἐν μὲν αὐτής καθ’ αὐτῶς τόδε τι, ἢ μεντέλ ὑποτάσει εὐτ’ ἀλλοι τοῦς εἶδους οὖν.
59 quae. III 12: 106, 6 Br.: τὰ γὰρ ὑπὸ τῶν γεωμετριῶν λεγόμενα διαστήματα ἐν ἕνεκα τε καὶ δύο καὶ τρία οὐχ ὡς ὑποστατοι οἰκείαι ἐργάτα λέγονται κτλ.
62 in metaph. II 2: 998a7 - 201, 10 H. (Alexander explains Aristotle’s critique of the theory of numbers as intermediaries between forms and sensible things): ὡς ἐν τοῖς μαθηματικῶν νοορημής διάκρισις μετὰ τῶν τῷ λόγῳ καθ’ ἐκκατῶστα τῶν παθητικῶν αἰσθητικάς φώςις ἐν ἀμφοτέρῳ γὰρ ἡ αἰσθητικάς φώςις ἐν ὑποστάσαι οὐτὰ φώςις.
objects not without body, and of body not without mathematical objects; separate existence; real independent existence; real being as opposed to conceptual being; inseparable in reality; existence per se; matter does not have real existence per se without form; real existence per se of the elements in the pure state; “accomplished” being, as opposed to the being of the incomplete substances; matter as the cause of real existence of things, while genera are posterior;

(3d) possessing real existence of its own (en ύποστασεὶ); of the sensible things; as opposed to ἐπιστοια; as opposed to the being of mathematical objects; individual (independent) existence; real (physical) existence; “being en ύποστασεί”; an object’s real existence on its own, as opposed to the being of universals;
(3e) being as opposed to φαντασία: specifically of colours in in de sensu;\textsuperscript{81} of the constituents of action in the
Stoic\textsuperscript{2} theory of virtue;\textsuperscript{82}

(3f) the distinction between the account λόγῳ and ὑποστάσει;\textsuperscript{83}

(3g) rare sense: existence as opposed to non-existence;\textsuperscript{84}

(4) ὑπάρξεως in conjunction with ὑπόστασις, where both terms are used either synonymously, or to convey a
common meaning:

(4a) in the meaning of existence (complete);\textsuperscript{85} practically synonymously also in de an. 90, 2.\textsuperscript{86}
(4b) to contrast the two meanings: in de sensu 63, 18 Wendl.: διὸ οὖσα ὑπόστασιν των διδάσκων τῶν ἄλλων χρώματων. Καθ’ ὑπ’ αὐτοῦ τῶν τίθησιν δοξῶν, μιᾷ τε ἀληθῶς ἦστι χρώματων, καὶ ὑπάρξεως ἦστι δὲ ἡ κατὰ μίαν τῶν συμμάτων γνώμην. Here ὑπάρξεως refers to the reality of colours that corresponds to the bodily mixture, understood as an
immediate perceptible being; while ὑπόστασις refers to the reality not in the immediate sense (we cannot say that
the mix of colours is ὑπόστασις, but we can say that it has ὑπόστασις).

(4c) quaest. II 11: < ἥ ἔναρ> ἐστιν ἀπαίτων αὐτῶν χωρισμὸς τῷ λόγῳ, τῇ μέντοι ὑποστάσει τῇ καὶ ὑπάρξει ἀρχικοστος
ἐστιν αὐτῶν τῷ ἄφετε τις ἔχειν ἐνεργεία, καὶ μετὰ τὸ σωμάτων τῷ εἶναι ἐνεργεία τῇ καὶ ἐν ὑπόστασις] εἶναι καὶ ἐν ὑπάρξει.

Here they are practically synonyms.

(4d) Weak contrast: in top. IV 5: 127a3 - 355, 12 Wal.: θέην ἄν τὸ τοιοῦτον, ἐπεὶ τὰ γένη οὕτε καθ’ αὐτὰ ἐστιν
ὑπάρξεως που ὁὐτῇ ἄστι καὶ χωρίς ὑπόστασις οὐκείματα, ὡς ἀποκέκακας ἀλλ’ ἐστιν ὅ ὑπόστασις αὐτῶν ἐν τοῦτος ὡς

\textsuperscript{81} in de sensu 3:439b18 - 55,7 Wendl.: εἰν φαντασία τῷ πλήθος τῶν χρωμάτων ἐχόμενον, οὐκ ἐν ὑποστάσει. 14: <δοκεῖ> μὴ ὅτι τῶν ἄλλων χρωμάτων φαντασίαν γίνεις, μόνων ὅτι ἐν ὑποστάσει τῷ τοιουτῷ καὶ τοῦ μέλανος. ad 440a31 - 65,9 Wendl.: μὴ τά χρώματα μένοντα πλήθος τῶν χρωμάτων, ἀλλὰ τήν ὑποστάσει. 11: τά γάρ φαντασία πολλά καὶ διαφέροντα, οὐ τήν ὑποστάσει, πορρωθεῖσα μόνον ὡς ἂν ταῦτα ἄλλα φαίνεται, ἐγραθεῖν δὲ τά αὐτά.

\textsuperscript{82} munit. 20: 161, 14 Br.: e ἐμὲ μήτε πρὸς τὴν ὑποστάσιν τῶν περὶ ἑν ἐνεργεία, μήτε πρὸς φαντασίαν καὶ ἀλλήθιαν ἡ ἀρετῆν αὐτάρκης κτλ.

\textsuperscript{83} de an. 18,6 Br.: δέ ταύτῃ καίτοι μὴ δυναμένες ὑποσταῦναι χωρίς ποιότητος ἀποιούν λέγονται, οὐκ ἐν τῇ οἰκείᾳ φύσει αὐτοῦ ὡς ἐστιν ἡ ποιότης, καὶ τὸ εἶδος ἄν καὶ τὴν ποιότητα κατὰ τοῦ αὐτῶν λόγῳ χωρίς ὑλής εἶναι, εἰ καὶ μεθ’ ὑλῆς ἡ ὑποστάσεις αὐτοῦ, τῷ ἐν τῇ οἰκείᾳ φύσει αὐτῶν ἡ ὑλή μὴ περιεχεῖται.

\textsuperscript{84} munit. 3: 117, 24 Br.: τά γάρ χωρίζεθαι δικαίως, τῷ μὲν ὑποστάσει, ὅταν ἐκάτερον χωρίσθεν μένη, τῷ δὲ βαθέρου φθορῆ, ως τὸ λευκόν χωρίζεται τοῦ σώματος μέλανος γενομένου.

\textsuperscript{85} in an.pr. proem. 4, 10 Wal.: τό τε <γάρ> διαφέρει ἀπ’ ἀλλήλων τῷ λόγῳ δύσκολον τα διαφέροντα μὲν ἀλλήλων κατ’ ὂντιαν τῇ μέντοι ὑποστάσει τῇ καὶ ὑπάρξει μὴ δυνάμενα χωρίς ἀλλήλων εἶναι ἀναγκαῖοτάτον τῷ φιλόσοφον θεωρίαν.
Both ὑπαρξις and ὑπόστασις can mean qualified existence, but ὑπόστασις has an additional connotation as referring to the source of this ‘subsistence’ more specifically.

Generally we may notice that there is little sense of contrast between the two terms, both are used in a broad range of contexts, with the differences which are mostly explained by the differences of ‘internal grammar’ of each. This makes it easier to treat them as synonyms in the technical meaning, as Alexander does in quaest. I 8.

The prominent features of meaning of the terms ὑπόστασις and ὑπαρξις are:
- reality as opposed to modal being (this suggests a distinction from ὄσια which conceivably can enjoy any ‘modal’ kind of being);
- reality as opposed to belief or imagination (3e,3f);
- ὑπαρξις due to its meaning of inherence in the Dative construction can be used for signifying accidental being;
- ὑπόστασις contributes the connotation of dependence (3a, 3b).

Of particular importance is the meaning (of each of the terms) signifying the stable pattern of being, distinct from, but cited in parallel to, essential being (2d), mode of being specific to each of the ten higherst genera (1b) and the meaning of particular being, either real or somehow dependent (3d).

The meanings of contrast to imagination, belief and also thought, may be a feature of Hellenistic school legacy. A typical case of such usage is presented by Sextus Empiricus, who may be drawing on the tradition of the New Academy.

In Aristotelian system that Alexander reconstructs this variety of ‘pragmatic’ meanings can supply a strong enough technical meaning of the term for ‘being’. This is the kind of being which can coincide with substantial being in all its aspects except the aspect of essence. We may notice that Alexander at one point, in mant.1, 101, 6-10, exploits the mentioned contrast between ὑπαρξις and concept to render the Aristotelian distinction between essential and non-essential.

The type of being signified by ὑπαρξις is grounded in the substantial being, and so in essence, yet in such a way that the particular instances of ὑπαρξις are accidental with respect to a given substance. We may assume that we are dealing here with the class of possible accidents, which is grounded in essence in such a way as to allow for variation of instances. This technical term will then refer to the qualifications of a thing in all the categories except substance, while assuming the ontological primacy of substance. With respect to the Aristotelian system, this is a

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60 ἐν τῷ νοεῖται αὐτοῖς ἡ τοῖς νοητοῖς εἶναι ὑπόστασις. Ὁ γὰρ καθόλου καὶ κατὰ τὴν μὲν ὑπαρξίν ἐν τοῖς καθέκαστα τε καὶ ἐνίδιοις ἔχει.
scholastic corollary that has been drawn in the course of adjustment of the hylomorphic principle and the doctrine of individual substance, mostly for the sake of a distinction between form-substance and other types of formal qualifications.
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