The Metaphysics of Agency: Avicenna and his Legacy

by

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Abstract

This dissertation begins with the Islamic philosopher Avicenna, who transforms Aristotle’s conception of the efficient cause in the *Metaphysics* of his Shifā’. Its first goal is to examine the arguments which constitute Avicenna’s metaphysical account of agency. Its second goal is to examine Scholastic disputes about the causal powers of natural agents that arise in connection with his view. In its final chapter, it relates Medieval debates about efficient causality to Descartes’ account of the causal powers of bodies.

One of the original features of Avicenna’s account of agency is his argument for the claim that the existence of contingent things requires an efficient cause. This aspect of his view was influential in the Latin West. Avicenna also holds that the cause of the existence of contingent things is an incorporeal principle, which he describes as an agent who “bestows forms”. I argue that Avicenna fails to resolve the tension between this claim and his commitment to an Aristotelian account of generation. This failure sets the stage for Avicenna’s role in Scholastic disputes about the causal powers of natural agents in cases of generation.

Both Aquinas and Suarez attribute to Avicenna the view that generation requires the creation of form. They argue that generation occurs through natural processes. Suarez’s
view includes the claim that the substantial form of a substance is an immediate efficient cause of its actions. Suarez defends this claim against other Aristotelians, who hold that a substantial form gives being to a composite substance as a formal cause and that the actions of substances depend directly on their accidents alone.

Descartes claims in his letter to Regius of January 1642 that it is absurd to hold that substantial forms are immediate principles of action. He thinks that bodies act in virtue of their modes. Here Descartes sides with those Aristotelians who hold that the actions of substances depend directly on their accidents alone. I argue that this aspect of Descartes’ view tells against Daniel Garber’s claim that his denial of substantial forms deprives bodies of causal efficacy.
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Introduction

Readers of Aristotle are familiar with his account of the four causes in *Physics* 2.3 and *Metaphysics* 5.2. In both of these texts, Aristotle identifies four principles through which we can grasp “both coming to be and passing away and every kind of natural change”. One is “that out of which a thing comes to be”, e.g., the marble of the statue; we call this the material cause. Another is the form or archetype of the thing made, which Aristotle identifies with the definition of its essence; in the case of a statue of the Virgin Mary, the formal cause is its Marian shape. The third is a cause “in the sense of end or that for the sake of which a thing is done”, e.g., the statue was made in order that we might revere her Holiness; we call this the final cause. Fourth is the “the primary source of the change or rest”, e.g., the sculptor who makes the statue; we call this the efficient cause. Medieval philosophers retain Aristotle’s four causes, but they modify his account of them and their relations with one another in various ways. This dissertation examines efficient causality in the work of three Medieval philosophers, namely, Avicenna, Aquinas and Suarez. In its final chapter, it relates Medieval debates about efficient causality to Descartes’ account of the causal powers of bodies.

Medieval philosophers typically object to Aristotle’s definition of the efficient cause on the ground that it encompasses only agents of change. This objection seems odd, since Aristotle identifies and distinguishes his four causes in order that we may use them to understand “both coming to be and passing away and every kind of natural change”.

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2 Aristotle. *Physics* 2.3 194b 24-5.
5 Aristotle. *Physics* 2.3 194b 30-32.
change". Medieval philosophers reason that since scientific inquiry concerns existence as well as change, it seeks causes of existence, as well as causes of change. Notice that the claim that scientific inquiry concerns existence and seeks its causes does not entail that existence stands in need of an efficient cause. An Aristotelian could hold that to identify Socrates’ formal and material causes suffices to explain his existence. Roughly speaking, this is Aristotle’s view, but not the view of Medieval Aristotelians.

The Medieval view that Socrates stands in need of an efficient cause of his existence is born from their view that Socrates is a contingent thing. A contingent thing is something actual whose existence is merely hypothetically necessary. The existence of Socrates is hypothetically necessary if Socrates must exist given the existence of some efficient cause or set of efficient causes. In other words, the hypothetically necessary is not necessary in itself, but rather is necessary through its efficient cause or causes. Thus understood, the claim that the existence of Socrates is merely hypothetically necessary seems uncontroversial. It is compatible with our ordinary belief that if things had been otherwise, e.g., if Socrates’ parents had not encountered each other, then Socrates would not exist. The difference between our ordinary view of individuals as contingent beings and the view upheld by many Medieval philosophers has to do with the distinction between coming to be and existence. According to Medieval philosophers, our ordinary belief that if things had been otherwise, then Socrates would not exist, is a belief about the hypothetical necessity of Socrates’ coming to be, not his existence. And the fact that Socrates’ parents encountered one another explains only his coming to be, not his existence. On this view, the claim that the existence of Socrates is merely hypothetically necessary is controversial. It is obvious that Socrates stands in need of an efficient cause

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or set of efficient causes in order to come to be. It isn’t obvious that his existence, considered apart from his coming to be, stands in need of an efficient cause. One of the goals of this dissertation is to show why some Medieval philosophers hold this controversial view.

One important argument for this view draws a distinction between causes of coming to be and causes of being. This distinction is perhaps best known to us from Aquinas’ argument for the claim that God preserves all things in being in the *Summa Theologiae*. Several scholars of Aquinas note that he borrows the distinction from Avicenna. We will see that Suarez and Descartes also borrow this distinction to defend the view that God is the cause of the existence of creatures. Avicenna develops the distinction between causes of coming to be and causes of being in the course of his account of efficient causality in the *Metaphysics* of his *Shifā‘*. This dissertation begins with Avicenna’s work on efficient causality.

The impact of Avicenna’s work on efficient causality on the Latin West has been noted by several scholars. He is credited with supplying an account of creative efficient causality within a basically Aristotelian philosophical framework, which influenced later attempts to define agency, to distinguish divine and creative agents and to prove the existence of a creative First Cause. This is perhaps one reason why Avicenna’s

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9 Étienne Gilson pioneered work on the influence of Avicenna’s account of efficient causality in the Latin West. See especially Gilson (1958) and (1962). Several scholars of Aquinas note Avicenna’s influence with respect to Aquinas’ account of different causal roles of natural agents and God. See note 8 above. Druart (2002) relates Avicenna’s account of efficient causality to Duns Scotus’ proofs for God’s existence. Avicenna’s proof for God’s existence is the subject of many articles. See Davidson (1979), Marmura (1980b) and Menn (2003). These articles focus for the most part on the proof’s reliance on Avicenna’s application of the modal concepts of necessity and possibility to existence in *Metaphysics* 1.6. I discuss Avicenna’s application of the modal concepts of necessity and possibility to existence in chapter 2. My focus there is not on
treatment of efficient causality has received more attention from historians of
philosophy than his treatment of material, formal and final causality. But surely part of
the reason for scholarly focus on efficient causality in Avicenna is the intrinsic interest of
his treatment of this issue.

This dissertation examines aspects of Avicenna’s account of efficient causality
which have received little attention. In chapter one, I situate this account in the context
of Avicenna’s *Metaphysics*. Avicenna holds that the subject matter of the science of
Metaphysics is the existent as such. And he considers the efficient cause to be among
the things which “follow upon” or “attach to” the existent as such. I argue that to
investigate the efficient cause as a something which “follows upon” or “attaches to” the
existent as such is to investigate the efficient cause as it is in itself, regardless of its
relationship to matter and motion. The purpose of this investigation is to provide an
account of agency which is free from the concerns proper to any of the special sciences,
e.g., physics.

Avicenna pursues his metaphysical investigation of the efficient cause by
identifying and correcting flaws in the “common” conception of agency. I argue that the
“common” conception of agency to which Avicenna refers reflects the basic features of
the efficient cause in Aristotelian natural philosophy. So it is not surprising that
Avicenna’s account of the true nature of agency departs from the conception of agency
familiar to us from Aristotelian natural philosophy. This account includes two claims
which are controversial from an Aristotelian standpoint. The first is that a contingent

__Avicenna’s proof for God’s existence but rather on his argument in *Metaphysics* 6.1 against the
common belief that things need efficient causes only to come to be.__

__10 This imbalance is beginning to be addressed by a new generation of Avicenna scholars.
material and formal causality.__
thing needs not only an efficient cause of its coming to be, but also an efficient cause of its existence. I argue that Avicenna defends this claim against several Aristotelian objections. The second controversial claim is that agents in the best or primary sense are sufficient for their effects; they don’t depend on anything else in order to exercise their causal powers. I focus in particular on Avicenna’s argument for the claim that there must be at least one agent whose activity does not depend on anything else. I argue that Avicenna holds this claim as true on the ground that such an agent is needed to explain the existence of contingent things.

Avicenna’s account of the true nature of agency also includes the claim that agents coexist with their effects. He illustrates this claim in three test cases; the first concerns the existence of a building, the second the existence of a human being and the third the existence of an elemental body. In each test case, Avicenna aims to prove that the temporally prior cause of the coming to be of the item in question is not the cause of its existence. His argument relies on the idea that causes are active; since a building, for example, exists after the activity of its builder ceases, it seems clear that a builder is not a true cause of the existence of a building. This idea derives further support from Avicenna’s argument in *Metaphysics* 4.1 for the claim that cause and effect must coexist.

In his treatment of the existence of human beings and elemental bodies, Avicenna argues that the true cause of the existence of the item in question is first, the combination of its formal and material constituents and second, the efficient cause of the existence of those constituents, which Avicenna refers to as a separate principle who “bestows” form. Following the common practice of Avicenna scholars, I identify this
principle as the Agent Intellect. The Agent Intellect is the efficient cause of the existence of form and matter in the sublunar world, as well as of the immaterial rational souls of individual human beings.

Avicenna’s claim that a separate substance who “bestows form” is the true efficient cause of the existence of substances in the sublunar world poses an interpretive difficulty. This claim implies that in cases of substantial generation, new forms are “bestowed” on matter by this separate principle. Thus, it seems that Avicenna’s account of substantial generation differs from Aristotle’s; Aristotle holds that the form of the composite is educed from matter by a natural agent, e.g., in cases of animals and plant generation, form is educed from matter by semen or seeds. I argue that Avicenna himself endorses Aristotle’s account of substantial generation when he discusses potentiality and actuality in *Metaphysics* 4.2 and when he distinguishes causes of individuals and causes of species in *Metaphysics* 6.3. I also argue that Avicenna fails to reconcile his account of the form-giving Agent Intellect as the cause of the existence of individuals with his commitment to an Aristotelian account of substantial generation.

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11 Jules Janssens rightly points out that Avicenna doesn’t call the “giver of forms” (wāḥib al-suwar) mentioned in *Metaphysics* 9.5 the Agent Intellect (Janssens (2006), p. 558). Likewise, he does not call the principle who “bestows forms” mentioned in *Metaphysics* 6.2 the Agent Intellect. But Janssens concedes that the roles played by the “giver of forms” (wāhib al-suwar) indicate that this principle is the Agent Intellect (Ibid.). So I assume he would concede that the principle who “bestows forms” mentioned in *Metaphysics* 6.2 the Agent Intellect.

12 In *Metaphysics*, Book 9, Avicenna relays his emanationist account of creation; on this view, the first cause (God) produces only one thing, namely, the first intellect. Avicenna holds this view on the ground that plurality cannot arise immediately from unity. The first created intellect then creates three things: (1) the body of the outermost sphere, (2) the soul which moves the outermost sphere and (3) a second intellect. The second intellect likewise creates three things and so on. The ability of created intellects to produce more than one thing arises from the diversity of their objects of thought. By contrast, God has only one object of thought, namely, himself. Avicenna’s emanationist account of creation reflects the influence of Neoplatonic thought (Marmura (1984b), p. 172).
This sets the stage for Aquinas’ criticisms of Avicenna’s account of substantial generation.

In chapter three I examine Aquinas’ account of efficient causality and the causal powers of natural agents in cases of substantial generation. Aquinas’ argument for the claim that God is the cause of the existence of contingent individuals owes much to Avicenna’s metaphysical account of agency. But he takes pains to distance himself from Avicenna with respect to the issue of substantial generation, since he holds that Avicenna is a proponent of the view that forms are created in cases of substantial generation.

Aquinas makes one especially persuasive argument against the view that forms are “bestowed” by a creative agent in cases of substantial generation. This argument depends on the claim that the form of a composite substance doesn’t exist per se, i.e., it doesn’t exist in its own right. Rather, form and matter together comprise a substance which exists per se. If the form of the composite doesn’t exist per se, then it is not the sort of thing which can be made per se. This shows that the form can’t be “bestowed” by a creative agent, but must be educed from the potency of matter. Aquinas suggests that Avicenna’s view that forms are “bestowed” by a creative agent rests on a mistaken understanding of form. I argue that Avicenna, like Aquinas, denies that the form of the composite substance exists per se. So he is not guilty of the metaphysical error which Aquinas attributes to him. I also argue that Aquinas’ interpretation of Avicenna is mistaken insofar as it does not take into account Avicenna’s commitment to an Aristotelian account of substantial change. But Aquinas’ criticisms of Avicenna are justified insofar as Avicenna fails to reconcile his claim that the separate substance who “bestows form” is the cause of the existence of individuals with his commitment to an
Aristotelian account of the *per se* unity of a composite substance and an Aristotelian account of generation.

Aquinas’ argument against Avicenna is important because it reveals the philosophical error at the heart of the view that forms are created in cases of substantial generation. Aquinas is concerned to point out this error, since some of his contemporaries hold that God gives form in cases of substantial generation. Aquinas’ treatment of this issue also reveals a new, non-Avicennian source of support for this claim. This new source of support relies on the principle that the lower can’t effect the higher. Proponents of the claim that forms are created in cases of substantial generation use this principle to support their view in the following way. They argue that since natural agents act through their accidents, and since substantial forms are more perfect than accidental ones, it follows that natural agents don’t have what it takes to produce new substantial forms. This argument is the focal point of late Medieval debates about the causal powers of natural agents which have received little attention from historians of philosophy.

We might think that late Medieval debates about the causal powers of natural agents focus on occasionalism, i.e., the view that God is the only true cause. This view was developed by the Ash‘arite school of Islamic theology. It is best known to us from Al-Ghazali’s *Incoherence of the Philosophers* and from Averroes’ *Incoherence of the Incoherence*.\(^{13}\) Al-Ghazali argues in favour of occasionalism; Averroes defends the view that natural agents have genuine causal powers. It is clear that many Medieval Aristotelians were

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quite vehemently opposed to occasionalism.\textsuperscript{14} They argue that this view is opposed to the evidence of experience and to our knowledge of God’s wisdom, goodness and immutability. I briefly discuss Aquinas’ arguments against occasionalism in chapter 3. In my view, the threat posed by occasionalism is not as pressing for Medieval Aristotelians as the threat posed by the view that new forms are created in cases of substantial generation. The latter view is a response to a question which all Aristotelians must answer, namely, how is it that forms get passed on from one generation to the next? In cases of animal and plant generation, the agent of generation is supposed to be semen or seeds. It is not especially surprising that some Medieval philosophers thought that the claim that animals’ souls came about from semen violates the principle that effects can’t be more perfect than their causes. Of course, we are justified in thinking it unfortunate that some Medieval philosophers appeal to God to explain this phenomenon, since to appeal to God is, in some sense, to give up the struggle to explain. Perhaps this line of reasoning motivates Aquinas’ arguments against the view that new forms are created in cases of substantial generation. But it is important to notice that once God’s creative causal relationship to the world is established, it is not obviously unreasonable to appeal to his efficacy to explain what seems unexplainable by appeal to natural agents alone.

Regardless of the merits of the view that new forms are created in cases of substantial generation, the debate which it engenders is an interesting one. Philosophers who hold as true the principle that the lower can’t effect the higher and also hold that

\textsuperscript{14} See Perler, Dominik and Ulrich Rudolph (2000). Alfred Freddoso notes that “medieval Aristotelians exhibit little patience with those who espouse occasionalism or theories closely resembling it” and that Aquinas at one point calls such views “stupid” (Freddoso (1988), p. 99). But Freddoso also notes that the strength of their bravado is not matched by the strength of their arguments: “the Aristotelians were only partly successful in constructing a reasoned case against occasionalism. Many of their philosophical and theological objections, whatever their “objective” merits, seem in retrospect to be at least dialectically ineffective” (Ibid.). This suggests to me that many medieval Aristotelians simply don’t take occasionalism seriously.
natural agents produce new individuals must explain how they do so. I consider Suarez’s response to this challenge. Suarez solves the problem by arguing that in cases of generation, natural agents act through their accidents and their substantial forms. Thus the claim that they generate new corporeal substances does not violate the principle that the lower can’t effect the higher. Suarez’s solution depends on his view that substantial forms are immediate efficient causes. His attribution of efficient causal roles to substantial forms is controversial. He defends this view against other Aristotelians who hold that the substantial form gives being to a composite substance as a *formal* cause and that the actions of substances depend directly on their accidents alone.

We might think that Scholastic debates about the efficient causal roles of substantial forms are not relevant to Descartes’ views on causality, since he rejects Aristotelian substantial forms. In chapter five, I show that these debates inform Descartes’ account of the causal powers of bodies. Descartes claims in his letter to Regius of January 1642 that it is absurd to hold that substantial forms are immediate principles of action. He thinks that bodies act in virtue of their modes. Here Descartes sides with those Aristotelians who hold that the actions of substances depend directly on their accidents alone. I argue that this aspect of Descartes’ view tells against Daniel Garber’s claim that his denial of substantial forms deprives bodies of causal efficacy. Contrary to many recent commentators, I also argue that Descartes’ attribution of causal powers to bodies is compatible with his claim that the nature of body is extension. I argue that Descartes’ account of the causal powers of bodies is based on an intuitively appealing principle which he holds in common with some of his Scholastic predecessors, namely, that a body has causal powers if its properties contribute to determining what results from its contact with another body.
Chapter one

Avicenna’s metaphysical account of agency

Introduction

Avicenna’s discussion of agency in Book 6 of his *Metaphysics* is part of a revisionist account of Aristotle’s four causes. One difference between Avicenna’s and Aristotle’s accounts of the *efficient* cause is apparent from the outset of this book. Aristotle defines the efficient cause as “the primary source of the change or rest”.\(^1\) Avicenna defines an efficient cause as “that which bestows an existence that is other than itself”.\(^2\) Avicenna’s definition reflects his recognition of two types of agent, namely, (1) agents who produce existence *tout court*, such as God, and (2) agents who produce change. He considers both types of agent to bestow existence, but he distinguishes the first type from the second on the ground that agents of the second type “do not bestow any existence other than motion in one of the forms of motion”.\(^3\) So while Aristotle’s definition of the efficient cause captures only the second type of agent, Avicenna’s definition encompasses both types of agent. According to Avicenna, this broader definition of agency arises from a *metaphysical* investigation of agency.

Avicenna’s metaphysical investigation of agency in Book 6 of his *Metaphysics* has received little attention from historians of philosophy.\(^4\) Those who have discussed it focus on its relationship to Avicenna’s account of divine, creative agency.\(^5\) It is clear that one of

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\(^1\) Aristotle. *Physics* 2.3 194b 30-32; *Metaphysics* 5.2.


\(^4\) Summaries of the key points of this investigation are found in Marmura (1984b), Acar (2005), ch. 4 and Druart (2005), pp. 338-340.

\(^5\) See Marmura (1984b), Gilson (1958) and Acar (2005), ch. 4.
Avicenna’s goals in *Metaphysics* Book 6 is to provide an account of efficient causality which encompasses divine, creative efficient causality. But his expressed aim in this Book is to investigate Aristotle’s four causes as things that attach to or follow upon (taḥāqu/consequentia) the existent as such. In Section 1 of this chapter, I argue that that this means that Avicenna aims to provide an account of the four causes which is free from the concerns proper to any of the special sciences, e.g., physics. Understanding the aim of Avicenna’s metaphysical investigation of agency helps us to distinguish his concern with divine efficient causality from his more general concern with efficient causality as such. One goal of this chapter is to examine some of the key arguments which constitute Avicenna’s metaphysical account of agency as such.

A second goal of this chapter is to relate Avicenna’s metaphysical account of agency to the Aristotelian philosophical framework he both embraces and revises. Avicenna pursues his metaphysical investigation of the efficient cause by identifying and correcting flaws in the “common” conception of agency. In Section 2, I argue that the “common” conception of agency to which Avicenna refers reflects the basic features of the efficient cause in Aristotelian natural philosophy. So it is not surprising that Avicenna’s account of the true nature of agency departs from the conception of agency familiar to us from Aristotelian natural philosophy.

Avicenna’s account of the true nature of agency includes two claims which are especially controversial from the standpoint of an Aristotelian philosopher who holds that the efficient cause is a source of change or rest. The first is that a contingent thing needs an efficient cause of its existence itself, not just a cause of its coming to be. In Section 3, I argue that Avicenna defends this claim on Aristotelian grounds. The second controversial claim is that agents are sufficient for their effects; they don’t depend on anything else in
order to exercise their causal powers. In Section 4, I examine Avicenna’s defense of this claim. I focus in particular on Avicenna’s argument for the claim that there must be at least one agent whose activity does not depend on anything else. I argue that Avicenna holds this claim as true on the ground that such an agent is needed to explain the existence of contingent things.

Avicenna’s claim that agents are sufficient for their effects is quite strong. It seems to exclude from the class of agents anything whose causal activity depends on something extrinsic to its own existence. For example, if agents are sufficient for their effects, then it seems that Polyclitus the builder is not an agent, since his causal activity depends on various other things, e.g., the existence of his building materials. In Section 5, I argue that Avicenna does not exclude from the class of agents things whose causal activity depends on factors extrinsic to their existence. Rather, he develops a hierarchy of agents according to which an agent in the best or primary sense is a simply active or actual agent whose existence is sufficient for the production of its effects. An agent in a lesser or derivative sense is intermittently active or actual and so its existence is not sufficient for the production of its effects.

1.1 Causality as an object of study in metaphysics

The sixth book of Avicenna’s *Metaphysics* is entitled “On the division of causes and their states”. Avicenna introduces this book by relating the investigation of causes to the more general investigation of the existent as such, which is the subject matter of the science of metaphysics. He says,

We have discoursed on the matter of substances and accidents, on considering the priority and posteriority pertaining to them, and on knowing the correspondence between definitions and the universal and particular things defined. It behooves us now to discuss
cause and effect, because these two are also among the things that attach to the existent inasmuch as it is an existent.\textsuperscript{5}

Here Avicenna claims that cause and effect, like substance and accident, are studied in metaphysics as things that attach to or follow upon (talbaq/consequentia) the existent as such. Avicenna clarifies his metaphysical approach to the investigation of causality in Book 1 of his \textit{Metaphysics}, when he determines that the subject matter of the science of metaphysics is the existent as such.

In his autobiography, Avicenna reports that he could not grasp Aristotle's objective in the \textit{Metaphysics}, despite having read the book forty times, until he chanced upon a copy of Farabi's \textit{On the Purposes of Metaphysics} at a bookshop.\textsuperscript{7} In \textit{On the Purposes of Metaphysics}, Farabi identifies being as the subject of the science of metaphysics. He claims that while some sciences are particular, one science – namely, metaphysics – is universal. Particular sciences are those whose subject is some kind of being, e.g., physics studies bodies, whereas metaphysics, the universal science, studies what is common to all beings, namely, existence and oneness, and its species and properties, such as priority and posteriority, potentiality and actuality, perfection and imperfection and so on, as well as the common first principle of all beings, namely, God.\textsuperscript{8}

Farabi’s account of the science of metaphysics echoes Aristotle’s claim in \textit{Metaphysics} Book 4, chapter 1 that

\textit{[t]here is a science which investigates being as being and the attributes which belong to this in virtue of its own nature. Now this is not the same as any of the so-called special sciences; for none of these others deals generally with being as being. They cut off a part of being and investigate the attributes of this part.}\textsuperscript{9}

\textsuperscript{5} \textit{Metaphysics}, 6.1, Marmura, (trans.), p. 194; \textit{Al-Ilāhiyyāt}, p. 257; \textit{Latinus}, p. 291.
\textsuperscript{9} Aristotle. \textit{Metaphysics} 4.1 1003a 22-25.
Aristotle also says, in *Metaphysics* Book 4, chapter 2, that substance is the primary referent of “being”, since everything that is, but isn’t a substance, relates to substance in some way. In this passage, Aristotle suggests that metaphysics is the science of being as such and takes substance as its starting point.

Roughly speaking, Avicenna’s own view of the subject matter of metaphysics accords with Farabi’s and with Aristotle’s discussion of metaphysics as the science which deals with being as being in *Metaphysics* Book 4. Avicenna argues that the subject matter of metaphysics is the existent as such and he agrees with Aristotle that the primary referent of the existent as such is substance. But Avicenna is also influenced by a second description of the science of metaphysics, namely, that it is the science of separable things.

In *Metaphysics* Book 6, chapter 1, Aristotle says that if there is something eternal and immovable and separable, then knowledge of it belongs to a theoretical science, but not to natural science or mathematics, since these have their own subjects:

For natural science deals with things which are inseparable from matter but not immovable, and some parts of mathematics deal with things which are immovable, but probably not separable, but embodied in matter; while the first science deals with things which are both separable and immovable.

This second description of the science of metaphysics appears in the context of a discussion of the division of the sciences. Avicenna’s own account of the division of the sciences.

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11 Avicenna identifies substance as the primary referent of being in *Metaphysics* 1.5. There he says that “although the existent, as you have known, is not a genus and is not predicated equally of what is beneath it, yet it has a meaning agreed on with respect to priority and posteriority. The first thing to which it belongs is the quiddity which is substance, and then to what comes after it. Since it [has] one meaning, in the manner to which we have alluded, accidental matters adhere to it that are proper to it, as we have shown earlier. For this reason, it is taken care of by one science in the same way that anything pertaining to health has one science” (*Metaphysics*, 1.5, Marmura, (trans.), p. 27; *Al-Habīyat*, pp. 34-5; *Latinus*, p. 40). Aristotle argues as follows that being is not a genus in his *Metaphysics*: Suppose being were a genus. Then its differentiae would themselves be species of being. So the genus would be predicated of the differentiae. But this is impossible. See Aristotle, *Metaphysics* 3.3 998b21-27.
sciences owes much to this passage from Book 6 of Aristotle's metaphysics. This account appears in the *Isagoge* (*Al-Madkhal*) of the logical part of the *Shifā‘*, where Avicenna divides the sciences according to differences in the things which exist. In this Section, I will argue that Avicenna’s account of the division of the sciences in the *Isagoge* informs his solution to the problem of the subject matter of metaphysics and illuminates his view of the nature of metaphysical investigations, including the metaphysical investigation of causality.

In the *Isagoge*, Avicenna first distinguishes the theoretical from the practical sciences on the ground that the former deal with things whose existence isn’t due to our choice and action, whereas the latter deal with things whose existence is due to our choice and action. He then distinguishes the theoretical sciences from one another by considering the differing relationships to matter and motion of things not due to our choice and action. Avicenna distinguishes (1) things which have no existence unless mixed with motion, e.g., humanity and squareness, (2) things which can have existence apart from motion, e.g., unity, plurality and causality and (3) things which are necessarily unmixed with motion, e.g., God and minds. Things in the first group are studied in natural philosophy or mathematics and things in the third group are studied in metaphysics. Things in the second group are

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14 Avicenna first mentions only motion as the criterion for division, but later mentions both motion and matter. Marmura notes that in Avicenna’s treatise *On the Division of the Sciences* “being in motion and being in matter are always mentioned simultaneously” (Marmura (1980a), pp. 242-3). Avicenna seems to hold that whatever is mixed with motion exists in matter and that whatever exists in matter is mixed with motion.
15 The objects of natural philosophy and mathematics differ in that the objects of natural philosophy can’t be separated from some specific matter in subsistence or in estimation, i.e. in concrete reality or mental conceptualization, whereas the objects of mathematics can’t be separated from some specific matter in subsistence, but can be so separated in estimation. For example, the form of humanity, an object of study within natural philosophy, can’t be separated from flesh and bones either in concrete reality or in conceptualization, but squareness, an object of study within mathematics, can be separated from any specific sort of matter, such as bronze or clay, in conceptualization, but not in concrete reality.
studied in all three theoretical sciences. These things can be investigated in two ways. First, we can consider them as they exist in matter, in which case they will be studied either in natural philosophy or in mathematics. Second, we can consider them as they are in themselves, which Avicenna says is the same as considering them as separated from matter, “for they would then be among [the things examined through] the kind of examination that pertains to things not inasmuch as they are in matter”. Considered in this way, such things are studied in metaphysics.

This account of the division of the sciences includes several claims which inform Avicenna’s solution the problem of the subject matter of metaphysics and illuminate his view of the nature of metaphysical investigations. First, Avicenna adopts Aristotle’s claim in *Metaphysics* 6.1 that metaphysics is the science of the separable. Second, he takes this to mean that the metaphysician investigates both things which necessarily exist apart from matter and things which can exist apart from matter. Third, when the metaphysician studies things which can exist apart from matter, he adopts a neutral point of view: he studies these things as they are in themselves, rather than as they are manifest in various types of body. Finally, this neutral point of view is related to the metaphysician’s role as the scientist of the separable: when we study something, e.g., causality, as it is in itself, we study it in the same way that we study things separated from matter.

Avicenna’s solution to the problem of the subject matter of metaphysics has two parts. In Book 1, ch. 1, he rejects two candidates for this role, God and the ultimate causes. In Book 1, ch. 2, he argues that the subject matter of metaphysics must be the

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17 As Bertolacci notes, Avicenna attributes to unnamed others the positions that God or the ultimate causes is the subject matter of metaphysics (Bertolacci (2006), p. 120, n. 25.
existent as such. The second part of the solution begins with an account of the subjects of the other sciences, i.e., natural science, mathematics and logic. For example, he says that

[it]he subject matter of natural science [as we have seen] was body, [but] not by way of its being an existent, nor by way of its being substance, nor by way of its being composed of its two principles ([by which] I mean matter and form), but by way of its being subject to motion and rest. The sciences that fall under natural science are farther away from this; the same is the case with the moral sciences.\(^{18}\)

He provides a similar account of the subjects of mathematics and of logic. He then claims that “[b]esides these sciences, there are no other sciences”.\(^{19}\) Avicenna’s claim that there are a number of problems which are not addressed in natural science, mathematics or logic and his claim that his enumeration of the sciences is exhaustive imply that the problems Avicenna identifies as not addressed in the other sciences must be addressed in metaphysics. Of course, Avicenna has not yet provided sufficient support for this idea.

An opponent might wonder why the study of body insofar as it is an existent or a substance can’t be studied in natural science. Or she might wonder whether Avicenna’s claim that his enumeration of the sciences is exhaustive is true.\(^{20}\)

Avicenna argues that the problems he identifies as not addressed in the other sciences must be addressed in metaphysics on the ground that these “can neither be part of the knowledge of sensible things nor [be] part of the knowledge of what exists in sensible things”.\(^{21}\) Rather, they are “part of the knowledge of that whose existence is separable”.\(^{22}\) In other words, the reason that we must study body insofar as it is an existent or a substance in metaphysics rather than in natural science is that the study of these things

\(^{18}\) *Metaphysics*, 1.2, Marmura, (trans.), p. 7; *Al-Hādiyyāt*, p. 10; *Latinus*, p. 9. Note that Avicenna treats the moral sciences as a distant branch of the natural sciences here.

\(^{19}\) Ibid.

\(^{20}\) The ground for the claim that there are no other sciences is unclear. Avicenna might simply be reporting convention. Or he might think that his *Isagoge* account of the division of the sciences proves that this list of the sciences is exhaustive.

\(^{21}\) *Metaphysics*, 1.2, Marmura, (trans.), p. 8; *Al-Hādiyyāt*, p. 11; *Latinus*, p. 10.

\(^{22}\) Ibid.
doesn’t belong to the science of sensible things, but rather belongs to the science of separable things, namely, metaphysics.

Avicenna’s argument for the claim that it falls to the metaphysician to study things such as body insofar as it is existent or is a substance seems to depend on the following principle: if the acts of estimating (i.e. mentally conceptualizing) and defining strip X from sensible things, the study of X belongs to the science which deals with what is separable from matter, namely, metaphysics. Take substance, for example: when we conceptualize or define substance, we strip it from sensible things; so the study of substance belongs to the science of the separable. Avicenna’s use of this principle might seem to indicate that he holds that if X is conceptualized or defined apart from sensible things, then X is separable from matter. This claim is very controversial: I might hold that mind, for example, is conceptualized or defined apart from matter, but cannot exist apart from matter. I don’t think that there is evidence here that Avicenna holds as true the controversial claim that if X is conceptualized or defined apart from sensible things, then X is separable from matter. Rather, he holds that if some instances of X do exist apart from matter, then we must conceptualize or define X apart from sensible things. Avicenna makes this clear through the example of substance. He says that if we didn’t conceptualize and define substance apart from sensible things, it would be because there is “no substance that is not sensible”.23 Since this is clearly not the case, we must conceptualize and define substance apart from sensible things. This argument is problematic in the sense that it assumes the existence of immaterial substances. But it isn’t problematic in the sense that it assumes that if X is conceptualized and defined apart from matter, then X is separable from matter.

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23 Metaphysics, 1.2, Marmura, (trans.), p. 8; Al-Ibâdîyât, p. 11; Latinus, p. 10.
Rather, the ground of the claim that X is conceptualized and defined apart from matter is that some instances of X actually do exist apart from matter.

After establishing that things such as body insofar as it is an existent or a substance must be studied in metaphysics, Avicenna turns to a second set of things which he thinks must be also be studied in this science, which includes the one as such, the many as such, the coincident (muwāṣiq), the contradictory (mukbāli) and the contrary (al-didd). What these things share is that they are common to all sciences; they are not accidents proper to the subject of any one science. So none of the other sciences studies them as such, i.e., as they are in themselves. Rather the study of these things as they are in themselves belongs to metaphysics. The principle employed here seems to be the following: if X is not a proper accident of a subject of any other science, then X must be considered as such, i.e., as it is in itself, without regard to its inherence in any particular type of subject. Avicenna’s use of this principle indicates that he assumes that something (X) which is not proper to any type of thing is the same across the types of entities in which it exists. This is the reason X must be studied as such: if we study X only as it inheres in particular types of entities, then we can’t identify the essential features of X which appear regardless of its subject of inherence. According to Avicenna, what must be considered as such must be investigated by the metaphysician. He does not say why this is so. But in the Isagoge, Avicenna conflates the study of things as they are in themselves with the study of things as separate from matter. So his claim that the things which must be studied as such must be investigated by the metaphysician reflects his view that metaphysics is the science of the separable.

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We have seen that Avicenna employs the view that metaphysics is the science of the separable in arguments which establish that several things not studied in the other sciences must be studied in metaphysics. These include (1) things which are conceptualized or defined apart from sensible things, e.g., substance and (2) things which are not the proper accidents of the subjects of any of the other sciences, e.g., unity as such. Avicenna then completes his solution to the problem of the subject matter of metaphysics by arguing that only the notion of the existent as such unites the various things which must be studied in metaphysics.\(^{25}\) So the existent as such is the subject of metaphysics and the things that are sought in metaphysics are the things which attach to or follow upon (talbaqi/ consequentia) the existent as such.\(^{26}\) Here we see how Avicenna’s account of metaphysics as the science of the separable in the Isagoge informs his solution to the problem of the subject matter of metaphysics. The claim that metaphysics is the science of the separable is used to establish a list of things that must be studied in metaphysics. And the claim that this list of things must be studied in metaphysics supports his view that the subject matter of metaphysics is the existent as such. The subject of a science is the common notion which unites the various things studied in that science. Avicenna reasons that the only notion common to the list of things which must be studied in metaphysics is the existent as such.

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\(^{25}\) He says, since “[i]t is impossible to posit for them a common subject matter other than the existence of which they would all constitute the states and accidental circumstances”, it must be the case that the existent as such is the subject matter of metaphysics (Metaphysics, 1.2, Marmura, (trans.), p. 9; Al-Ihābiyyat, p. 12; Latinus, p. 12). As Bertolacci notes, Avicenna’s use of the claim that metaphysics is the science of the separable to establish that the existent as such is the subject matter of metaphysics reconciles Aristotle’s claim in Metaphysics 6.1 that metaphysics studies things that are separable and immovable with his claim in Metaphysics 4.1 that metaphysics studies being qua being. See Bertolacci (2006), ch. 4. The key to this reconciliation is the idea that the notion of “the existent” is “immaterial in as much as it is not restricted to the sphere of material things. Conceived as immaterial, “existent” can be common to all the objects of research of metaphysics (Bertolacci (2006), p. 114).

\(^{26}\) Metaphysics, 1.2, Marmura, (trans.), p. 10; Al-Ihābiyyat, p. 13; Latinus, p. 13.
Avicenna’s account of the various things studied in metaphysics indicates that he remains committed to the view expressed in the *Isagoge* that the metaphysician studies not only things which actually exist apart from matter, e.g., God and minds, but also things which can exist apart from matter, e.g., unity and causality. Remember that he also claims in the *Isagoge* that when the metaphysician studies things which can exist apart from matter, he adopts a neutral point of view: he studies these things as they are in themselves. This neutral point of view is related to the metaphysician’s role as the scientist of the separable: when we study something as it is in itself, we study it in the same way that we study things separated from matter. It is clear that Avicenna remains committed to this account of the metaphysician’s neutral point of view in *Metaphysics* Book 1. We have seen this account at work in his argument for the claim that it belongs to metaphysics to study things which aren’t the proper accidents of the subjects of the other sciences. This account is also at work in his argument for the claim that it belongs to metaphysics to study body insofar as it is a substance. The reason that body insofar as it is a substance is studied in metaphysics, rather than natural science, is that *substance* is conceptualized and defined apart from matter. This suggests that the metaphysical investigation of substance targets both immaterial substances and material ones. If the metaphysical investigation targets both immaterial and material substance, then this investigation must be the investigation of substance as it is in itself.

It is important to notice that Avicenna remains committed in his *Metaphysics* to his claim in the *Isagoge* that when the metaphysician studies things which can exist apart from matter, he adopts a neutral point of view. This claim illuminates Avicenna’s approach to metaphysical investigations, including the metaphysical investigation of causality. Causality is among those things which can exist apart from matter. This is why its study belongs to
The metaphysician investigates the nature of causality as he does the nature of substance: he investigates it as it is in itself. While the natural scientist studies causality as a property of corporeal substance or as a property of particular sorts of corporeal substances, e.g., fire, the metaphysician studies causality as it is in itself. In doing so, the metaphysician provides an account of the four causes which is free from the concerns proper to any of the special sciences, e.g., physics.

### 1.2 The “common” conception of agency

Avicenna begins his metaphysical account of agency in Book 6, chapter 1 of his *Metaphysics*. There he identifies and corrects three flaws in the “common” conception of agency. In this Section, I will argue that the “common” conception of agency reflects the basic features of agency in Aristotelian natural philosophy. This means that Avicenna takes as his target a conception of agency which arises from the concerns proper to natural science. Avicenna himself adopts this conception of agency for the purpose of doing natural science. But he rejects it insofar as it is considered to reflect the features of all agents.

Avicenna’s initial complaint against the “common” conception of agency concerns the prior non-existence of the effect of an efficient cause, which he claims is irrelevant to agency itself. He begins by noting that “[a]mong [agents], it would so happen that an agent

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27 This view of the investigation of causality in metaphysics is acknowledged by Michael Marmura, who notes that the metaphysician’s concern with the efficient cause is “with the principle as a concomitant attribute of an existent regarded simply as an existent” and adds that this claim is complemented by Avicenna’s division of the sciences in the *Isagoge* of the *Shifa‘* which, as I have discussed, assigns to metaphysics the study of causality in abstraction from matter and motion (Marmura (1984b), p. 177). Yet Marmura conflates this metaphysical study of efficient causality with the goal of establishing that there are efficient causal principles. While I agree that establishing the existence of efficient causal principles is one of Avicenna’s concerns, I don’t think that the metaphysician’s concern with efficient causality is limited to the goal of establishing the existence of genuine efficient causes. In addition to this concern, the metaphysician takes it to be his task to determine the defining features of the agent and so to correct any misperceptions about agency we may have if we restrict our consideration of causality to one of the particular sciences, e.g., physics.
at a certain time would not be enacting, and what is enacted by it is not enacted. Rather, what is enacted by it would be nonexistent”. So if an agent were inactive at one time and active at a later time, then the effect of that agent would be non-existent at one time and existent at a later time. Once the inactive agent becomes an agent in actuality, “the existence of a thing comes to be after not existing. To this [latter] thing there would [occur] existence, and to that [same] thing [also] belongs [the fact] that it did not exist”. So both having once not existed and now existing are things that belong to this effect. Avicenna then claims that only the latter – i.e. existence – is derived from an agent: what an agent brings about is X, rather than “X after it was not”. An agent is commonly considered the cause of “existence after non-existence”, but is properly considered the cause of existence alone. Avicenna supports his claim that agents properly considered cause existence alone on the ground that an effect’s non-existence isn’t due to its agent but to the absence of a cause. Avicenna’s point is that the explanandum of efficient causal analysis is what the efficient cause produces or brings about, namely, the existence of its effect. But why does he need to make it?

Avicenna’s argument against the claim that agents produce “existence after non-existence” is reminiscent of his argument in Metaphysics 1.5 against the claim that “the non-existent can be brought back into existence”. Marmura has shown that the target of the latter argument is the Mu'tazilite account of resurrection. On this view, the following can be true of one and the same thing (shay') or essence (dhat) (X): X exists at T₁, X does not

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30 He says “[i]ts being non-existent may be related to a cause and it is the non-existence of its cause” (Metaphysics 6.1, Marmura (trans.), p. 197; *Al-Ilāhiyyāt*, p. 260; *Latinus*, p. 296).
31 *Metaphysics* 1.5, Marmura (trans.), p. 28; *Al-Ilāhiyyāt*, p. 36; *Latinus*, p. 41.
exist at $T_2$ and $X$ exists at $T_3$, where $T_1$ is the time between birth and death, $T_2$ is the time between death and resurrection and $T_3$ is the time of resurrection. Avicenna argues against this view on the ground that $X$ at $T_1$ and $X$ at $T_3$ can’t be identical.\(^{33}\) The details of that argument aren’t important here, since they have to do with conditions for identity. But it could be the case that Avicenna’s argument that agents produce existence, not “existence after non-existence” is aimed at the Mu‘tazilite view that non-existence and existence are states which occur to a thing (shay‘) or essence (dhat). For if non-existence or existence are states which occur to $X$ and either one or the other must belong to $X$ at any time, then the agent who makes $X$ exist might be thought to confer “existence after non-existence”. In that case, Avicenna’s claim that agents produce existence, not “existence after non-existence” is part of a general effort to undermine the Mu‘tazilite view that non-existence and existence are states which occur to a thing or essence.

Avicenna’s argument against the claim that agents bring about “existence after non-existence” might also be directed against a more specific Mu‘tazilite view advocated by al-Nazzām. Al-Nazzām held that change occurs when a latent characteristic (kumūnā) which belongs to some thing comes into being. The role of the agent on this view would be simply to uncover what is hidden. Wisnovsky argues that Avicenna sees the Aristotelian view that “change consists of an agent’s fully actually property being passed on to a purely

\(^{33}\) He argues for this claim as follows: “if the nonexistent were to be brought back into existence, then this would require that all of its special properties – in terms of which it is what it is – should be brought back into existence. But among these properties is the time [in which it existed]. But, if this time is brought back, then the thing would not have been brought back into existence, because that which would have been brought into existence is that which exists at another time. If [then] it is allowed that the nonexistent could return to existence with all the nonexisting properties previously existing with it, time [being considered] either as having real existence that has ceased to be or (according to what is known of their doctrines) as one of the accidents having correspondence with an existent, then we would be allowing that time and temporal [states] could return into existence. But then there would not be [one period] of time and [then] another and, hence, no return [of the nonexistent to existence]” (Metaphysics 1.5, Marmura (trans.), p. 29; Al-Iḥāṣaṣṣāḥ, p. 36; Latinus, p. 42).
passive potentiality” as a superior alternative to the Latentist view of change: “Avicenna’s attack on the Latentists (asbāb al-kumān) focuses on what he considered their unjustified extension of this very primitive notion of alteration to cover all processes of change”.34 His complaint is that the Latentist al-Nazzām “attributed too much agency to the recipient of change, and thus limited the scope of change to simple alteration”.35 If al-Nazzām’s view is Avicenna’s target here, then his worry is that if we think that agents produce “existence after non-existence”, we might think that the agent’s role in giving existence is simply to uncover a latent property.

So Avicenna’s target could be either the Mu'tazilite view that non-existence and existence are states which occur to a thing or the more specific Latentist theory of al-Nazzām. But I will argue that Avicenna is worried about a problem endemic to the Aristotelian framework which he himself adopts. Two passages indicate that this is so.

First, Avicenna introduces his argument for the claim that agents cause existence, not “existence after non-existence” with the claim that some agents are such that they are first inactive and then active and their effects are at one time non-existent and then existent. This suggests that he is arguing against a conception of the agent which arises from cases in which there is a parallel progression from potency to act on the part of both agent and effect.

This conception reflects the basic features of efficient causality in Aristotelian natural philosophy: agents are potential at one time and actual at a later time and the effects of such agents are potential at one time and actual at a later time. This conception is due to the fact that within natural philosophy, the efficient cause is supposed to explain change. In his *Physics*, Aristotle says that his account of the types of causes aims to explain “both

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35 Ibid.
coming to be and passing away and every kind of natural change”.\textsuperscript{36} He defines the efficient cause as “the primary source of the change or rest” and defines change or motion as “the fulfilment of what is potentially, as such”.\textsuperscript{37} Avicenna himself adopts this definition of the agent in his \textit{Physics}. There he says that the agent is a “principle of motion in another insofar as it is other” and that “we mean by motion here every excursion from potency to act in matter”.\textsuperscript{38} But he also says that if the notion of agency is considered “not in terms of natural things, but in terms of existence itself, then it is a concept more general than this and everything which is a cause of existence distinct from itself...is an efficient cause”.\textsuperscript{39}

Avicenna’s aim in Book Six of his \textit{Metaphysics} is to provide an account of agency in itself without regard to those features which pertain to it due to its relationship to matter and motion. So it makes sense for him point out that while the agents familiar to us from natural philosophy are such that they are first inactive and then active and their effects are first non-existent and then existent, this feature of natural agents doesn’t apply to agents considered in themselves. So we shouldn’t incorporate the prior non-existence of the effect into our description of the agent. This idea is reflected in a second passage, in which Avicenna relates the idea that agents cause “existence after non-existence” to cases of origination or coming to be.

In this second passage, Avicenna notes first that “origination means nothing other than existence after not having been”.\textsuperscript{40} He then claims that if we think that an agent confers “existence after non-existence”, then we must also think that the agent explains the

\textsuperscript{36} Aristotle. \textit{Physics} 2.3, 194b 21-3.
\textsuperscript{37} Aristotle. \textit{Physics} 2.3, 194b 30; \textit{Physics} 3.1, 201a 11-12.
\textsuperscript{39} Avicenna. \textit{Al-Shifāʾ Al-Samāʿ al-tabīʿī} [Physics] 1.10, p. 49.
\textsuperscript{40} \textit{Metaphysics} 6.1, Marmura (trans.), p. 199; \textit{Al-Iḥāyāʾ}, p. 262; \textit{Latinus}, p. 298.
fact that ‘X comes to be after having not been’. But the prior non-existence of the effect
has nothing to do with agency in itself:

[t]o the originating cause, there is neither efficacy nor indispensability in [the thing’s] not
having been, but its effectiveness and indispensability consist in that existence comes about
from it. It then so happened that that [thing] at that time came to be after not having been.
But that which happened to have occurred coincidentally plays no part in [what] renders a
thing subsistent. Hence the prior non-existence plays no part in the existence of the
originated thing’s having a cause. 41

This means that we “cannot say “[o]ne thing has rendered the existence of [another] thing
such that it comes to be after not having been.” For this is not within the power of [being
enacted]. Rather, some of what exists must necessarily not be after privation and some
must necessarily be after privation”. 42 This claim indicates that there is a relationship
between the belief that the agent brings about “existence after non-existence” and the
belief that effects exist after privation. And what exists after privation comes to be from
the potency of matter: for matter is the subject of a privation. 43 I think that this passage
highlights Avicenna’s concern to point out that while some agents produce their effects
from the potency of matter, pre-existing matter isn’t required in order for something to be
an agent and so should not be included in our account of the agent qua agent. Two
misunderstandings arise when we conflate agency with the production of effects from the
potency of matter.

41 *Metaphysics* 6.1, Marmura (trans.), p. 199; *Al-Islāhiyyat*, p. 262; *Latinus*, p. 298.
42 Ibid.
43 This point becomes clear in *Metaphysics* 6.2, when Avicenna distinguishes existence after absolute
non-existence from existence after non-existence which is not absolute, i.e., existence “after a
specific opposing privation in existing matter” (*Metaphysics* 6.2, Marmura (trans.), p. 204; *Al-
Islāhiyyat*, p. 267; *Latinus*, p. 305). What does not exist after privation exists after absolute non-
existence, for example, the first created intellect exists after absolute non-existence. What exists
after privation exists after a specific opposing privation in matter, for example, fire, which is dry
and hot, exists once the opposing privation in matter – namely, the presence of one or both of the
qualities wet and cold – is destroyed.
First, if we consider the agent in its own right, it seems not to be the case that agency requires a pre-existing potentiality on which to act. We can imagine an agent who makes something *ex nihilo*: the Fairy Godmother who makes Cinderella’s glass slippers by waving her magic wand is no less an agent than the cobbler who cuts and sews sandals from leather. In fact, she seems to be an agent superior to the cobbler just because her effects depend on nothing but her magical powers. Of course, this point is merely conceptual unless we can show that not all agents produce their effects out of pre-existing matter and there are agents like the Fairy Godmother and unlike the cobbler. But one of the ultimate conclusions of Avicenna’s investigation of causality is that there must be agents who produce their effects *ex nihilo*, namely, the divine, creative intellects who explain the existence of contingent things. The seemingly necessary connection between agency and prior potentiality stems from our experience of agents like the cobbler, who do produce their effects out of pre-existing matter.

A second misunderstanding which results from the conflation of agency with the production of effects from the potency of matter has to do with cases in which a new thing is made out of pre-existing matter. On the common conception of agency, a cake baker, for example, brings it about that a cake exists after it was not. The prior potentiality of the cake is due to its ingredients: flour, sugar and eggs are potentially ingredients of a cake. If we focus on the prior potentiality of the cake, then it seems that the baker’s role is to mix these things, which in themselves are potential ingredients, such that they become actual ingredients. Here the baker seems aptly described as an intervener between states of potentiality and states of actuality. But this is problematic, if we focus on the effect we’re trying to explain, i.e., the existence of a cake. For the cake baker’s activity considered as making what were potential ingredients actual ingredients doesn’t explain the existence of
the cake. After all, a cake is a new thing; the existence of this new thing is not explained by pointing to changes in flour, sugar and eggs. When we explain cake baking by pointing to changes in flour, sugar and eggs, the coming to be of a cake looks like an alteration of something old, not the making of something new.  

I think that one of Avicenna’s aims in arguing that the agent causes existence, not “existence after non-existence” is to emphasize the distinction between cases of accidental change, e.g., alteration, and cases of generation or substantial change. We will see that upholding this distinction safeguards his argument for the claim that things need causes after they come to be. And Avicenna himself mentions in his concluding remarks in *Metaphysics* 6.2 that natural philosophers do not properly distinguish generation and the three sorts of accidental change. He says: “[w]hen the natural philosophers spoke of the agent as a principle of motion, they meant the four kinds of motion. They became tolerant in this subject and made generation and corruption a motion”. Here Avicenna follows Aristotle, who argues that generation and corruption are not motions in *Physics* 5.1. 

Aristotle’s argument in *Physics* 5.1 for the claim that generation and corruption are not motions occurs in the context of his discussion of different types of change. He notes first that “every change *metabole* is from something to something – as the word itself indicates, implying something ‘after’ something else, that is to say something earlier and

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44 In fact, the common conception of the agent as an intervener between states of potentiality and states of actuality best captures cases of accidental change: the sun intervenes such that my skin which is actually pale and potentially dark at one time becomes actually dark while I sunbathe. But agents of accidental change are not the only agents, so we shouldn’t define agency by looking to them. And even in this case, our focus on the potentiality of the effect distracts us from the activity proper to the agent: for the sun’s activity is the same regardless of whether its effect is to darken my skin, to harden mud or to bleach the sheets on my clothesline.

45 *Metaphysics* 6.2, Marmura (trans.), p. 205; *Al-Hāyiyyat*, p. 268; *Latinus*, p. 306. For discussion of Avicenna’s argument in *Physics* 2.3 for the claim that substantial change occurs all at once see McGinnis (2004).
something later”. He then identifies three kinds of change, namely, (1) from non-subject to subject, (2) from subject to non-subject, and (3) from subject to subject. Changes from non-subject to subject include unqualified coming to be, e.g., the generation of Socrates. Changes from subject to non-subject include unqualified destruction, e.g., the death of Socrates. Aristotle argues as follows that unqualified coming to be is not a motion:

there can be motion neither of that which is not in respect of the affirmation or negation of a predicate, nor of that which is not in the sense that it only potentially is, that is to say the opposite of that which actually is in an unqualified sense; for although that which is not white or not good may nevertheless be in motion accidentally (for example that which is not white might be a man), yet that which is without qualification not a ‘this’ cannot in any sense be in motion: therefore it is impossible for that which is not to be in motion. This being so, it follows that becoming cannot be a motion; for it is that which is not that becomes. For however true it may be that it accidentally becomes, it is nevertheless correct to say that it is that which is not that in an unqualified sense becomes. 47

So the reason that coming to be without qualification is not a motion is that the thing that comes to be can’t be considered to be in motion since it doesn’t yet exist.

According to Avicenna, natural philosophers are negligent because they treat generation, i.e. unqualified coming to be, as a motion. In other words, they consider generation to be akin to the sorts of changes which are motions, i.e., alteration (change of quality), locomotion (change of place), increase/diminution (change of quantity). Why is this so? The reason can’t be that the distinction between generation and accidental change doesn’t arise in natural philosophy. Aristotle himself addresses the issue in his *Physics* and includes coming to be among the changes the natural philosopher aims to explain. From Avicenna’s standpoint, this sloppiness on the part of the natural philosopher has to do with his definition of the agent: the agent in natural things is a “principle of motion in another insofar as it is other” and motion is the “excursion from potency to act in matter”. 48

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in cases of generation, a new thing comes to be from pre-existing matter, it might seem that we could apply this definition to agents of generation. But if we do, then we treat generation as a motion and so don’t acknowledge the difference between unqualified coming to be and accidental change.

Avicenna’s concluding remarks in *Metaphysics* 6.2 imply that he considers his account of the true nature of agency to have addressed the natural philosopher’s negligence with respect to the difference between generation and accidental change. I think that the first corrective step is to point out that agents cause existence, not “existence after non-existence”. For when we think of agents as causing “existence after non-existence” we include in our notion of the agent the prior potentiality of the effect, which depends on something that already exists. As a result, we think of agents in general as producing changes in things that already exist. This misconception leads to another, namely, the belief that once something comes to be, it persists through itself without need of any agent. The latter misconception is the focus of the next Section.

1.3 What comes to be can’t persist through itself

Avicenna considers the mistaken belief that the agent is the cause of “existence after non-existence” to lead us to think that once something comes to be, it can persist through itself without a cause. He says, “[p]erhaps someone may hold the opinion that the agent and the cause are needed only for the coming to be of the existence of something after it did not exist and once a thing exists, if the cause is missing, the thing would exist as self-sufficient”.⁴⁹ In other words, the belief that the role of an agent is to bring about “existence after non-existence” lends support to the belief that this role is superfluous once a thing exists. In this Section, I will argue that Avicenna’s argument for the claim that what

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comes to be needs a cause so long as it exists succeeds against several Aristotelian objections to this claim.

Avicenna thinks that anyone who believes that things can persist through themselves after they come to be thinks that “the causes are thus only the causes of origination, being [temporally] prior [to their effects], not simultaneous with them”. His claim that the belief that things can persist through themselves after they come to be implies the belief that things need causes only for their origination or coming to be makes sense. But why does the belief that things need causes for their origination alone imply the belief that causes are always temporally prior to their effects? The missing premise here is that causes of origination are temporally prior to their effects, since the ultimate effect in a case of origination or coming to be is some new thing, which exists once origination has ceased and so after the cause of origination has done its work. So causes of origination must be temporally prior to their effects, if their effects are new things which are the products of the process of origination. We will see in chapter 2 that Avicenna holds that in fact, all true causes co-exist with their effects. So causes of origination, like other causes, are not really temporally prior to their proper effects. Their proper effects are contributions to the coming to be of new things and their causal activities co-exist with these effects. But the existence of a new thing, to which its originating cause is temporally prior, is not, properly speaking, an effect of its originating cause. Rather, the temporally prior originator has a causal relationship to the existence of that new thing which Avicenna deems merely accidental. In this argument, however, Avicenna limits himself to showing that it can’t be the case that causes are always temporally prior to their effects.

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Avicenna argues against the view that causes are only causes of origination and so must precede their effects by showing that nothing can persist through itself after it comes to be, for anything that comes to be needs a cause for its existence at any time it exists, not just a cause for its coming to be. His argument depends in part on his distinction, drawn in *Metaphysics* 1.6, between what is necessary of existence in itself and what is possible of existence in itself.

In *Metaphysics* 1.6, Avicenna claims that the things which exist can be divided into two categories, namely, (1) things which considered in themselves are necessary and (2) things which considered in themselves are possible.\(^{51}\) This division of existents is exhaustive, since what is impossible simply doesn’t exist. Avicenna then distinguishes what is necessary of existence in itself and what is possible of existence in itself: “[t]hat which in itself is a necessary existent has no cause, while that which in itself is a possible existent has a cause”.\(^{52}\) He argues as follows that what is necessary in itself has no cause: if in its existence the necessary existent were to have a cause, its existence would be by [that cause]. But whatever exists by something [else], if considered in itself, apart from another, existence for it would not be necessary. And every[thing] for which existence is not [found to be] necessary – if [the thing is] considered in itself, apart from another – it is not a necessary existent in itself. It is thus evident that if what is in itself a necessary existent were to have a cause, it would not be in itself a necessary existent.\(^{53}\)

This argument, Avicenna notes, entails that nothing can be both necessary in itself and necessary through another.

Likewise, both the existence and the non-existence of what is possible in itself depend on some extrinsic cause. For if what is possible in itself

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\(^{51}\) *Metaphysics* 1.6, Marmura (trans.), pp. 29-30; *Al-Ilāhīyyāt*, p. 37; *Latinus*, p. 43.

\(^{52}\) *Metaphysics* 1.6, Marmura (trans., slightly modified), pp. 29-30; *Al-Ilāhīyyāt*, p. 37; *Latinus*, p. 43.

\(^{53}\) *Metaphysics* 1.6, Marmura (trans.), p. 30; *Al-Ilāhīyyāt*, p. 38; *Latinus*, p. 44.
comes into existence, then existence, as distinct from nonexistence, would have occurred to it. [Similarly,] if it ceases to exist, then nonexistence, as distinct from existence, would have occurred to it. Hence, in each of the two cases, what occurs to the thing must either occur through another or not.\textsuperscript{54}

The conclusion of this argument depends on the meaning of “possible of existence in itself”: if X is possible in itself, then considered in terms of itself alone, X may be or may not be. Nothing about X itself determines which one of these alternatives is the case. So something extrinsic to X is needed which determines that it is or is not: “[i]f [it occurs] through another, then [this] other is the cause. And if it did not exist through the other, [then the nonexistence of the other is the cause of its nonexistence]”.\textsuperscript{55}

How do we determine whether something is necessary of existence in itself or possible of existence in itself? Avicenna claims that we must look to the quiddity or nature of that thing. The quiddity of a thing is such that it is either sufficient or not sufficient for it to be specified with either existence or non-existence: “[i]f its quiddity is sufficient for either of the two states of affairs [existence or nonexistence] to obtain, then that thing would be in itself of a necessary quiddity”.\textsuperscript{56} Such a thing either necessarily exists or necessarily does not exist. Whereas, if “the existence of its quiddity is not sufficient [for specifying the possible with existence] – [the latter] being, rather, something whose existence is added to it – then its existence would be necessarily due to some other thing”.\textsuperscript{57} This other thing is the cause of that whose quiddity is not sufficient to specify it with either existence or non-existence. So such a thing, whose quiddity renders it possible in itself, must have a cause of its existence and its non-existence is due to the absence of such a cause.

\textsuperscript{54} Metaphysics 1.6, Marmura (trans.), p. 30; Al-Ilāhīyyāt, p. 38; Latinus, p. 44.
\textsuperscript{55} Ibid.
\textsuperscript{56} Metaphysics 1.6, Marmura (trans.), p. 31; Al-Ilāhīyyāt, pp. 38-9; Latinus, p. 45.
\textsuperscript{57} Ibid.
Avicenna introduces the notion of a quiddity (māhiyya/quidditas) in *Metaphysics* 1.5, when he defends his famous distinction between essence and existence. There he says that “it is evident that each thing has a reality proper to it – namely, its quiddity.” And he defines the reality (baqiqah/certitudo) of a thing as that by virtue of which a thing is what it is: for example, “the triangle has a reality in that it is a triangle, and whiteness has a reality in that it is whiteness.” So if in order to determine whether X is necessary of existence in itself or possible of existence in itself, I must look to the quiddity of X, then in order to determine whether Socrates, my dog Fido or the tulips in my flowerbed are necessary of existence in themselves or possible of existence in themselves, I must look to the quiddities of humanity, dogness and tuliphood. Since none of these quiddities are necessary of...

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58 *Metaphysics* 1.5, Marmura (trans.), p. 24; *Al-Ilāhiyyāt*, p. 31; *Latinus*, p. 35.
59 Ibid.
60 The claim that we can consider the quiddity or nature of a thing apart from its existence is established in *Metaphysics* 1.5. There Avicenna argues first that “the existent” (mawjūd/ens) and “the thing” (shayr/res) are primary concepts (ma‘āni/intentiones), that is, they are concepts whose acquisition doesn’t rely on concepts better known than they are, in the same way that primary principles, like the whole is greater than the part, don’t rely on better known principles. This means that these concepts can’t be defined, for any concepts we used in an attempt to define them would be less well known that those we were trying to define. Nevertheless we know what “the existent” and “the thing” mean. Avicenna then shows that “the existent” and “the thing” are distinct concepts. So even though numerically one thing, like Socrates, is both an existent and a thing, considering Socrates *qua* existent is different from considering him *qua* thing. A thing has a reality (baqiqah/certitudo) by virtue of which it is what it is, namely, its quiddity (māhiyya/quidditas). For example, Socrates is a thing whose quiddity is “humanity”. Avicenna refers to Socrates’ quiddity as his “proper existence” (al-wujūd al-khāss/esse proprium). But Socrates can also be considered simply as existent, without regard to the sort of existent he is. Avicenna refers to this as Socrates’ “affirmative existence” (*Metaphysics* 1.5, Marmura (trans.), p. 24; *Al-Ilāhiyyāt*, p. 31; *Latinus*, pp. 34-35). It seems, then, that considering Socrates *qua* existent differs from considering him *qua* thing in the sense that in the former case, we notice that Socrates is and in the latter case, we notice what Socrates is. Avicenna supports the claim that we can notice what X is apart from that X is on the ground that we can say of humanity that it exists “either in concrete things, or in the soul, or absolutely, being common to both” (*Metaphysics* 1.5, Marmura (trans.), p. 24; *Al-Ilāhiyyāt*, p. 31; *Latinus*, p. 35). This means that it is possible to consider the quiddity of a thing apart from its existence, even though Avicenna says of the thing that the “necessary concomitance of the meaning of existence never separates from it at all; rather the meaning of existence is permanently concomitant with it because the thing exists either in the concrete or in the estimative [faculty] and the intellect. If [this] were not so, it would not be a thing” (*Metaphysics* 1.5, Marmura (trans.), p. 25; *Al-Ilāhiyyāt*, p. 32; *Latinus*, p. 36). For commentary, see Marmura (1984a), pp. 219-239. For a discussion of possible Greek antecedents to Avicenna’s distinction between mawjūd and...
existence in themselves, they must be possible of existence in themselves. If any human, dog or tulip actually exists, then it has a cause. Moreover, the presence of the cause which makes such a thing exist renders its existence necessary through another. For if with the presence of some so-called cause, X may or may not exist, then the existence/non-existence of X remains undetermined, that is, it remains merely possible through another.

So Avicenna’s discussion of the distinction between the necessary of existence in itself and the possible of existence in itself yields four conclusions:

1. what is necessary of existence in itself exists but has no cause,
2. what is possible of existence in itself has a cause for its existence (and its non-existence is due to the absence of a cause which would determine that it exists),
3. if some cause determines that the possible in itself exists, then the possible in itself is necessary through that cause, and
4. nothing can be both necessary in itself and necessary through another.

Avicenna relies on these conclusions in his argument for the claim that nothing that comes to be can persist through itself after it comes to be. It seems, however, that the distinction between the necessary of existence in itself and the possible of existence in itself suffices to prove this point. For Avicenna’s opponent holds that X needs a cause in order to come to be. If X needs a cause to come to be, then its quiddity alone isn’t sufficient to determine that it exists. So X’s quiddity can’t be necessary of existence in itself, but rather is possible of existence in itself. Since what is possible in itself needs a cause, then the quiddity of X needs a cause whenever it exists, not just in order to come to be: a quiddity is

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61 The second and third conclusions are also used in Avicenna’s account of ontological priority in *Metaphysics* 4.1, which provides support for Avicenna’s claim that cause and effect must co-exist. I discuss this account of ontological priority in chapter 2.
either possible in itself or necessary in itself; it can’t be possible in itself at one time and necessary in itself at another time. So if X’s quiddity is the bearer of the necessity or contingency of X’s existence and X’s quiddity is possible in itself, then X’s existence will be contingent at any time X exists. This means that the disagreement between Avicenna and his opponent, who thinks that what comes to be can persist through itself after it comes to be, has to do with Avicenna’s claim that in order to discover whether X is necessary in itself (and so is without need of a cause) or possible in itself (and so in need of a cause), we must look to the quiddity of X. For the opponent should agree that the quiddity of X is possible in itself; otherwise X would not have needed a cause in order to come to be. So this opponent must believe that something apart from the quiddity of X could render X necessary in itself (or self-sufficient) after it comes to be. Avicenna’s strategy against this opponent is to show that there is nothing which could render X self-sufficient after it comes to be.

Avicenna’s argument begins with the claim that the existence of X after it comes to be is either necessary or not. This first claim is ambiguous because he distinguishes two ways in which the existence of something could be necessary: X could be necessary in itself or necessary through another. If the first premise is taken in accord with Avicenna’s own two-fold division of the necessary of existence, then it could mean that X’s existence is either (1) necessary in itself or not necessary in itself or (2) necessary through another or not necessary through another. It seems that it can’t mean the latter, for if X were necessary through another, then X wouldn’t be self-sufficient, which is contrary to the hypothesis of Avicenna’s opponent. And if X were not necessary through another, then the existence/non-existence of X would remain unspecified, which is contrary to the
hypothesis that X actually exists. On the other hand, the conclusion of the argument is that X's existence is necessary through another. So the first premise, namely, that the existence of X after it comes to be is either necessary or not, must incorporate both divisions. This yields four possibilities. The existence of X is either (1) necessary in itself or (2) not necessary in itself but necessary through another or (3) necessary through another or (4) not necessary through another, but necessary in itself. Since (2) replicates (3) and (4) replicates (1), we can reduce the first premise to two possibilities: the existence of X is either (1) necessary in itself or (2) necessary through another. But the first premise cannot incorporate Avicenna's view that it is to the quiddity of X that we must look in order to discover whether X is necessary in itself or possible in itself. For if it does, then Avicenna is assuming what he's trying to prove and, more importantly, his first premise is incompatible with the view of his opponent, who believes that X, which needs a cause in order to come to be and so must have a quiddity which is possible in itself, can persist through itself after it comes to be.

Avicenna argues that if the existence of X after it comes to be is necessary, then this necessity must be due to the quiddity of X or to some other “condition”. If the necessity of X’s existence is due to its quiddity, then the quiddity must be necessary in itself. But if the quiddity of X is necessary in itself, then X can’t have come to be, which is contrary to our hypothesis. So if X’s existence after it comes to be is necessary, then this necessity must be due to a “condition” which accrues to X. Avicenna identifies three

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62 As mentioned above, Avicenna holds that if what is in itself possible actually exists, then its existence is rendered necessary through another.
possible candidates for this condition, namely, (1) origination, (2) an attribute or (3) something different, i.e. an extrinsic cause.\textsuperscript{63}

He argues that the necessity of X’s existence after it comes to be can’t be due to origination for two reasons.\textsuperscript{64} First, origination isn’t necessary in itself. What isn’t necessary in itself can’t confer ontological necessity upon something else. At first glance, this step in this argument appears uncontroversial. Origination can’t be necessary in itself, for if it were, then it would have no cause. But origination (coming to be) is a change. And changes require causes. Moreover, Avicenna’s opponent agrees that X’s origination has a cause. Nevertheless, we should not be satisfied that Avicenna has established his conclusion. For what if Avicenna’s opponent holds that X’s origination is necessitated by an infinite series of temporally successive causes? Within an Aristotelian framework, such an infinite series is clearly possible: sons depend for their coming to be on their fathers, who in turn depend for their coming to be on their fathers and so on \textit{ad infinitum}, since the world is eternal. Avicenna’s opponent might hold that since X’s origination is necessitated by an infinite series of temporally successive causes, then X’s origination is part of a series which is necessary in itself. There are two reasons the opponent might consider the series necessary in itself. First, he might adopt Avicenna’s claim that what is necessary in itself has no cause and then argue that since the series has no first cause, it must be necessary in

\textsuperscript{63} He says, “If its existence is necessary, then its being necessary through that quiddity is either due to that quiddity itself – so that that quiddity requires the necessity of existence, in which case it would be impossible for [the thing] to be originated – or else it is rendered necessary by [the quiddity] through a condition. The condition is either origination, [or] one of the attributes of that quiddity, or something different” (\textit{Metaphysics} 6.1, Marmura (trans.), p. 198; \textit{Al-Iḥāṣyāt}, p. 261; \textit{Latinus}, p. 297).

\textsuperscript{64} He says, “The necessity of its existence cannot be through origination, for origination itself is not [something whose] existence is necessary in itself. How, then, can the existence of another be necessary through it? [Moreover,] origination has ceased. How can it, now that it has ceased to exist, be the cause of the necessary [existence] of something else?” (\textit{Metaphysics} 6.1, Marmura (trans.), p. 198; \textit{Al-Iḥāṣyāt}, p. 261; \textit{Latinus}, p. 297).
itself. Or he might use a different criterion for determining what is necessary in itself. For example, he might think that what always exists is necessary in itself and then argue that since the series always exists, it is necessary in itself. These objections are pressing for Avicenna, since he himself believes that the world is eternal and so that the coming to be of an individual is necessitated by an infinite series of temporally successive causes.

Against the first claim – namely, that since the series has no first cause, it must be necessary in itself – Avicenna would argue that the infinity of the series of temporally successive causes does not entail that it has no cause of its existence and so is necessary in itself. He holds that the infinite series of temporally successive causes of coming to be is possible of existence in itself and so depends for its existence on something necessary of existence in itself, namely, God. But how would he argue against the second claim? Fortunately, neither the first, nor the second claim can succeed against Avicenna’s other reason for denying that origination could render something ontologically necessary, which doesn’t depend on the claim that the process of origination is not necessary in itself.

Avicenna’s second reason for denying that origination could render the existence of something necessary after it comes to be is that origination is a process which ceases once X comes to be. And what doesn’t exist can’t confer ontological necessity upon something

65 Avicenna affirms an infinite series of causes of origination in Book 6, chapter 2 when he distinguishes the finite series of essential causes of a thing (which terminates in God, the sole being who is necessary of existence in himself) from the infinite series of accidental or nonessential causes. He says that “[i]t has thus become evident and clear that the essential causes of things through which the existence of the essence of that thing comes about in actuality must exist with it, not having that priority in existence whereby it would cease to exist once the effect comes into being, and that this [latter priority] is possible in nonessential or nonproximate causes. The regress of the causes that are not essential or not proximate does not prevent their proceeding ad infinitum, on the contrary, it necessitates [their doing so]” (Metaphysics 6.2, Marmura (trans.), p. 203; Al-Ilâhiyyâh, p. 266; Latinus, p. 303). Like Aristotle, Avicenna holds that the world is eternal. So there is an infinite series of causes of coming to be. He differs from Aristotle in holding that the existence of the world is efficiently caused. But God, the ultimate efficient cause of the existence of the world, is ontologically, not temporally, prior to the world; the world is co-eternal with God. I discuss Avicenna’s views on ontological priority in chapter 2.
else. This claim holds even if the process of origination is necessary in itself. But his opponent could object on the ground that the necessity conferred on X by origination doesn’t depend on the continued existence of the process of origination, but rather depends on some attribute X acquires through being originated. In that case, origination could be the cause of the necessity of X’s existence in the sense that it is through the process of origination that X, the product of this process, acquires some attribute which is the bearer of the necessity of X’s existence and is the reason why X can persist through itself after it comes to be. I take it that Avicenna considers this possibility when he says that “[t]he alternative is to say that the cause is not origination [itself], but a thing’s having undergone origination, in which case this would be one of the attributes of the originated thing.”  

And he claims that if that is the opponent’s point, then the answer to the question whether the existence of X is necessary after it comes to be depends on the answer to the question whether an attribute can accrue to X which renders X’s existence necessary. Such an attribute must be necessary in itself, for only what is necessary in itself could render X necessary. And the attribute must co-exist with X, for what is non-existent can’t confer ontological necessity on something else. Moreover, such an attribute can’t belong to the quiddity of X, for if it did, then the quiddity would be necessary of existence in itself.

Avicenna’s argument that no attribute can accrue to X which renders X’s existence necessary depends on the claims that (1) the attribute can’t belong to the quiddity of X and so (2) such an attribute must accrue to X through origination, which means that the attribute itself is something originated. 

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67 He says, with respect to the possibility that some attribute or attributes might accrue to X which renders X self-sufficient, that “[t]hese attributes must either belong to the quiddity inasmuch as it is
attribute *qua* attribute of X can’t pre-exist X, the attribute must itself be originated when X is originated. He then claims that if the attribute itself is originated, then it is not necessary in itself and so can’t confer ontological necessity on anything else. This claim holds even if we postulate an unlimited number of attributes which accrue to X: for if all of these unlimited attributes are originated then all are possible of existence in themselves and necessary through some separate thing. The other alternative is to hold that all but one of the attributes is possible in itself but necessary through another attribute and this causal series terminates with an attribute which is necessary through some separate thing. But if the series terminates with an attribute which is necessary through some separate thing, then that attribute would only remain so long as its cause remains and the necessity of the whole is due to that cause.\(^6\)

This argument depends on the plausibility of Avicenna’s claim that any attribute which could accrue to a contingent thing, such as Socrates, must be originated and so can’t be necessary in itself. It seems clear that Socrates’ accidental properties are originated, for accidents are ontologically posterior to substances and Socrates is originated.\(^7\) But what

\[\text{a quiddity, not inasmuch as it is something that has been brought about into existence (in which case what is a necessary concomitant for them must be a necessary concomitant of the quiddity and, hence, necessary existence becomes a necessary concomitant of the quiddity), or else these attributes came into being with existence and thus what is said about the necessity of its existence is identical with what has been said about the first [alternative, that of origination]” (Metaphysics 6.1, Marmura (trans.), p. 199; Al-Iāhiyyāt, pp. 261-2; Latinus, p. 297).}\(^6\)

\[\text{He says, “[t]hus, either there would be infinite attributes, all of which are of this character <sc. originated>, so that all would be possible of existence [and] not necessary in themselves, or else they would terminate with an attribute that is necessitated by an external thing. The first alternative renders all the attributes in themselves [only] possible in [their] existence. But it has become clear that that whose existence is possible in itself exists through another, so that all the attributes become necessary through another that is external to them. The second alternative necessitates that the originated existence remain an existence only through an external reason, namely, the cause” (Metaphysics 6.1, Marmura (trans., slightly modified), p. 199; Al-Iāhiyyāt, p. 262; Latinus, pp. 297-8).}\(^6\)

\[\text{Avicenna makes the point that accidents are ontologically posterior to substances at the outset of his discussion of substance in Metaphysics 2.1: “the substance that renders the accident subsistent}\]
about matter? Of course, Socrates’ flesh and bones are originated and flesh and bones are
considered attributes of the quiddity “humanity” anyway, which means they are not
necessary of existence in themselves. But the matter out of which a composite is made is
not originated. And matter is not an accidental principle, but a substantial principle:
Avicenna endorses this claim in both *Metaphysics* 2.1 and *Metaphysics* 3.1.71

Since Avicenna holds that matter is contingent in itself, he would deny that matter
could confer ontological necessity on the composite. But his opponent might use the
alternative criterion for determining what is necessary of existence in itself mentioned
above, namely, that what always exists is necessary of existence in itself. He could then
argue that since matter always exists, matter is necessary of existence in itself. Against this
objection, Avicenna could raise his argument in *Metaphysics* 2.2 for the claim that matter is
nothing in actuality without form.72 If matter is nothing in actuality without form, then the
existence of matter is ontologically posterior to the existence of the composite. In that
case, the contingency of the composite entails the contingency of matter. But his
opponent could object on the ground that if matter pre-exists the composite and endures
its demise, then its existence can’t depend on the existence of the composite. Against this

70 Avicenna endorses the claim that matter itself is not originated when the composite is originated
in *Metaphysics* 2.4, when he argues that form alone can’t be the efficient cause of the existence of
matter. For if “this form were alone in itself a cause <of the existence of matter>, then matter
would cease to exist after [the form] ceases to exist and the commencing form would have another
matter that comes to exist through it. That matter would then be originated, and [this origination]
would require another matter” (*Metaphysics* 2.4, Marmura (trans.), p. 67; *Al-Ilāhiyyāt*, p. 85; *Latinus*, p.
98).

71 In *Metaphysics* 2.1, he provides a list of the various sorts of things which are substances: “[e]very
substance is either a body or not a body. And if it is not a body, then it is either a part of a body of
not a part of a body. And if it is not part of a body, then it is separate from bodies entirely. And if
it is a part of a body, then it is either form or matter” (*Metaphysics* 2.1, *Al-Ilāhiyyāt*, p. 60 (my trans.);
Marmura (trans.), p. 48; *Latinus*, p. 68-9). And in *Metaphysics* 3.1, he says that “[w]e have clearly
[indicated] the quiddity of substance and have shown that it is predicabile of the separabile, of body,
of matter, and of form” (*Metaphysics* 3.1, Marmura (trans.), p. 71; *Al-Ilāhiyyāt*, p. 93; *Latinus*, p. 104).

objection, Avicenna could raise his argument in *Metaphysics* 6.1 that matter, considered as the substratum which pre-exists a composite and endures its demise, is not a principle for the composite. He argues for this claim in the context of a discussion of whether the number of causes is four or five. If both the matter which pre-exists the composite and endures its demise and the matter of the composite are considered causes, then there are five causes, i.e. the final, efficient and formal causes, as well as two material causes. Avicenna argues that the former, i.e., the matter which pre-exists the composite and endures its demise, ought not to be considered a cause, since it is a principle only accidentally. The reason that it is a principle only accidentally is that it is first rendered subsistent in act through form, while its essence, considered only in itself, is in potency; the thing which is in potency with respect to its being in potency is never at all a principle but would be a principle only accidentally. For the accident requires that that subject for it should have been [first] realized in actuality, becoming thereafter a cause for its subsistence.  

If the matter which pre-exists the composite and endures its demise is not a principle for the composite, then it can’t confer necessary existence on the composite. Of course, Avicenna’s opponent could argue that the matter which pre-exists the composite and endures its demise is a principle for the composite. But if he does, then he can’t distinguish cases of accidental change and cases of generation or destruction: for the matter which pre-exists the composite and endures its demise would then be an enduring subject whose suffering of various so-called substantial forms is a series of accidental changes in it. This means that Avicenna could convince an Aristotelian opponent, who is committed to the distinction between accidental change and generation/destruction, that there is no attribute which could accrue to Socrates after he comes to be which renders

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74 Avicenna makes this clear in his discussion of the generation of one thing from another in *Metaphysics* 8.1-2.
him self-sufficient. Such an opponent must then concede that the necessity of Socrates’ existence after he comes to be is due to some extrinsic agent. In other words, Avicenna could persuade an Aristotelian opponent that a contingent thing needs not only an efficient cause of its coming to be, but also a cause of its existence after it comes to be. This controversial claim also plays a supportive role in Avicenna’s next argument, which aims to show that agents are sufficient for their effects. I examine this argument in Section 4.

1.4 Agents are sufficient in themselves for their effects

Avicenna’s third criticism of the common conception of agency is that it identifies as agents things which are not sufficient to bring about the existence of their purported effects:

The agent which the common people call “agent” is not in reality a cause with respect to the way they render it an agent. For they make it an agent when one ought to consider it to be inactive, so that it is not an agent inasmuch as it is a cause but inasmuch as it is a cause with something that is a necessary concomitant of it. For it becomes an agent inasmuch as it is considered in terms of that in which it has an effect conjoined with that in which it has no effect. It is as though, when the cause is considered with respect to what is acquired from it conjoined with that from which something is not acquired, it is called an agent.\footnote{Metaphysics 6.1, Marmura (trans.), p. 200; Al-Ilāhīyyāt, p. 263; Lātinus, p. 299.} So on the common conception of agency, things are deemed agents even when they are inactive. But when something is inactive, it isn’t an agent. And such a thing is not sufficient for its effects: it is a cause only when conjoined with something else. After all, if such a thing is not at every moment of its existence active, then its activity can’t be explained by appeal to its existence alone. Rather, something else, in addition to the existence of that thing, is required in order for it to become active. For example, it would be imprecise to deem Polyclitus the builder an agent, for clearly something in addition to the existence of Polyclitus the builder is needed in order for Polyclitus actually to build: otherwise he would be building at every moment of his existence. So the real cause of
Polyclitus’ building is Polyclitus the builder when conjoined with something else. This means that according to the common conception of agency, an agent is something which has as its condition that it should necessarily not have been an agent at one time, after which either it exercised will, was compelled, or some other state of affairs that had not existed occurred [to it], so that when such a conjunct attached to it, then its essence together with that conjunct became the cause in act, when it had previously been devoid of it. It thus became a cause in actuality after being a cause in potency, not inasmuch as it is only a cause in actuality.  

This criticism of the common conception of agency is partly a reflection of Aristotle’s distinction between potential and actual agents: in his Physics, Aristotle notes that causes “may be spoken of either as potential or as actual; e.g. the cause of a house being built is either a house-builder or a house-builder building”. A house-builder is a potential cause and a house-builder building is an actual cause. Avicenna, however, aims to establish a further point. He begins by claiming that agents as commonly conceived are sometimes inactive or potential agents and so their existence is not sufficient for their effects. He then adds that these so-called agents must be conjoined with something else in order to become active. He infers from this that these so-called agents are not simply agents, but are also patients: “everything that they call “agent” must necessarily be that which they call the recipient of action. For they do not release it from the conjunction of that originated state that conjoins it [and] by reason of which existence proceeds from it after nonexistence”. So the problem with the common conception of agency is not simply that it identifies a potential agent as an agent without qualification, but that in doing so, it identifies as an agent something which is not sufficient for the production of its effects. Such a thing must be conjoined with something else in order to become active and, according to Avicenna, this means that it is not simply an agent, but is also the recipient of action.

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76 Metaphysics 6.1, Marmura (trans.), p. 200; Al-Ilāhiyyāt, p. 263; Latinus, p. 299.
77 Aristotle. Physics 2.3 195b 4-6.
78 Metaphysics 6.1, Marmura (trans.), p. 200; Al-Ilāhiyyāt, p. 263; Latinus, p. 299.
In this Section, I will raise three objections to this argument. The first objection has to do with Avicenna’s claim that an agent which is inactive at one time and active at a later time must be the recipient of action in order to act. This claim suggests that every agent which is inactive at one time and active at a later time must suffer in order to act. This claim is controversial. While some potential agents must suffer in order to act, others need not do so. In response to this objection, I argue that Avicenna does not endorse the controversial claim that potential agents must suffer in order to become actual agents, but rather he relies on a weaker claim, namely, that the action of every agent which is inactive at one time and active at a later time depends on some originated state.

The second objection is that in articulating his third criticism of the common conception of agency, Avicenna seems to assume as true the claim that there really is some agent whose activity does not depend on any originated state. For the claim that the common conception of agency is flawed in that it captures only agents whose activity depends on some originated state relies on the claim that there is at least one agent whose activity does not depend on an originated state. In response to this objection, I argue that Avicenna’s third criticism of the common conception of agency is part of an argument for the claim that there is at least one agent whose activity does not depend on an originated state.

My third objection is that Avicenna implies that it is a mistake to identify as agents things which depend on some originated state in order to exercise their causal powers. This claim seems too strong. Even though it is true that the existence of Polyclitus the builder is not sufficient for the production of his effects, it is also true that when he is actually building, he is an actual agent. I respond to this objection in Section 5, which focuses on Avicenna’s hierarchy of agents. In this hierarchy, an agent in the best or
primary sense is a simply active or actual agent whose existence is sufficient for its effects. An agent in a lesser or derivative sense is an intermittent agent whose existence is not sufficient for its effects. Avicenna does not deny that agents such as Polycitus are genuine agents, but he does deny that these agents are agents in the best or primary sense.

Avicenna’s claim that an agent which is inactive at one time and active at a later time is not sufficient for the production of its effects seems to me to be uncontroversial. But his further claim that such an agent must also be the recipient of action is very puzzling. It isn’t the case that all agents which are inactive at one time and active at a later time must suffer in order to act. For example, a magnet has the power to attract iron. Now the magnet must be in the vicinity of iron in order to exercise its causal power. Still, it isn’t accurate to claim that the magnet itself must be the recipient of action in order to exercise its causal power. Nevertheless, it is true that some change must occur such that the magnet which can attract iron does so. So if Avicenna holds that the agent which is first potential and then actual must be a recipient of action only in the weak sense that the exercise of its causal powers requires some originated state, rather than in the strong sense that the agent must suffer in order to act, then the fact that some agents which are first potential and then actual need not suffer in order to act does not impede the success of his argument. There is evidence that Avicenna does hold that the agent which is first potential and then actual must be a recipient of action only in the weak sense that the exercise of its causal powers requires some originated state. This evidence appears in *Metaphysics* 9.1.

In *Metaphysics* 9.1, Avicenna argues that the acts of agents whose effects are temporally originated are themselves temporally originated. His argument relies in part on his analysis of a case in which a potential agent becomes an actual agent. He describes the case as follows. First, we must suppose that both the efficient and receptive causes of the
origination of something exist. Second, we must suppose that “the efficient cause did not impart motion and the receptive cause did not move”.\textsuperscript{79} This means that “the occurrence of a relation between them that would necessitate action and affection is needed”.\textsuperscript{80} In other words, if Polyclitus the builder exists and so do his building materials, yet no building occurs, then something else (X) needs to happen. X could be one of several things:

With respect to the agent, [this would be something] like a will that necessitates the act, a nature that necessitates the act, an instrument, or [an appropriate] time. With respect to the recipient, [it would be something] akin to a disposition that did not previously exist. Alternatively, with respect to the two together [it would be] akin to one of them reaching the other.\textsuperscript{81}

Here Avicenna enumerates the reasons why potential agents become actual agents more precisely than he does in \textit{Metaphysics} 6.1. And it is clear that he holds that action doesn’t always involve suffering on the part of the agent. If we apply this analysis to my magnet example above, it seems that there are two possible reasons why the magnet becomes an actual agent after being a potential agent: either the magnet gets closer to the iron or the iron gets closer to the magnet. If the magnet gets closer to the iron, it must itself be moved; in this case, the magnet’s action does involve suffering on the part of the magnet. But if the iron gets closer to the magnet, the magnet’s action does not involve suffering on the part of the magnet, though it does depend on some originated state, namely, the motion of the iron. So it is clear that Avicenna does not hold that agents which are first potential and then actual agents must suffer in order to act; he holds only the weaker claim that action on the part of potential agents requires some originated state.

Avicenna third criticism of the common conception of agency is also problematic because it seems to assume as true the claim that there really is some agent whose activity

\textsuperscript{79} \textit{Metaphysics} 9.1, Marmura (trans.), p. 300; \textit{Al-Ibāyīyah}, p. 374; \textit{Latinus}, p. 435.
\textsuperscript{80} \textit{Metaphysics} 9.1, Marmura (trans.), p. 302; \textit{Al-Ibāyīyah}, p. 375; \textit{Latinus}, p. 438.
\textsuperscript{81} \textit{Metaphysics} 9.1, Marmura (trans.), p. 302; \textit{Al-Ibāyīyah}, pp. 375-6; \textit{Latinus}, p. 438.
does not depend on any originated state. Of course, Avicenna’s point could be merely conceptual, that is, his point might be simply that it is not the case that in order for something to be an agent, it must be at one time inactive. But if it were merely a conceptual point, then an opponent could argue that the criticism is either unjustified, since in fact all agents are first inactive and then active, or unimportant, since even though we can imagine an agent which is not first inactive and then active, it is in fact the case that all agents are first inactive and then active. Avicenna could argue against this opponent by pointing to God, who, according to Avicenna, is an efficient cause who can’t be first an agent in potency and later an agent in actuality. But if Avicenna here looks forward to his proof that God is an agent who can’t change, then the third criticism of agency relies not only on matters having to do with agency, but also on the attributes of God. I will argue that Avicenna doesn’t assume as true the claim that there really is some agent whose activity does not depend on any originated state. Rather, his third criticism of the common conception of agency is part of an argument which establishes that there really is some agent whose activity does not depend on any originated state. This argument relies on Avicenna’s earlier claims that agents cause existence, not “existence after nonexistence”, and that contingent things need causes not only in order to come to be but also to exist.

Avicenna’s third criticism of the common conception of agency is embedded in an argument which appears to have three parts. In the first part of the argument, Avicenna aims to prove that while the existence of a quiddity which is possible in itself has a cause, its “originated existence” does not:

a thing inasmuch as its existence is originated – that is, inasmuch as the existence belonging to it is described as being after privation – in reality has no cause. Rather the cause belongs to it inasmuch as the quiddity has existence. Thus the state of affairs is the opposite of

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82 Avicenna argues for this claim in *Metaphysics* 9.1.
what they think. Indeed the cause is only for existence. If it so happens that nonexistence precedes it, then it is originated and, if it did not so happen, it would not be originated.\(^{83}\)

Here Avicenna claims that his opponent holds that “originated existence” needs a cause, but existence does not. This claim follows from his opponent’s belief that the agent and the cause are needed only for the coming to be of something after it did not exist and that once a thing exists, if the cause is missing, the thing would exist as self-sufficient”.\(^{84}\)

Avicenna holds that “origination means nothing other than existence after not having been”.\(^{85}\) But he has shown that “existence after nonexistence” has no cause. This entails that “originated existence” also has no cause.

In order to follow this line of reasoning, we must recall Avicenna’s first criticism of the common conception of agency, which I discuss in Section 2. Avicenna claims that on the common view of agency, agents cause “existence after nonexistence”. He argues that agents can’t be causes of “existence after nonexistence” because nonexistence has no cause. Agents cause existence alone. He draws on this claim here in order to show that his opponent’s view that “originated existence” has a cause, but existence does not, is based on a conceptual error.

In the second part of the argument, Avicenna raises his third criticism of the common conception of agency, which is that agents as commonly conceived are sometimes inactive and they rely on some originated state in order to exercise their causal powers. In the third part of the argument, Avicenna presents the following conclusion:

\[\text{[h]ence, if it is clear that the existence of the quiddity is connected with what is other inasmuch as it is an existence for that quiddity, not inasmuch as it is [something that comes to be] after not having been, then that existence in this respect is caused — so long as it exists. Likewise, it is an effect connected with what is other. Thus, it becomes evident that the effect needs that which bestows existence on it by essence — [conferring only] existence}\]


\(^{84}\) *Metaphysics* 6.1, Marmura (trans.), p. 198; *Al-Ilāḥiyāt*, p. 261; *Latinus*, pp. 296-7.

\(^{85}\) *Metaphysics* 6.1, Marmura (trans.), p. 199; *Al-Ilāḥiyāt*, p. 262; *Latinus*, p. 298.
itself – but [it becomes evident also] that origination and other things are matters that occur to it accidentally and that the effect needs that which bestows existence on it always, permanently, as long as [the effect] exists.  

This concluding passage is puzzling because it follows upon Avicenna’s third criticism of the common conception of agency. So it seems that there is some relationship between Avicenna’s third criticism of the common conception of agency and the concluding claims that “the effect needs that which bestows existence on it by essence – [conferring only] existence itself” and “that origination and other things are matters that occur to it accidentally and that the effect needs that which bestows existence on it always, permanently, as long as [the effect] exists”. What is this relationship?

We have seen that the third criticism of the common conception of agency includes the claim on the common view, agency requires not only some thing or person with causal powers, but also some additional factor. This is why Avicenna says that on the common view, agents must be “conjoined” to some originated state in order to exercise their causal powers. This passage provides two different pieces of information about the common view of agency. The first piece of information is that on the common view, agents are not sufficient in themselves for the production of their effects. The second piece of information this passage provides has to do with the effects of such agents. If the agent according to the common conception is not released “from the conjunction of that originated state that conjoins it [and] by reason of which existence proceeds from it after nonexistence”, then the acts of such agents are themselves originated. And if the acts of some agent are originated, then the effects of that agent must also be originated. I think that Avicenna draws an important conclusion from this claim, namely, that agents as

87 Ibid.
88 Ibid.
commonly conceived cannot be the cause of the existence of a quiddity. Only an agent whose acts are not originated can be the cause of the existence of a quiddity. This means that there must be at least one agent whose acts are not originated.

In order to understand this line of reasoning, we need to recall the conclusion of the argument under discussion:

the effect needs that which bestows existence on it by essence — [conferring only] existence itself — but [it becomes evident also] that origination and other things are matters that occur to it accidentally and that the effect needs that which bestows existence on it always, permanently, as long as [the effect] exists.\(^8^9\)

Notice that Avicenna claims that origination is accidental to the existence of a quiddity. This claim is cryptic, but important. A quiddity, e.g., humanity, whose instantiation requires matter, must be originated, that is, it comes to be after not having been. It seems that the existence of this quiddity is always, or simply, an originated existence. So why does Avicenna hold that origination is accidental to the existence of this quiddity? I think that this claim has to do with the relationship between temporal origination and change.\(^9^0\) He holds that origination is accidental to the existence of a quiddity because even though a human being comes to be after not having been at some time X due to origination, i.e., due to a process of change which ends at time X, its existence itself, which begins at time X and continues until its demise, is not a change in anything and so is not due to any process of change.

The claim that origination is accidental to the existence of a quiddity provides support for the claim that there must be some agent or agents whose acts are not originated. For if the existence of a quiddity is not a change in anything, any agent whose effects are changes cannot be the agent of its existence. But any agent whose acts are

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\(^{89}\) *Metaphysics* 6.1, Marmura (trans.), p. 200; *Al-Ilāhiyyāt*, p. 263; *Latinus*, pp. 299-300.

\(^{90}\) *Metaphysics* 6.1, Marmura (trans.), p. 200; *Al-Ilāhiyyāt*, p. 263; *Latinus*, p. 299.
originated can only produce effects which are changes. Given that the agent as commonly conceived is not released “from the conjunction of that originated state that conjoins it [and] by reason of which existence proceeds from it after nonexistence”, the claim that such agents cannot be causes of the existence of quiddities is secure. This means that there is at least one agent whose acts are not originated. So Avicenna’s third criticism of the common conception of agency is justified. For the third criticism is that the common view of agency captures only those agents whose acts are originated.

The final problem with Avicenna’s third criticism of the common conception of agency is that he implies that it is a mistake to identify as agents things which depend on some originated state in order to exercise their causal powers. For even though it is true that the existence of Polycitus the builder is not sufficient for the production of his effects, it is also true that when he is actually building, he is an actual agent. Does Avicenna hold that since the existence of Polycitus the builder is not sufficient for the production of his effects, Polycitus is not a genuine agent? I will argue in Section 5 that he doesn’t. Rather, on the basis of his third criticism of the common conception of agency, he develops a hierarchical ontology of agents in which agents in the best or primary sense of “agent” are simply active and sufficient in themselves for the production of their effects, whereas agents like Polycitus are agents in a lesser or derivative sense.

1.5 Avicenna’s hierarchy of agents

Avicenna’s analysis of the flaws in the common conception of agency leads him to posit a hierarchy of agents in which an agent in the best or primary sense is a simply active or actual agent whose existence is sufficient for the production of its effects. An agent in a lesser or derivative sense is an intermittently active or actual agent whose existence is not

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sufficient for the production of its effects. In this Section, I will identify the three types of agents in this hierarchy and explain why Avicenna develops it.

The paradigmatic example of an agent in the best or primary sense is a creative agent. Avicenna defends the superiority of creative agency as follows:

if something by virtue of its essence is a cause for the existence of something else that is permanent, then it is its permanent cause as long as its essence exists. If [the cause] exists permanently, then its effect exists permanently. Such a thing among causes would then have the higher claim to causality because it prevents the absolute nonexistence of the thing. It is the one that gives complete existence to the thing. This, then, is the meaning, that for the philosophers, is termed “creation”. It is the giving of existence to a thing after absolute nonexistence. For it belongs to the effect in itself to be nonexistent and [then] to be, by its cause, existing.\(^92\)

The “higher claim to causality” attributed to the creative agent rests on the fact that a creator prevents absolute nonexistence. Avicenna distinguishes this highest form of causality from the lower form of causality of a cause which makes be an effect whose existence is after nonexistence which is not absolute, that is, an effect whose existence follows “a specific opposing privation in existing matter”.\(^93\) Avicenna says that the creative agent’s causality “would represent the highest mode of the giving of existence, because nonexistence would have been utterly prevented”.\(^94\) So the thing that is an agent most of all is such that when it exists, its effect exists. Nothing else is needed, not even pre-existing matter. This is the sort of agency enjoyed by God, whose existence is sufficient for the production of the first created intellect, his sole immediate effect. And so long as God exists, the first created intellect exists.

Avicenna then turns to the sort of agency enjoyed by agents who bring things into being from pre-existing matter. He says that “the empowerment of bringing into existence – I mean, the existence of one thing from another – would be weak, of short duration, and

\(^{92}\) *Metaphysics* 6.2, Marmura (trans.), p. 203; *Al-Iḥāyiyyāt*, p. 266; *Latinus*, pp. 303-4.

\(^{93}\) *Metaphysics* 6.2, Marmura (trans.), p. 204; *Al-Iḥāyiyyāt*, p. 267; *Latinus*, p. 305.

\(^{94}\) Ibid.
This passage indicates that a thing which brings something to be by acting on matter and whose causal activity is intermittent, rather than permanent, is considered by Avicenna to be an agent. If that is the case, then it seems that Polycitus the builder, who acts on matter and whose existence itself is not sufficient for his effects, still counts as a true agent.

The middle ground between the strongest and the weakest sort of agent is occupied by those agents who depend for their existence on something else, but who do not produce their effects out of pre-existing matter. Here Avicenna refers to his emanationist account of creation. Creation occurs in a stepwise way beginning with the original creative act of God, whose immediate effect is an intellect. The first created intellect then creates three things: (1) the body of the outermost sphere, (2) the soul which moves the outermost sphere and (3) a second intellect. The second intellect likewise creates three things and so on. The lowest of the created intellects – namely, the Agent Intellect – creates the form and matter of the sublunar world, as well as the rational souls of individual human beings.

Avicenna is ambivalent about whether or not we should call the created intellects creators or generators. But he seems to favour the view that we should call them creators, for he says that “[i]t is good [however] to call everything not coming into existence from a previous matter not “generated” but “created,” and to make the best thing called “created” that which comes to be from its first cause without an intermediary”. So he reserves the term “generated” for substances in the sublunar world which come to be from pre-existing matter.

Avicenna’s claim that the highest form of agency is creative agency is based on his claims that the existence of the creative agent is sufficient for the production of its effects,

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95 *Metaphysics* 6.2, Marmura (trans.), p. 204; *Al-Ishiyat*, p. 267; *Latinus*, p. 305.
that the creative agent makes be something out of nothing and that it is the permanent cause of the existence of something which is likewise permanent. The claim that such an agent is an agent most of all is quite compelling. An agent causes the existence of something else. An agent whose existence is sufficient for the production of its effects and whose effects exist so long as it exists is clearly superior to an agent who depends on something else in order to act or who is only an intermittent cause of the existence of an effect which is likewise intermittent. But it is important to note that Avicenna doesn’t deny agency to those things whose causality is of a lower sort. He claims that their empowerment is weak and short-lived, but not that they are without power. Such things are agents of a lesser sort. They are agents in the sense that they partake in a paradigm of agency which they don’t fully exemplify. So they are agents in a derivative sense.

**Conclusion**

Avicenna’s metaphysical account of the nature of agency analyses a conception of agency which takes as its referent an agent which is at one time inactive and potential and at a later time active or actual. The actualization of an agent’s causal powers brings about something which previously did not exist. Avicenna’s criticisms of this account stem from an initial complaint about the incorporation of the effect’s prior non-existence into the notion of agency. If we think that an agent causes “existence after non-existence”, then we bring to our notion of agency something which has nothing to do with agency in itself, namely, the prior potentiality of the effect. This yields a conception of the agent as an intervener between states of potentiality and states of actuality. This means that we will limit our notion of the agent to those things which produce their effects from pre-existing matter and may neglect the distinction between generation/ destruction and accidental change. Moreover, we will think that the role of an agent is simply to bring things into
being and we will ignore the need to posit agents which explain the existence and persistence of contingent things after they come to be. Finally, we will be oblivious to a type of agent which is an agent *par excellence*, i.e., a creative agent which is simply active and whose existence is sufficient for its effects.

Though Avicenna himself does not say so, the common conception of agency which he describes reflects the basic features of efficient causality in Aristotelian natural philosophy: agents are potential at one time and actual at a later time and the effects of such agents are potential at one time and actual at a later time. Avicenna does not object to the use of this notion of agency within the domain of natural philosophy, for he himself defines the efficient cause in natural things as a principle of motion in another, and states that motion is the going out from potentiality to actuality in matter. Rather, he objects to the annexation of conditions required for physical agency to the notion of agency itself. And he aims to develop an account of agency as it is in itself, which disregards whether the agent is a natural thing or not.

In this chapter, I have shown that Avicenna can defend two of his original and controversial claims about the nature of agency against several objections. The first of these claims is that a contingent thing needs an efficient cause of its existence itself, not just a cause of its coming to be. The second is that an agent in the best or primary sense is simply active or actual. Such an agent doesn’t depend on anything else in order to exercise its causal powers. Rather the existence itself of such an agent is sufficient for the production of its effects. The second conclusion provides the basis for Avicenna’s hierarchical ontology of agents. In this hierarchy, creative agents are agents most of all. Those agents who act on pre-existing matter and whose causal activities are intermittent are

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agents in a lesser or derivative sense. This means that typical Aristotelian efficient causes – namely, builders and fathers – are genuine agents, but not paradigmatic agents.

We have seen that Avicenna’s argument for the claim that there is some agent who is simply active or actual and is sufficient for the production of its effects depends on two claims. First, a contingent thing needs not only an efficient cause of its coming to be, but also an efficient cause of its existence. Second, an efficient cause of the existence of something cannot be an agent whose acts depend on some originated state. Since builders and fathers are agents whose acts do depend on some originated state, they are causes only of the coming to be of buildings and sons; they are not causes of the existence of these things. Avicenna provides further support for this claim in *Metaphysics* 6.2, when he illustrates another aspect of the true nature of agency, namely, that agents and their effects always coexist. In the next chapter, I will consider the merits of this claim and its relationship to (1) Avicenna’s account of the lesser agency of typical Aristotelian efficient causes, e.g., builders and fathers, and (2) his view that the Agent Intellect is the cause of the existence of contingent individuals.
Chapter two

Avicenna on the coexistence of agents and their effects

Introduction

Avicenna continues to develop his metaphysical account of agency in Book 6, chapter 2 of his *Metaphysics*. His aim in this chapter is to resolve “doubts directed against what the adherents of true doctrine hold, to the effect that every cause coexists with its effect”. The reason we might deny the general principle that cause and effect coexist is that we believe that some efficient causes, such as builders, are the causes of effects with which they don’t coexist: after all, buildings clearly continue to be in the absence of their builders. According to Avicenna, this belief “is a confusion resulting from the ignorance of the true nature of the cause”. In fact, builders are not efficient causes of the existence of buildings. Avicenna’s strategy is to defend the claim that true agents coexist with their effects by showing that our causal analyses of cases in which they don’t appear to do so are flawed. To that end, he illustrates the coexistence of agents and their effects in three test cases. The first case concerns a building, the second a human being and the third an element. Avicenna argues that builders, fathers, and elements are agents who contribute to the coming to be of buildings, sons and other elements, but they are not true causes of their existence. The true efficient cause of the existence of these things is the separate Agent Intellect.

This chapter has two important goals. The first is to assess Avicenna’s attempt to support the claim that true agents coexist with their effects in his three test cases. The second is to clarify Avicenna’s account of the role of natural agents and the role of the

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2 Ibid.
Agent Intellect in cases of substantial generation, i.e., the coming to be of new hylomorphic substances. I begin in Section 1 by explaining his distinction between “true” and “accidental” causes, i.e., his claim that a father, for example, is merely an accidental cause of the existence of his son. In Section 2, I turn to Avicenna’s first case study, the case of building. I argue that Avicenna’s claim that a true cause coexists with its effect is only weakly supported in this case due to similarities between artistic agents, e.g., builders, and creative ones, e.g., the Agent Intellect. The coexistence principle is better supported by his analysis of the cause of the existence of human beings and elemental bodies. But Avicenna’s analysis of these cases indicates that he holds that the Agent Intellect is the cause of the existence of the forms of hylomorphic composites. The latter aspect of Avicenna’s view is criticized in secondary literature on two grounds. I explain these criticisms in Section 3. The first criticism is that Avicenna’s claim that the Agent Intellect is the cause of the existence of hylomorphic composites entails the denial of causal efficacy to natural things in cases of substantial generation. The second criticism is that Avicenna misunderstands Aristotle’s use of the notions of potentiality and actuality in order to explain generation. In Section 4, I defend Avicenna against the latter criticism. In my view, Avicenna endorses an Aristotelian account of generation.

In chapter 1, we saw that he differs from Aristotle on another issue, namely, the need to explain the existence of contingent individuals. This creates a tension in his work which threatens his view that natural agents have genuine causal powers with respect to generation. In Sections 5 and 6, I address this tension as it relates to cases of animal generation and elemental transformation.
2.1 True vs. accidental agents

In his account of the causal roles of builders, fathers and elemental fire with respect to the coming to be and existence of buildings, sons and elemental water, Avicenna aims to establish that the true causes of X coexist with X. Since the acts of builders, fathers and elemental fire are temporally prior to the existence of the buildings, children and elements they cause to come to be, these agents are merely accidental causes of the existence of these things. The distinction between true and accidental agents reflects his analysis of several flaws in the “common” conception of the agent in *Metaphysics* 6.1. In chapter 1, we saw that in that analysis, Avicenna first establishes that agents cause existence, not “existence after nonexistence” on the ground that nonexistence is not producible, but is due to the absence of a cause. The distinction between the agent considered as a cause of existence and the agent considered as a cause of “existence after nonexistence” is relevant to his analysis of his three test cases in *Metaphysics* 6.2. Builders, fathers and elements are commonly assumed to be agents who explain the existence of buildings, sons and other elements. According to Avicenna, the activity of any of these agents explains only the fact that something exists after it was not. But since nonexistence is not producible, it isn’t really accurate to claim that X causes the “existence after nonexistence” of Y.

Those who consider builders, fathers and elements to explain the existence of buildings, sons and other elements on the ground that they are causes of the “existence after nonexistence” of those things focus their causal analyses on temporal origination. As Avicenna points out, “origination” means “nothing other than existence after not having been”.\(^3\) We saw in chapter 1 that Avicenna argues that we can’t limit our causal

\(^3\) *Metaphysics* 6.1, Marmura (trans.), p. 199; *Al-Ilāhīyyāt*, p. 262; *Latinus*, p. 298.
analyses to temporal origination because things which come to be can’t persist through themselves. So we need to posit not only agents of coming to be, but also agents of existence. Furthermore, if we are seeking the cause of the existence of X, then we should disregard those causes which contribute only to the coming to be of X. For coming to be or origination is accidental to actual existence. The fact that what exists now came to be at some earlier time is irrelevant to its present existence: existence itself does not require and is not explained by coming to be. So causes which contribute only to the coming to be of X are accidental causes with respect to its actual existence. This is why Avicenna deems agents like builders, fathers, and elements accidental causes with respect to the existence of buildings, sons and other elements.

We might think that Avicenna’s claim that builders, fathers and elements are merely accidental causes of the existence of buildings, sons and other elements entails that these things are not genuine agents. The reason we might think so is that Avicenna defines the efficient cause in *Metaphysics* 6.1 as the cause of the existence of another. And he then denies that builders, fathers and elements are true causes of the existence of buildings, sons and other elements. But Avicenna would not agree that his claim that builders, fathers and elements are accidental, not true, efficient causes of the existence of buildings, sons and other elements entails that they are not genuine agents. He thinks that they are agents. And he also thinks that their proper effects don’t include the existence of buildings, sons and other elements. The compatibility of these two claims is

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4 He says that “origination and other things are matters that occur to it accidentally” (*Metaphysics* 6.1, Marmura (trans.), p. 200; *Al-Ilāhīyyāt*, p. 263; *Latinus*, p. 300).

5 Avicenna’s account of “accidental” causes of existence influences Duns Scotus’ account of “accidentally ordered” series of causes of existence, which plays a role in his proof for the existence of God. The Avicennian antecedents of this proof are discussed in Druart (2002), pp. 253-266.
explained by Avicenna’s definition of the efficient cause in both his *Metaphysics* and his *Physics*.

In *Metaphysics* 6.1, Avicenna defines the efficient cause as “that which gives an existence distinct from itself” and claims that this definition takes into account the fact that the metaphysician “doesn’t mean by “agent” the principle of motion only, as the natural philosophers do, but the principle of existence and its giver, like the creator of the world”.

He then says that a natural efficient cause is also a principle of existence in another, but in a restricted sense. For a natural efficient cause doesn’t give existence apart from one of the types of motion: “the giver of existence in natural things is a principle of motion”. The same distinction appears in Avicenna’s *Physics*. There he says that the agent in natural things is said to be a “principle of motion in another insofar as it is other” and that “we mean by motion here every excursion from potency to act in matter”. But if the notion of agency is considered “not in terms of natural things, but...

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6 *Metaphysics* 6.1, *Al-Ibādiyyāt*, p. 257 (my trans.); Marmura (trans.), p. 195; *Latinus*, pp. 291-2. 7 That is, apart from one of Aristotle’s three types of motion, namely alteration (change of quality), locomotion (change of place), increase/diminution (change of quantity). Generation and corruption are not included here. Avicenna says that “when the natural philosophers speak of the agent as a principle of motion, they mean by this the four motions and they are negligent in this matter and they posit generation and corruption as a motion” (*Metaphysics* 6.2, *Al-Ibādiyyāt*, p. 268 (my trans.); Marmura (trans.), p. 205; *Latinus*, p. 306). 8 *Metaphysics* 6.1, *Al-Ibādiyyāt*, p. 257 (my trans.); Marmura (trans.), p. 195; *Latinus*, p. 292. 9 Avicenna. *Al-Shifā‘: Al-Samā‘ al-tabi‘i [Physics]*, 1.10, p. 48. Notice that Avicenna insists that agents, whether considered as causes of existence or as causes of motion, produce effects which are distinct from themselves or in something distinct from themselves. Marmura notes that “there is in Avicenna an emphasis, almost a harping, on the distinctness of the efficient cause from its effect, its otherness” (Marmura (1984b), p. 173. Marmura suggests that this “harping” is in order to avoid pantheism. Perhaps this is correct. But Avicenna might insist on the distinctness of agents and their effects because he denies (1) that anything can cause the existence of itself and (2) that anything can be both potentially X and actually X at the same time and in the same respect. The latter claim supports the view that agents must be distinct from their patients, since the active causal power of an agent is constituted by the state of being actually X, whereas the passive causal power of a patient is constituted by the state of being potentially X. Avicenna defends the distinctness of agent and patient even in cases of apparent self-motion, e.g. when the nature of Y is the source of Y’s motion. I discuss Avicenna’s account of the distinctness of agents and their effects in cases of apparent self-motion in Section 4 below.
in terms of existence itself, then it is a concept more general than this and everything which is a cause of existence distinct from itself...is an efficient cause”.

In these passages, it is clear that Avicenna considers both natural and creative agents to be givers of existence. The difference between natural and creative agents is that the former “give existence” only in the sense that causing motion is a way of giving existence: to cause motion is to make be that motion. The natural philosopher defines the efficient cause as a source of motion because he is concerned with motion alone, not with existence, which is the subject matter proper to metaphysics. So the natural philosopher does not need the metaphysician’s broader definition of an agent as a source of existence. But the metaphysician’s broader definition of an agent as a cause of existence includes agents which cause motion. So even though Avicenna holds that builders, fathers and elements are merely accidental causes of the existence of buildings, sons and other elements, he also holds that they are causes of existence, since they are causes of motion and causing motion is a way of giving existence. It is important to note that the claim that an agent is an accidental cause of X does not entail a general denial of causal efficacy to that agent, but rather entails a denial of causal efficacy to that agent with respect to X. It is also worth noting that the motion caused by these agents coexists with their activities. So the principle that cause and effect coexist is upheld with respect to the acts of these agents.

2.2 The case of the building

Avicenna first illustrates the difference between true causes which coexist with their effects and accidental causes which are temporally prior to their effects in the case of a building. The primary aim of this Section is to assess Avicenna’s argument for the

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claim that builders are merely accidental causes of the existence of buildings. But this
Section also serves to introduce two aspects of Avicenna’s thought which are relevant to
his analysis of all three of his test cases. The first is the role played by the formal
constituent of a composite substance in causing the existence of a substance. Avicenna
holds that the form of the composite is a partial and proximate cause of the existence of
the composite. This aspect of this thought explains why he says that the cause of the
existence of a building includes its shape. Although a building is an artifact and so has
no biological form, Avicenna treats the shape of a building as analogous to the formal
constituent of a hylomorphic composite. The second aspect of Avicenna’s thought
introduced in this Section is his argument for the claim that causes coexist with their
effects in *Metaphysics* 4.1. This argument provides the theoretical underpinnings of his
claim that causes coexist with their effects in *Metaphysics* 6.2.

Avicenna’s begins his account of the case of the building by considering the
causal role played by the builder. He identifies the builder as a cause of motion. Though
Avicenna doesn’t say so here, he holds that this motion is toward the form or shape of
the house. 11 This motion and its termination is the cause of a certain combination of
materials. And the combination of materials is the cause of the building having the
shape it has. That is, the combination of materials is the cause of the occurrence of an
artifact with a certain shape. 12 But this is not the whole story. For the existence of the

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11 In *Metaphysics* 6.4 Avicenna says, “[y]ou have known that one and the same thing may, in
different respects, be form, purpose, and efficient principle. This is also the case in art. For art
is the form of the artifact in the soul. For building is in itself the movement toward the form of
the house. This is the principle from which the realization of the form in the matter of the
house proceeds” (*Metaphysics* 6.4, Marmura (trans.), p. 219; *Al-Ilāhyyāt*, p. 283; *Latinus*, p. 325).
12 He says, “[a]s for the builder, his movement is the cause of a certain motion. Thereafter, his
immobility and refraining from motion, or his ceasing to move and affect transportation after
having transported, constitute a cause for the termination of that motion. [Now,] that very act of
transporting and the termination of this motion are a cause of a certain combination, and that
combination after it comes to be is itself something that requires a cause. The cause of
the existence of the combination after it comes to be is “the natures of the things
combined” and “their remaining in the ways they are composed”, as well as “the
separable cause that enacts the natures”, i.e., the “giver of forms” or Agent Intellect.  

Avicenna thinks that in this example, he has shown that true agents coexist with
their effects. While the builder is building, that is, while he is moving materials from one
place to another, and, in doing so, arranging them in a certain way, he is a true cause of
his effects. But he is not a true cause with respect to the existence of the building. For
the true cause of the existence of the building is (1) its shape, which supervenes on the
arranged materials, i.e., the combination, and (2) the cause of the existence of the
combination itself, which Avicenna identifies as (a) the natures of the things combined
and their remaining in the ways they are composed and (b) as the separable cause of the
natures of the things combined, i.e. the Agent Intellect. Each of these true causes of the
existence of the building coexists with its effect. So long as the combination remains,
the shape remains, but if the combination is destroyed, the shape, and thus the building,
is destroyed. And the combination itself remains so long as its material components
exist and so long as these components remain as they were put together. Since the
material components depend for their existence on the separable cause of their natures,

combination is a cause for a certain shape taking place; and each of [the things] that constitutes a
cause coexists with its effect” (Metaphysics 6.2, Marmura (trans.), p. 201; Al-Iḥāyiyyāt, p. 264;
Latinus, p. 301).

Intellect is the cause of both matter and the natures or quiddities that comprise things in the
sublunary world. Avicenna considers himself justified in claiming that the natures of the
materials are themselves candidates for causal explanation on the ground that these natures are
possible in themselves and, like all things possible in themselves, they must have some cause.
That this cause is the “separable” Agent Intellect, the last in a series of intelligences that account
for the existence of the heavens and the earth, is explained in Book 9 of his Metaphysics.
the separable cause of those natures, i.e., the Agent Intellect, is among the true, coexistent causes of the existence of the combination.

Avicenna’s claim that the true causes of the existence of a building include its shape, which supervenes on the arrangement of its materials, seems strange, since we don’t ordinarily consider the shape of a building or the arrangement of its materials to be efficient causes. With respect to this issue, it is important to notice that the arrangement of the materials of a building is analogous to the formal constituent of a hylomorphic composite substance, e.g., a plant or an animal. This is not immediately helpful, since Avicenna follows Aristotle in distinguishing formal and efficient causes. He identifies the formal cause as “the cause which is a part of the subsistence of the thing and in terms of which the thing is what it is in actuality”.\(^\text{14}\) And, as we have seen, he identifies the efficient cause as “that which bestows an existence that is other than itself”.\(^\text{15}\) One important difference between these two types of causes is that the formal cause is intrinsic to a thing, whereas the efficient cause is extrinsic to it.\(^\text{16}\) Nevertheless, Avicenna claims that the form of the composite can be considered to be the partial and proximate efficient cause of the existence of the composite. Avicenna explains this aspect of his view in *Metaphysics* 6.1, where he distinguishes (1) the role of form with respect to the existence of matter from (2) the role of form with respect to the existence of the composite. He says,

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\(^{16}\) Jean Jolivet argues that Avicenna’s distinction between causes intrinsic to or immanent in their effects (the formal and material causes) and causes extrinsic to or transcending their effects (the efficient and formal causes) is original. See Jolivet (1991), p. 98. Wisnovsky shows that Avicenna does not originate the distinction, which is found in Neoplatonic treatises and in Ancient Greek commentaries on the works of Plato and Aristotle. See Wisnovsky (2003b).
If the form is a cause for matter which it renders subsistent, [this] is not in the manner in which form is a cause for the composite, even if both agree from the perspective that each is a cause of something whose essence does not separate from [such a cause]. For, even if both agree in this, in the case of one of the two perspectives the cause of the other does not bestow on it its existence; rather, something else bestows existence, but in it. [In the case of] the second, the cause would be the proximate principle for bestowing on the effect its existence in act – not alone, however, but with a partner and a cause that brings into existence the cause (I mean the form). It would then render the other [that is, the matter] subsistent through it. Thus, it would be an intermediary with a partner in bestowing on that [matter] its existence in actuality. Form would be as though [it were] an efficient principle for matter, if the existence [of matter] in act comes about through the [form] alone. It seems that the form would be a part of the efficient cause, as in the case of one of the two movers of a ship.  

This passage is cryptic. In my view, when Avicenna claims first that “in the case of one of the two perspectives the cause of the other does not bestow on it its existence; rather, something else bestows existence, but in it”, he is discussing the role of form with respect to the existence of matter. He denies that form is the cause of the existence of matter. The second case he discusses has to do with the role of form with respect to the existence of the composite. Avicenna claims that the form is a part of the efficient cause of the existence of the composite. The partner for form to which Avicenna refers in this passage is the “giver of forms” or Agent Intellect. The idea is that since the Agent Intellect gives existence to things in the sublunar world by giving existence to form and matter and since it is through form that matter is rendered something in actuality, we can consider the form itself to be a partial and proximate cause of the existence of the composite. In the case of the building, he treats the arrangement of its

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18 Ibid.
19 This accords with his claim in *Metaphysics* 2.4 that “the cause of the existence of matter is something conjoined with form, so that the existence of matter emanates only from that thing. But it is impossible for the emanation of that thing to be completed without any form at all. Rather the state of affairs is completed through both together” (Avicenna. *Metaphysics* 2.4, Marmura (trans.), p. 67; *Al-Ihābiyyāt*, p. 85; *Latinus*, p. 98). Professor Marmura also takes Avicenna’s discussion of the first case in the above cited passage to deny that form is the cause of the existence of matter. See Avicenna. *Metaphysics* 6.1, Marmura (trans.), n. 6, p. 408.
materials as analogous to the form of a hylomorphic composite substance. This is why he includes the shape of the building, which supervenes on the arrangement of its materials, in his account of the true causes of the existence of a building.

Avicenna’s immediate goal in identifying the true agents of the existence of a building is to defend the general principle that cause and effect coexist. In doing so, he draws on the intuitively appealing idea that X can’t be a true efficient cause of Y whenever X isn’t doing anything. This is one reason we should agree that the builder can’t be the cause of the existence of a building. For the existence of the building coincides with the termination of the builder’s activity, namely, building, which is motion towards the form or shape of the building. But Avicenna provides further support for the claim that cause and effect coexist in his account of ontological priority in *Metaphysics* 4.1.20

In Book 4, chapter 1 of his *Metaphysics*, Avicenna is primarily concerned with defending the claim that X is ontologically prior to Y in the following case: X and Y coexist in time, but X is the cause of the existence of Y. He says,

> if there are two things and the existence of one is not from the other (its existence being, rather, from itself or from a third thing), but the existence of the second is from this first, so that it [derives] from the first the necessary existence which it has neither from nor in itself, having in itself only possibility – allowing [that is] that the first is such that, as long as it exists, it follows as a necessary consequence of its existence that it is the cause of the necessary existence of the second – then the first is prior in existence to the second.21

Here X is considered ontologically prior to Y because X causes Y. Avicenna directs his discussion toward an opponent who holds that if X and Y coexist in time, that is, whenever X exists, Y exists and *vice versa*, the belief that one causes the other is

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20 Marmura (1981) provides a commentary on *Metaphysics* 4.1. This article focuses on the relationship between Avicenna’s account of causal priority and the occasionalism of the Ash’arite school of Islamic theology.

unfounded: for why should we believe that X causes Y, rather than that Y causes X?

Avicenna’s argument against this opponent involves proving that, in fact, causes always coexist with their effects. In this way, his discussion of ontological priority in *Metaphysics* 4.1 provides support for his analysis of his three test cases in *Metaphysics* 6.2.

Avicenna argues for the claim that causes coexist with their effects on the ground that the cause of something is whatever is sufficient to produce that thing:

a thing cannot be such that it is rightly a cause of [another] thing unless [that other] thing coexists with it. If a condition of its being a cause is its very self, then, as long as its [very] self exists, it is a ground and cause for the second’s existence. But, if the condition of its being the cause is not its very self, then itself by itself is something from which it is possible for a thing to be generated and for it not to be [generated] – neither alternative having precedence over the other.\(^{22}\)

So only if the existence of X is sufficient for the existence of Y is X itself the cause of Y. If something else in addition to the existence of X is needed in order to produce Y, then X itself is that from which Y may or may not be produced. But if Y is produced “it is likewise [something] that has the possibility of being and the possibility of not being. It is not inasmuch as its being is possible that it exists, nor is it by virtue of the fact that the other has the possibility of generating it that [the other] bestows existence”.\(^{23}\) So the production of Y demands something that determines that it is produced, since without such a thing Y may or may not be. And what determines that Y is produced can’t be something which may or may not produce Y:

that whose relation is one and the same to a thing’s existence and nonexistence being due to it has no greater claim to be the cause than not to be the cause. Indeed, sound reason necessitates that there should exist a state that differentiates between [the thing’s] existence from it and its nonexistence [from it]. If this state also necessitates this distinction, [and] if this state occurs to the cause and exists, then, together, the “entity” and what has joined it become the cause.\(^{24}\)

\(^{22}\) *Metaphysics* 4.1, Marmura (trans.), p. 126; *Al-Ilāhiyyāt*, p. 165; *Latinus*, p. 187.


\(^{24}\) *Metaphysics* 4.1, Marmura (trans.), p. 127; *Al-Ilāhiyyāt*, pp. 166-7; *Latinus*, pp. 189-9.
Here Avicenna supports the claim that nothing is a cause in virtue of the fact that something else may or may not be produced by it on the ground that right reason demands that something determines that it produces or does not produce. If something in addition to X is needed to bring about Y, then the existence of X, taken together with this additional thing, is the cause of Y. And when the causes sufficient to produce Y exist, Y is produced. If Y exists whenever the cause or causes sufficient to produce Y exist, then Y must coexist with its cause or causes. For given the existence of its sufficient cause or causes, the nonexistence of Y is impossible: the nonexistence of Y indicates that something not yet existent is needed to produce Y. But in that case, the cause or causes sufficient to produce Y do not exist. Avicenna concludes that with the existence of the cause, the existence of every effect is necessary; and the two exist together in time, eternity, or whatever but are not together with respect to the attainment of existence. This is because the existence of [the former] did not come about from the existence of the [latter].

Thus far Avicenna has established that an effect must coexist with any cause that is sufficient to bring it about. So the existence of the cause entails the existence of the effect. But Avicenna also needs to show that the converse is true, i.e., that the existence of the effect entails the existence of the cause, since he aims to prove that cause and effect always coexist. I think he takes himself to have shown this on the following ground. If Y is caused, then Y, considered in itself, is merely possible of existence: its actual existence is due to its cause. So if Y exists, then so does some cause which determines that it is actual. This doesn’t mean that where the existence of X or the existence of X and Z together is sufficient to produce Y, we can infer that if Y exists, then X or X and Z exist. For there could be a variety of different things sufficient to

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produce Y. But it does mean that if Y exists, then it coexists with something whose
causal efficacy is sufficient to produce Y.

If agents and their effects must coexist, then a builder can’t be a true cause of the
existence of the building once he ceases to build: for it is clear that buildings don’t cease
to exist when their builders do. So Avicenna’s argument for the claim that causes coexist
with their effects in Metaphysics 4.1 provides strong support for his claim in Metaphysics 6.2
that builders aren’t the causes of the existence of buildings. The problem in this case is
that it isn’t clear that we can account for the existence of a building without including the
builder in our list of its true causes. And if we must include the temporally prior activity
of the builder in our explanation of the existence of the building, then the general
principle that agents coexist with their effects is not secure.

We might at first suppose that the builder ought to be included in our
explanation of the existence of the building because he arranges materials in a certain
shape, that is, his motion is toward the form or shape of the building. After all, stone
and mortar arranged in a certain way become a house, but arranged in some other way
become a hearth or a fence. But Avicenna could agree that the builder’s decisions about
where to put the materials determine that a house comes to be, rather than a hearth or a
fence, while denying that the builder’s activities cause the existence of the shape of the
house. For the existence of the shape of the house supervenes directly on the
combination of materials: if the combination exists, so does the shape. If the causes of
that combination after it comes to be don’t include the builder, then Avicenna is right to
deny that the shape of the building and so its existence depend on the builder. So the
question whether the builder ought to be considered a true cause of the existence of the
building should be posed in terms of whether the builder ought to be considered a true
cause of the existence of the combination of materials after it comes to be, or whether
Avicenna’s claim that the existence of the combination is explained by the natures of the
materials combined and their remaining as they were put together is satisfactory.

Avicenna himself simply asserts that the true cause of the existence of the
combination is the natures of the things combined and their remaining in the ways they
are composed. He doesn’t explicitly defend this claim. I take it that he thinks the claim
that the cause of the existence of the combination is the natures of the things combined
is justified in part because to be the combination is to be, for example, bricks, mortar
and so on. In other words, to be this combination is to be an aggregate of bodies with
natures which make them the kinds of bodies they are. Likewise, if I were to ask what is
the cause of the existence of my supper on a night when I sit down to eat pork chops,
potatoes and peas, the answer to my question would be pork chops, potatoes and peas.
To be this supper is to be pork chops, potatoes and peas, that is, to be this supper is to
be an aggregate of bodies with the natures of pork chops, potatoes and peas. But an
opponent might object to this defense on the ground that to be this combination is not
merely to be an aggregate of bodies of a certain type. A hearth or a fence or even a heap
of bricks and a bucket of mortar differ from bricks and mortar combined so as to form
four walls.

In response to such an opponent, Avicenna could argue that the combination is
not a genuine composite entity. In that case, the combination is its parts and the
distinction between the existence of a heap of bricks and a bucket of mortar and the
existence of those bricks and that mortar arranged such that they make up a building
reflects convention but not ultimate reality. If this were Avicenna’s view, then his
account of the cause of the existence of the combination would be an account of the
cause of the existence of its components, but not an account of the existence of the components arranged in a certain way. That this is not Avicenna’s view is indicated by his claim that the existence and persistence of the combination of materials depends both on the natures of the things combined and on their remaining in the way they were composed.

It is clear that so long as the things combined remain in the way they were composed, the combination is not merely an aggregate of bodies, but an aggregate with a certain arrangement that grounds its causal power with respect to the shape of the building. So in order to explain the existence of this combination, we need to explain not only the existence of its parts, but also the arrangement of those parts. It seems, then, that Avicenna’s distinction between the true and the accidental causes of the building is in trouble. For it seems that the builder is the cause of the arrangement of the parts. Yet the builder need not coexist with the arrangement of the parts after it comes to be. I take it that this is not how Avicenna views the case. I will first explain how he might defend himself against the objection that the builder is the cause of the arrangement of the combination after it comes to be. I will then argue that the problem that arises in the case of the building is due to the fact that the building is an artifact, not a biological organism, and so this problem does not arise in the other cases Avicenna analyses in order to support the claim that agents coexist with their effects.

Avicenna holds that the builder is the cause of the coming to be of the arrangement of parts, but the fact that the things combined remain in the way they were composed is not due to the builder. So what is the cause of the existence of the arrangement of the parts after it comes to be? Perhaps Avicenna thinks that the existence of the arrangement of the parts after it comes to be supervenes on the natures
of the parts. Say the building is made of bricks and mortar. The nature of mortar is such that it keeps the bricks together. And the nature of bricks is such that they are durable, or at least more durable than straw or wood. So the natures of the components of the buildings explain not only the existence and persistence of the components of an aggregate, but also the existence and persistence of the arrangement of the combination after it comes to be.

An opponent could argue that the way the builder put together the materials is essential, not accidental, to the existence and persistence of the arrangement of the combination after it comes to be on the ground that the builder’s art contributes to the things combined remaining in the way they were composed. The fact that the builder, exercising his knowledge of the art of building, put the mortar in between the bricks is one of the reasons that the things combined remain in the way they were composed. I think Avicenna could respond to such an opponent in two ways. First, he could insist that persistence or decay of the arrangement of the parts is due to the natures of the materials that happened to be arranged that way, for it is these natures which ground the building’s resistance and vulnerability to windy weather and wrecking balls. Certainly the building will endure for a longer time if the builder builds well. But the persistence or decay in the arrangement that came to be from the builder’s knowledge of building must occur on account of the natures of the things arranged whether the building is built well or badly. The fact that the wall that fell down was badly supported would provide grounds for suing the builder, but that’s because we think that the builder could have done things differently and so could have produced a better building. The existence and persistence of the building he did make is due to the natures of the materials, which constitute their powers to oppose or succumb to stresses and strains. For this reason,
the builder’s exercise of the art of building is only a cause of the coming to be of something after it was not. It is not a cause of the persistence or decay of the arrangement of the materials after it comes to be.

An opponent of Avicenna may not be satisfied with this response on the ground that if the building will endure for a longer time if the builder builds well, then the persistence of the building really is due at least in part to the way the builder arranged the materials. This objection suggests a second counter-argument available to Avicenna: he could agree that in arranging the materials in a certain way, the builder imposes on those materials a form governed by the art of building, but argue that this form does not depend for its existence or persistence on the builder himself. Although a particular builder, such as Polyclitus, has knowledge of the art of building in accordance with which he arranges the materials, it is the art of building itself which causes the existence of the arranged materials on which the shape of the building supervenes. And the art of building once imposed on the materials remains in them and plays a role in the persistence of the building insofar as the art of building imposes on the materials an arrangement which contributes to the building’s power to oppose or succumb to stresses and strains. If we view the case in this way, then the role of a builder who imposes a certain arrangement on some materials through his knowledge of the art of building is similar to the role of natural agents in generation. This stallion may be the father of this foal, but is not the cause of the quiddity or nature of horseness, which is the proximate cause of the existence of the foal after it comes to be. This analogy is problematic for Avicenna: in the case of the foal, whose proximate cause of existence is the quiddity or nature “horseness”, the quiddity itself is caused and conserved by the Agent Intellect. Whereas in the case of the building, the formal constituent of the building seems to be
without a cause after it comes to be: the Agent Intellect bestows natural forms, not the forms of artifacts. Moreover, it seems odd to say that the art of building exists in the arrangement of its materials, for the existence of an art depends on an agent who has that art. So even if we consider the art of building itself to be the efficient cause of the organized combination of materials, and so consider Polyclitus a *per accidens* cause in the sense that the art of building just happens to be his, it still seems that one of the true causes of the organized combination of materials is not a coexistent cause. For how can the art of building exist without an artist?

The problem that arises for Avicenna in this case is due to the fact that the arrangement of the materials, which is necessary in order for the building to exist *qua* artifact with a certain shape, is created by human agents in a way that is analogous to the way the quiddities of natural organisms are created by the Agent Intellect. But natural agents can’t preserve the shapes of the artifacts they make. So while Avicenna’s account of the distinction between true and accidental causes falters in the case of the building, it does not falter, or at least doesn’t falter in the same way, in cases of natural, rather than artificial, generation.

2.3 The case of the son

Avicenna treats the question of the cause of the existence of a human being in a way similar to his treatment of the cause of the existence of a building. The main difference in this case is that a human being is a hylomorphic composite substance, whereas a building is an artifact and so has no biological form. He begins with the role of the father, since, like Aristotle, he considers the father (rather than the mother or both
parents) to be an efficient cause in cases of human generation.\textsuperscript{26} He identifies the father as the cause of the motion of sperm. The termination of the motion of the sperm is the arrival of the sperm in the womb. His final remarks on this case are ambiguous. He says that the sperm’s “occurrence in the womb is a cause for something. As for its becoming formed as an animal and its continuity as an animal, [this] has another cause”.\textsuperscript{27} It is not clear here what sort of role Avicenna assigns to the sperm in generation. What is clear is that Avicenna holds that the Agent Intellect is the cause of the existence of the composite after it comes to be: he says that “[t]he cause of the son is the combination of his form with matter through the cause that endows forms”.\textsuperscript{28}

Just as in the case of the building, so in the case of the son Avicenna takes himself to have shown that the true causes of the existence of X coexist with X, whereas causes which temporally precede the existence of X are accidental causes of the existence of X. The father is the true cause of the motion of the sperm, a motion which terminates in the arrival of the sperm in the womb, but only an accidental cause of the existence of the son. Likewise, the sperm’s being in the womb is the true cause of something. But the sperm’s being in the womb is, like the father’s activity, merely an accidental cause of the existence of the son. For the true cause of the existence of the son is the combination of his form and matter, which in turn depends on the cause which gives form and matter to the sublunar world, i.e. the Agent Intellect.

Avicenna’s identification of the father as a true cause of the motion of sperm, but an accidental cause of the existence of his son is plausible. For while the motion of the sperm is necessary in order for the embryo to come to be, it can’t be said to cause

\textsuperscript{26} Aristotle considers the mother the material cause. Avicenna differs from Aristotle in holding that both males and females produce semen. On this issue, see note 66 below.

\textsuperscript{27} \textit{Metaphysics} 6.2, Marmura (trans.), p. 201; \textit{Al-Ihya‘ā}, p. 264; \textit{Latinus}, p. 301.

\textsuperscript{28} \textit{Metaphysics} 6.2, Marmura (trans.), p. 202; \textit{Al-Ihya‘ā}, p. 265; \textit{Latinus}, p. 302.
the existence of the embryo, which seems to depend on the sperm itself (as well as on the material contributed by the mother), rather than on the cause that puts the sperm in the womb. In Avicenna’s terms, this means that fathers are merely accidental causes of the existence of their sons: coming to be is accidental to existence. Thus far, Avicenna’s view accords with Aristotle’s account of animal generation. Aristotle identifies the male as “the first efficient or moving cause, to which belong the definition and the form” and often uses the father’s role in generation as an example of efficient causation. But when he discusses the issue in more detail in the Generation of Animals, he says that “in all products of nature or art, a thing is made by something actually existing out of that which is potentially such as the finished product” and he says that “the semen is of such a nature, and has in it such a principle of motion that when the motion is ceasing each of the parts comes into being, and that as a part having life or soul”. Our next question concerns Avicenna’s view of the causal role of sperm with respect to the coming to be and the existence of the son.

Avicenna doesn’t tell us anything in this passage about how the occurrence of the sperm in the womb contributes to the coming to be of the son. We do know, however, that Avicenna holds that the Agent Intellect, which “endows forms”, is the cause of the existence of a hylomorphic composite substance, such as the son. Recall that in the case of the building, Avicenna’s account of the coexistence of agents and their effects falters because it seems that we must appeal to the builder’s activity to explain the existence of a building. This problem does not arise here. Avicenna identifies as the cause of the existence of the son an agent which coexists with the existence of the son

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20 Aristotle. *Generation of Animals*, 2.1, 732b 3-11. At *Physics*, 2.3 194b31 and *Metaphysics* 1013a31 Aristotle uses the father as an example of an efficient cause.

and whose form-giving activity suffices to explain the existence of the son. So there is no need to appeal to the activity of the sperm in the womb to explain the existence of the son. But Avicenna’s silence here with respect to how the sperm contributes to generation gives rise to a different problem.

The problem in this case is what to make of Avicenna’s claim that the cause of X’s “becoming formed as an animal and its continuity as an animal” has a cause other than the sperm, namely, the Agent Intellect. This claim suggests that the Agent Intellect bestows on the composite its form. If that is the case, then the contribution of sperm to generation is not formative. So Avicenna disagrees with Aristotle when the latter says in the *Generation of Animals* that the generated thing is made by something actually existing out of that which is potentially such and identifies sperm as the actuality which makes what is potentially an animal become actually an animal. This aspect of Avicenna’s view gives rise to two criticisms raised in secondary literature on Avicenna’s account of substantial generation.

The first criticism concerns the roles of both the father and the sperm in substantial generation. Substantial generation is the coming to be of a new substance. And a substance comes to be when matter takes on a new substantial form. But if forms are bestowed by the Agent Intellect, then it seems that neither the father, nor the sperm are genuine causes of substantial generation. The second criticism is that if form is bestowed by an agent extrinsic to natural things, then it seems that Avicenna’s view is that form is impressed on matter from without rather than educed from the potentiality

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of matter. So Avicenna misunderstands Aristotle’s superior account of substantial change.\textsuperscript{33}

These criticisms do not reflect a detailed analysis of Avicenna’s arguments, so I will not dwell on them here. But it seems to me that if we think that when Avicenna claims that the cause of X’s “becoming formed as an animal and its continuity as an animal” has a cause other than the sperm, he means that the Agent Intellect bestows the form of the composite and that the contribution of sperm to generation is not formative, then these criticisms are apt.\textsuperscript{34} For if the Agent Intellect bestows the form of the composite, then neither the father nor the sperm can be considered to be “givers of form”. And if substantial generation occurs when matter takes on a new substantial form, then neither the father, nor the sperm cause substantial generation. Furthermore, if the Agent Intellect bestows the form of the composite, then it seems that Avicenna denies that substantial forms are educed from the potency of matter. Both of these results are surprising, since they don’t accord with claims Avicenna makes elsewhere in his \textit{Metaphysics}, which indicate that he holds that fathers and sperm are causes of substantial generation and that he affirms Aristotle’s use of the notions of potentiality

\textsuperscript{33}This criticism is raised by Weisheipl in the article cited above. He first presents his own interpretation of the problem of substantial change to which Aristotle responds: “[e]ither the form of the second substance already exists in the first or it does not. If it already exists, then it does not become a new thing: \textit{quod est, non fit}. If, on the other hand, it does not yet exist in the first, then where does it come from? It cannot come from itself, for then it would already be; and it cannot come from nothing, for from nothing, nothing can come: \textit{ex nihilo, nihil fit}”(Ibid., p. 149). He then notes that this problem was solved by Aristotle through the introduction of the notions of potency and act: the new form exists potentially in the matter of the first substance and becomes actual through an efficient cause which actualizes this potentiality. Avicenna needs the Agent Intellect in order to explain substantial change because he “never grasped Aristotle’s solution embedded in the concept of the pure potentiality of prime matter” (Ibid., 149-150). As a result, he posits the Agent Intellect as the \textit{dator formarum} or giver of forms in order to explain how the forms of generated substances come into existence.

\textsuperscript{34}\textit{Metaphysics} 6.2, Marmura (trans.), p. 201; \textit{Al-Ib\'iy\'ah}, p. 264; \textit{Latinus}, p. 301.
and actuality to explain change, whether substantial or accidental. I address these issues in Sections 4-6.

In Section 4, I examine Avicenna’s account of Aristotle’s notions of potentiality and actuality in *Metaphysics* 4.2. In this account, Avicenna appears to uphold an Aristotelian view of substantial generation. It is clear that his account of the role of natural agents and the role of the Agent Intellect in cases of substantial generation does not reflect a misunderstanding of Aristotle’s use of the notions of potentiality and actuality to explain substantial generation. Nevertheless, Avicenna’s claim that the “giver of forms” or Agent Intellect is the cause of the existence of hylomorphic composite substances threatens his view that natural agents are genuine causes of substantial generation. I discuss the tension between these two claims in Section 5, which focuses on animal generation, and in Section 6, which focuses on elemental transformation.

2.4 Avicenna on potentiality and actuality

In his discussion of potency and act in *Metaphysics* 4.2, Avicenna adopts two key aspects of Aristotle’s account of the role of principles of potentiality and actuality in generation. The first concerns the role of a principle of potentiality in generation: Avicenna argues that any generated thing must be material, since such a thing needs a bearer of the potentiality of its existence and matter plays this role. The second concerns the role of a principle of actuality in generation: in arguing for the claim that actuality is prior to potentiality, Avicenna follows Aristotle in holding that the potential requires for its actualization something in act, which is most often something like the enacted in kind.
Avicenna argues that “everything that is originated after not being must necessarily have matter” on the ground that “every generated thing requires for its generation – before its generation – that it be possible of existence in itself.”\(^{35}\) But “[t]he possibility of its existence does not consist in [the fact] that the agent has the power [to enact] it. Rather, the agent has no power to [enact] it if it is not possible in itself”.\(^{36}\) He then claims that the possibility of the generated thing’s existence is “either a nonexistent idea or an existent idea”, by which he seems to mean that the idea of this possibility either does or does not refer to something that exists extramentally.\(^{37}\) He argues that the idea of this possibility must refer to something that exists extramentally, if the claim that the possibility of the generated thing’s existence preceded it is true.\(^{38}\) Finally, he identifies the possibility of the generated thing’s existence with “the potentiality of existence” and claims that “we term the bearer of the potentiality of existence, which has the potentiality of a thing’s existence, “subject,” “hyle,” “matter,” and other [names] according to various ways of considering [things]”.\(^{39}\)

Avicenna then addresses the question of the priority of potency to act. He holds that “regarding particular things that are generated and corrupted” potency is temporally prior to act.\(^{40}\) Despite this temporal priority of potency to act in particular things that are generated and corrupted, Avicenna argues that act is prior to potency in such things. He claims first that since “potency does not subsist in itself, it must subsist in a substance that needs to be in act”.\(^{41}\) So a temporally prior potency depends for its existence on

\(^{35}\) *Metaphysics* 4.2, Marmura (trans.), p. 139; *Al-Ilāhiyyāt*, p. 181; *Latinus*, p. 208.

\(^{36}\) Ibid.

\(^{37}\) *Metaphysics* 4.2, Marmura (trans.), p. 140; *Al-Ilāhiyyāt*, p. 182; *Latinus*, p. 209.

\(^{38}\) Ibid.

\(^{39}\) *Metaphysics* 4.2, Marmura (trans.), p. 140; *Al-Ilāhiyyāt*, p. 182; *Latinus*, p. 210

\(^{40}\) *Metaphysics* 4.2, Marmura (trans.), p. 141; *Al-Ilāhiyyāt*, p. 183; *Latinus*, p. 211.

\(^{41}\) Ibid.
something actual: “[i]f it had not become actual, it would not be prepared to receive anything. For that which is absolutely nonexistent cannot receive anything”. 42 He also claims that “potency needs to be actualized by something existing in act”. 43 This sort of dependence on a prior actuality is twofold.

First, what is in potency depends for its actualization on something existing in act, which also “requires something else to move it [and so on, with the process] leading to an actual existent that did not originate in time”. 44 So what is in potency ultimately depends for its actualization on something whose own activity does not depend on the actualization of a prior potency. I take it that Avicenna means that the activity of the ultimate moved mover depends on the unmoved mover. In Avicenna’s emanationist account of creation, the unmoved mover is the first created intellect, which doesn’t originate in time, since it is coeternal with God. 45

Second, what is in potency depends on a proximate mover which is for the most part something of the same kind (mujānis) “existing in actuality before the action – as in the case of the hot that heats and the cold that cools”. 46 He also claims that it is often the case that that which is in potency, inasmuch as it is the subject bearing potency, comes into existence through that which is in act, where the act is prior to the potency in time, not [contemporaneous] with it. For sperm comes to be from the human, and seed from the tree, so that, from [the former], a human comes to be, and, from [the latter], a tree. Hence, the supposition that the act in these matters precedes potency has no priority to the supposition that potency precedes the act. 47

42 Metaphysics 4.2, Marmura (trans.), p. 141; Al-Iḥāṣāt, p. 183-4; Latinus, p. 211.
43 Ibid.
44 Ibid.
45 See Metaphysics 9.1-2.
46 Metaphysics 4.2, Marmura (trans.), p. 142; Al-Iḥāṣāt, p. 184; Latinus, p. 212.
47 Metaphysics 4.2, Marmura (trans.), p. 142; Al-Iḥāṣāt, p. 184; Latinus, p. 212.
Here Avicenna adopts Aristotle’s belief that biological organisms generally come to be from natural things which are like them in kind. Notice, however, that Avicenna identifies sperm here as “the subject bearing potency”. What does this mean?

Earlier in *Metaphysics* 4.2, Avicenna compares the sense in which sperm is potentially a man to the way a boy is potentially a man. Both the sperm and the boy are said to have passive powers for becoming a man, but the sperm’s power is remote, while the boy’s is proximate. Avicenna aims here to distinguish the difference between a remote and a proximate passive power. The sperm’s power to become a man is remote because the sperm requires that it also be encountered by a motive power that precedes [the power] that moves to manhood, because it requires the actualization of something other than man. Then, after this, the preparation is set for it to bring into actuality a man. In reality, the true passive potency is this. As for the sperm, in reality it still does not have a passive power. For it is impossible for the sperm, while still a sperm, to be acted on so as to become a man. But, since it has the potency to become something through that which is not sperm and then, after this, transfer to another thing, then it is also in potency that thing. Indeed, prime matter is, in potency, all things.\(^{48}\)

This passage is very cryptic. Avicenna claims first that the sperm’s power to become a man is remote because the sperm must first encounter a motive power. The reason it must first encounter a motive power is that it requires the actualization of something other than man. For the sperm itself isn’t the sort of thing that can be acted on so as to become a man. Once the sperm been encountered by the motive power, the preparation is set for bringing into actuality a man. I think that these claims are illuminated by Avicenna’s discussion of the distinction between two types of efficient cause in his *Physics*.

In *Physics* 1.10, Avicenna first defines the efficient cause in natural things as a principle of motion in another, and states that motion is the going out from potentiality

\(^{48}\) *Metaphysics* 4.2, Marmura (trans.), p. 134; *Al-Iḥāyiyyāt*, p. 175; *Latinus*, p. 200.
to actuality in matter.\textsuperscript{49} He then draws a distinction between the principle of motion considered as a “preparer” (\textit{muhabyi'}) and the principle of motion considered as a “perfecter” (\textit{mutammim}). The preparer “is that which puts the matter in order”, or, in other words disposes the matter.\textsuperscript{50} Avicenna says that the perfecter “is that which gives the form”.\textsuperscript{51} I want to focus first on the role of the preparer, but will return to the issue of the perfecter later. In \textit{Physics} 1.10, Avicenna gives as an example of a preparer the mover of the sperm. So when Avicenna says in \textit{Metaphysics} 6.2 that in generation, the father is “the cause for the movement of the sperm”, he means that the father is a principle of motion in the sense of a “preparer”.\textsuperscript{52} The effect of the father’s movement is said to be the occurrence of the sperm in the womb. So when Avicenna says in \textit{Metaphysics} 4.2. that the sperm’s power to become a man is remote because the sperm must first encounter a motive power, he means that in order for the sperm to become an man, it must first be moved by the father to the womb. The reason the sperm must be moved to the womb in order to become a man is that it requires for its actualization something other than man: for it is impossible for the sperm, while still sperm, to be acted on so as to become a man. I take it that this means that once the sperm is in the womb, it is conjoined with matter, and so has turned into something which can be acted on so as to become a man. But what acts on this thing such that a man is brought about? Remember that Avicenna claims here that the sperm’s power to become a man is passive. A passive power is a recipient of action, not an agent. But in this discussion, the boy’s power to become a man is also considered to be passive.

\textsuperscript{49}Avicenna. \textit{Al-Shifā': Al-Samā’ al-tabī'i} [Physics], 1.10, p. 48.
\textsuperscript{50}Avicenna. \textit{Al-Shifā': Al-Samā’ al-tabī'i} [Physics], 1.10, p. 49.
\textsuperscript{51}Ibid.
\textsuperscript{52}\textit{Metaphysics} 6.2, Marmura (trans.), p. 201; \textit{Al-Iḥāyyāt}, p. 264; \textit{Latinus}, p. 301.
The key to this puzzle is Avicenna’s account of the way in which something is both active and passive when the source of its motions is its own nature. He holds that when something is the recipient of motions due to its nature, we should draw a distinction between the thing and its nature. He defends this view in two passages in his *Metaphysics*. First, in *Metaphysics* 6.1, Avicenna says that agent and patient are distinct even in cases in which they seem not to be:

> It is not unlikely for the agent to bring about the existence of the effect where [the agent] is, where it would meet [the agent’s] essence. For the nature which is in the wood is an efficient principle of motion. Motion, however, takes place only in the matter in which the nature exists and where [the principle of motion] itself is.\(^{53}\)

Here the wood is the recipient of motion due to its matter, but the efficient principle (mabda’ ā’il) of this motion is a nature which belongs to the wood. In *Metaphysics* 6.4, Avicenna discusses “the case of an element or a receptacle where the principle of motion toward the effect exists in it”.\(^{54}\) He says that while some people think that in this case the element or receptacle moves itself, they are mistaken:

> it has become clear to us in other places that one and the same thing cannot be both agent and recipient of the same thing without its essence becoming divisible. If the element, however, has the principle of its motion within itself, then it is moved by the nature [within it], and what comes about through it would be natural.\(^{55}\)

The mistaken view is to hold that the element moves itself. The correct view is to hold that the element is moved by its nature. And the reason we must adopt the latter view is that one and the same thing can’t be both the agent and the recipient of the same thing. If we applied this principle to the case of the sperm in generation, then we could hold that the sperm has a passive power to become a man because once it is conjoined with matter in the womb, it becomes something which is acted on such that it becomes a

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\(^{54}\) *Metaphysics* 6.4, Marmura (trans.), p. 218; *Al-Iḥbīyyāt*, p. 282; *Latinus*, p. 324.

\(^{55}\) Ibid.
man. But the agent of this action could be nature of the sperm, which is considered as other than it. If this is the case, then the reason Avicenna says that both the sperm and the boy have passive powers to become a man is that both are distinguished from their own natures, which are the active principles of their becoming.

I want now to return to Avicenna’s account in *Physics* 1.10 of the distinction between efficient causes which are preparers and efficient causes which are perfecters. He claims that the preparer “is that which puts the matter in order”, or, in other words disposes the matter.\(^{56}\) I have identified the father as the preparer who moves the sperm to the womb. Avicenna says that the perfecter “is that which gives the form”.\(^{57}\) But the referent of “perfecter” here is a matter of controversy, since after stating that the perfecter is that which gives the form, Avicenna says that “it seems that that which gives the constitutive form belonging to natural species is extrinsic to natural things”.\(^{58}\) This passage from Avicenna’s *Physics* suggests that natural agents aren’t givers of form in cases of substantial generation, but rather that they prepare matter to receive form from the Agent Intellect.\(^{59}\) This interpretation is contested by Robert Wisnovsky who notes that the passage is concerned with “efficient causation in nature”.\(^{60}\)

Wisnovsky is right to emphasize that Avicenna’s discussion of preparers and perfecters occurs in the context of his account of efficient causation in nature. For Avicenna clearly doesn’t exclude natural agents from the class of perfecters. An efficient cause in natural philosophy is a principle of motion. And Avicenna identifies the perfecter as a principle of motion: like the preparer, “the perfecter is also a principle of

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\(^{56}\) Avicenna. *Al-Shifā’ Al-Samā’ al-tabī‘i* [Physics], 1.10, p. 49.
\(^{57}\) Ibid.
\(^{58}\) Ibid.
\(^{60}\) Wisnovsky (1994), p. 98.
motion because the going out is in reality from potency to act”. Nevertheless, the claim that natural agents are perfecters through their motions must be reconciled with the fact that Avicenna remarks here that “it seems that that which gives the constitutive form belonging to natural species is extrinsic to natural things”. I will return to this issue later. Wisnovsky states his own position on the respective roles of natural agents and the extrinsic Agent Intellect in substantial generation quite briefly: he says that “the Agent Intellect gives existence to the form/matter compound, but the matter is set in motion toward the form by its natural principle of motion, i.e. the perfecter. It is thus through the mediation of the perfecter in nature (i.e. the form itself) that the Agent Intellect causes the existence of the compound”. One problem with this interpretation is that the referent of “perfecter” can’t be the form itself, since Avicenna says that the perfecter gives the form. So even if Wisnovksy is right that Avicenna thinks that natural agents are perfecters, he needs to state more precisely how they perfect. I will argue that we can identify the perfecter in this case as the sperm itself.

There are several reasons why I think that the sperm itself could be the perfecter or agent which gives the form in generation. First, Avicenna clearly states that human beings come to be from sperm. Second, he identifies the father in generation as the preparer. And in Metaphysics 4.2, he claims that once the sperm is encountered by the motive power, i.e. the father, the preparation is set for the bringing into actuality of a man. So it seems that no other preparer is needed. What, then, is the role of the sperm in generation, if it is not the perfecter? Furthermore, in Metaphysics 5.9. Avicenna claims

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62 Ibid.
that sperm has the power for the formation of the human. He says so while illustrating a point about potencies – namely that a potency can be in potency:

potency, inasmuch as it is, is the potency of an existence in act. Potency sometimes also exists in potency, this being the potency which is remote from act but which becomes in act a proximate potency. For the proximate potency for the formation of the human exists potentially in nourishment. Then, if [the nourishment becomes] sperm, this proximate potency exists in act. It is only that its action [while it is still a proximate potency] does not exist.64

Here Avicenna claims that nourishment, which can become sperm, has the power to acquire the power proper to sperm, i.e., the power for human formation. In this passage, the sperm’s potency seems clearly to be an active power: Avicenna claims that the sperm’s power is for the formation of the human.65 Moreover, the view that male semen has active power is the ground for Avicenna’s distinction between the roles of male semen and female semen in the Kitāb al-Hayawān (Book of Animals).66

64 *Metaphysics* 5.9, Marmura (trans.), p. 193; *Al-Ilāhiyyāt*, p. 252; *Latinus*, pp. 289-90.
65 Avicenna also discusses human formation in his account of final causality in the *Metaphysics*. There he considers two ways in which an end for which some agent acts may exist. First, the end may be some form which is in the recipient of action. Second, the end may be in the agent, but not in the recipient of action. Avicenna illustrates the second case by using the example of the end of shelter, which the builder has in mind. He illustrates the first case by using the example of the human form, “which is an end for the power enacting formation in the human matter, and [it is] toward it that its action and its moving [another] are directed” (*Metaphysics* 6.5, Marmura (trans.), p. 230; *Al-Ilāhiyyāt*, p. 294; *Latinus*, p. 339). This example is supposed to illustrate a case in which the end of the agent is established by a form which is in the recipient of action. In this case, the human form, which functions as the end for the active power, exists in the recipient of this formation, namely, human matter. It seems, then, that the formation of human matter is posterior to the conjunction of human form and human matter. Once form and matter are conjoined, the agent which enacts formation in human matter does its work in accordance with the end provided by the human form. Now it could be the case that Avicenna thinks that the Agent Intellect gives form to human matter, which then functions as an end for human formation. But it could also be the case that the conjunction of human form and human matter is simply the conjunction of sperm and the material in the womb and that the sperm itself has the active power through which human formation occurs. The latter interpretation makes sense of Avicenna’s claim in *Metaphysics* 4.2 that human beings come to be from sperm and his claim in *Metaphysics* 5.9 that the sperm has the proximate power for human formation.
66 On this aspect of Avicenna’s account of sexual generation see Musallam (1990), pp. 32-34 and McGinnis (2004), p. 55. Following Galen, Avicenna holds (unlike Aristotle) that both males and females produce semen. But according to Musallam, “Avicenna applied to the female semen Aristotle’s central hypothesis, giving it exactly the same role that Aristotle had assigned to the menstrual blood”; in support of this view he cites Avicenna’s claim that “the seed of women is
In this Section, I have argued that Avicenna endorses an Aristotelian account of substantial generation in which natural agents generate individuals like them in kind. But I have not addressed the relationship between this aspect of Avicenna’s view and his claim in *Metaphysics* 6.2 that the cause of X’s “becoming formed as an animal and its continuity as an animal” is something other than the sperm or his claim in *Physics* 1.10 that “it seems that that which gives the constitutive form belonging to natural species is extrinsic to natural things”. In both of these passages, Avicenna suggests that a form-giving agent outside of the natural order (i.e. the Agent Intellect) is the cause of form within the natural order. So these passages are in tension with Avicenna’s apparent commitment to the claim that natural agents generate things like them in kind. This tension is highlighted by Avicenna’s distinction between causes of individuals and causes of species in *Metaphysics* 6.3, so I will begin my analysis of this tension in Avicenna’s work by examining that text.

### 2.5 Avicenna on causes of individuals and causes of species

In *Metaphysics* 6.3, Avicenna discusses efficient causal relationships in which “the effect is not the effect of the cause, nor is the cause the cause of the effect in [terms of the effect’s] species, but in [terms of] its individuality”. So in the case under

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examination, the cause in question is the cause of an individual but not of its species. He
gives the following examples of such relationships:

this fire is not the cause of that fire in that it is the cause of the specificity of fire, but in
that it is the cause of some fire. If considered in terms of specificity, it would be the
cause of specificity accidentally. The case is similar with [the causal relation] of father to
son, not inasmuch as this is a father and that a son, but with respect to the existence of
humanity.69

Here Avicenna holds that individual natural agents are causes of other individuals like
them in kind, but not of the kind itself of which both the agent and the recipient of the
agent’s action are members. He contrasts the cause of a token with the cause of a type.
So perhaps Avicenna thinks that the Agent Intellect is the cause of a type, e.g., humanity,
but that individual tokens of the type, e.g., fathers, are causes of other individual tokens
of the type, e.g., sons. This view is problematic for two reasons.

First, in his discussion of the universal and the particular in Metaphysics 5.1,
Avicenna explains that a quiddity, like “humanity” or “horseness”, can exist in two
ways.70 It can exist as the nature of a particular thing, e.g., the quiddity “horseness” is
the nature which belongs to particular horses like Black Beauty. And it can exist in the
mind as a universal, e.g., the quiddity “horseness” considered as predicatable of many
yields the universal “horse”. But in itself

it is nothing at all except ‘horseness’; for, in itself, it is neither one nor many and exists
neither in concrete things nor in the soul, existing in none of these things either in
potency or in act, such that [these] are included in ‘horseness’. Rather, in terms of itself,
it is only ‘horseness’.71

70 Avicenna introduces the notion of a quiddity (mahiyya/quidditas) in Metaphysics 1.5, when he
defends his famous distinction between essence and existence. There he says that “it is evident
that each thing has a reality proper to it – namely, its quiddity” (Metaphysics 1.5, Marmura (trans.),
p. 24; Al-Ithiyyat, p. 31; Latinus, p. 35). And he defines the reality (bagiqa/certitudo) of a thing as
that by virtue of which a thing is what it is: for example, “the triangle has a reality that it is a
triangle, and whiteness has a reality in that it is whiteness” (Ibid.).
71 Metaphysics 5.1, Marmura (trans.), p. 149; Al-Ithiyyat, p. 196; Latinus, p. 228.
Here it seems that the quiddity itself has no existence apart from particulars in the world and universals in the mind. In other words, the type “horseness” has no existence apart from particular horses and the universal concept of horse. So if the Agent Intellect causes the type “horseness”, then the Agent Intellect stands in a causal relationship with respect to particular horses in the world and the universal “horse” in human minds. The latter causal relationship can’t explain the Agent Intellect’s role as the cause of the species of natural things. And since it is clear that the only sense in which a species exists apart from mind is in particular things, it doesn’t make sense to say that individual horses cause other individual horses, but the Agent Intellect is the cause of their species.

The second reason this interpretation is problematic is that the claim that individual horses cause other individual horses must be reconciled with Avicenna’s claim in *Metaphysics* 6.1 that a contingent thing needs an efficient cause of its existence at any time. Even if an individual token of a type produces a second individual token of a type, that second individual needs a cause so long as it exists. And Avicenna identifies that cause as the Agent Intellect.

Avicenna’s account of the distinction between causes of individuals and causes of species suggests that he holds as true the following claims: (1) individuals of a type cause other individuals of that type, (2) the Agent Intellect is the cause of a type which has no mind-independent existence apart from the tokens of that type and (3) the Agent Intellect is the cause of the existence and persistence of the composite. But Avicenna provides little insight into the question of the consistency of these claims.

The claim that individuals of a type cause other individuals of that type suggests that individuals pass on form to their progeny. So, for example, the stallion causes the foal by literally giving him the form of horseness. He could do so via his sperm, if sperm
has formative power. I argued in Section 4 that Avicenna endorses the claim that sperm has formative power. Note that if the nature of horseness is contained in the sperm and the sperm, once it is conjoined with matter in the womb, enacts horse formation, then a new horse doesn’t require the bestowal of a new substantial form on the part of the Agent Intellect. Note also that the causal series of horses which produce horses can be traced backwards in time *ad infinitum*, since the world is eternal. I will refer to this causal chain as the horizontal series of causes of coming to be.

The horizontal series of causes of coming to be can explain the generation of new tokens of some type. But it doesn’t explain the type itself. And it doesn’t explain the existence of contingent individuals. In order to explain these things, Avicenna appeals to a different causal chain, which I will refer to as the vertical series of causes of existence. This series has a first member, namely, God, the sole being whose existence is necessary in itself. The lowest of the causes in this vertical series is the Agent Intellect, which Avicenna describes as a “giver of forms”.

Since the horizontal series of causes of coming to be can’t explain the various species in the sublunar world or the existence of individuals, it seems that Avicenna is justified in appealing to the vertical series of causes of existence to explain these things. What is not so clear is whether the vertical series of causes of existence can explain these things unless the Agent Intellect bestows form in cases of substantial generation. According to Avicenna, species have no existence apart from their individual members (except in minds). So the Agent Intellect cannot cause the natures constitutive of natural species without causing the forms of individual members of the species. Furthermore, Avicenna identifies the form of the composite as the proximate and partial cause of the existence of an individual. The remote cause of the existence of that individual is a
separable principle which “bestows form”, i.e., the Agent Intellect. It seems that there is no means by which the Agent Intellect could cause the existence of an individual unless it causes the existence of its form. And Avicenna himself claims that the Agent Intellect “bestows” the form of the composite. Yet Avicenna does not reconcile this claim with the view that natural agents pass on form to their progeny via sperm.

We will see that Aquinas argues that the claim that God is the cause of the existence of the forms of contingent individuals is compatible with the view that natural agents educe form from the potency of matter on the ground that natural agents act as the instruments of God in cases of generation. Perhaps a solution along these lines is open to Avicenna, or even suggested by aspects of his work. I will address this question in chapter 3. But Avicenna himself fails explicitly to resolve this tension. This problem also infects his account of elemental transformation, which I address in the next Section.

2.6 The case of elemental transformation

In his final illustration of the distinction between true and accidental causes, Avicenna considers the transformation of one element into another. In Aristotelian physics, the interaction between the four elements of earth, air, fire and water and the transformation of these elements into one another are the most basic physical changes. Interaction between the four elements and elemental transformation occur in virtue of the qualities proper to the elements. Each element has two qualities: fire is dry and hot, water is moist and cold, air is moist and hot and earth is dry and cold. In *Generation and Corruption* 2.4, Aristotle argues that since “coming-to-be is a change into contraries and out of contraries, and the elements all involve a contrariety in the mutual relations because their distinctive qualities are contrary”, it is clear that each of the elements “are
by nature such as to change into one another”. But “both the speed and the facility of their conversion will differ in degree”. Quick and easy conversion occurs in cases where only one quality changes, for example, when water, which is moist and cold, becomes air, which is moist and hot, only the water’s quality of coldness changed. Slower and more difficult conversion occurs in cases in which both qualities change, for example, when water becomes fire, which is dry and hot, both of its qualities turn into their contraries. Avicenna chooses to deal with a case of slower and more difficult elemental transformation, namely the transformation of water into fire.

Avicenna holds that fire plays a role in the transformation of water into fire in the sense that it heats water. Heating “is a cause for annulling in actuality the water’s disposition to receive or sustain the watery form”. He then says that “some other thing is a cause for the bringing about the complete preparation in such a circumstance for the reception of its opposite – namely, the fiery form”. Finally, he says that the causes of the fiery form are the separable causes “that clothe the elements with their forms”. Avicenna later says that “[t]he cause of the fire is the cause that bestows forms and the total ceasing of the complete disposition opposed to those forms, both together”.

Avicenna’s defense of the principle that cause and effect coexist is uncontroversial in this case, since it seems clear that the proximate and partial cause of the existence of any element is its form or nature and that those causes which contribute

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75 *Metaphysics* 6.2, Marmura (trans.), p. 201; *Al-Ishāriyyah*, p. 264; *Latinus*, p. 301.
76 Ibid.
77 Ibid.
to the temporal origination of an element are not needed to explain the existence of that element. Notice, however, that Avicenna’s final account of the cause of the existence of an element differs from his account of the existence of a human being in one clear way: in the latter case, he says that existence is due to the combination of form and matter, but in the case of the element, he includes not only form, but also “the total ceasing of the complete disposition opposed to those forms”. His reason for this additional claim will become clear as we examine the key question which arises in this case: does Avicenna hold that the Agent Intellect bestows a new form whenever an element is transformed? This question arises here for the same reason it arose in the case of the son, namely, the view that the Agent Intellect bestows a new form whenever an element is transformed conflicts with claims Avicenna makes elsewhere about the powers of natural agents. In particular, this view conflicts with his affirmation of Aristotle’s account of substantial generation in *Metaphysics* 4.2 and his claim that individuals cause other individuals like them in kind in *Metaphysics* 6.3. In addition to these conflicts which threaten the internal coherence of Avicenna’s *Metaphysics*, another reason to question the view that the Agent Intellect bestows a new form whenever an element is transformed becomes apparent when we look more closely at his account of elemental transformation. In that account, it is hard to see how the Agent Intellect could play such a role. To see why, we need first to understand this account in more detail.

Notice first that in Avicenna’s account of the preparation of water for becoming fire, he distinguishes two different changes which precede the transformation of water into fire, namely, (1) the annulment in actuality of water’s disposition to receive or sustain the watery form, which is caused by the heating of water by fire, and (2) its

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complete preparation for the reception of the opposing, fiery form, which is caused by
“something else”. This implies that the heating of water by fire isn’t sufficient to prepare
water for the reception of the fiery form and that something different from fire is the
cause of water’s complete preparation for the fiery form. Yet in Avicenna’s discussion
of the transformation of water into fire in *Metaphysics* 9.5, he mentions only the heating
of water in his account of how water becomes prepared for the fiery form.

In *Metaphysics* 9.5, Avicenna discusses the generation of the elements by the first
causes in the context of his emanationist account of creation. He claims first that since
the elements are generable and corruptible, “their proximate causes must be things that
receive a species of change and motion” and so “that which is a pure intellect is not
alone a cause for their existence”. 80 He identifies these proximate causes as the celestial
spheres, or, more specifically, their motions. These motions play a role in the generation
of the elements because they contribute to the preparedness of some portion of matter
for the reception of one elemental form, rather than another, e.g., for the reception of
the form of fire, rather than the form of water. Avicenna refers to this preparatory
function as the act of “specifying matter”. He says that

[the things that specify matter are the things that prepare it. The preparer is that
through which there comes to be, in the thing prepared, something by virtue of which its
appropriateness for [the reception] of a specific thing is more appropriate than [the
reception of some] other thing. This act of preparing renders preponderant the
existence in it of the more appropriate [form] from the principles that bestow forms. 81

He then illustrates preparedness by the example of the transformation of water into fire:

This is similar to water when its warming is made excessive, whereby the alien warmth
and the watery form combine, [the former] being remote in appropriateness from the
watery form [but] greatly appropriate for the fiery form. If that [warming] is rendered

excessive and the appropriateness intense, the preparedness becomes intense. It thus becomes aright for the fiery form to emanate and aright for this [watery form] to cease.  

So the preparatory role of the celestial spheres in this account of the emanation of forms from the first causes is akin to the preparatory role of elemental bodies in Avicenna’s account of elemental transformation in *Metaphysics* 6.2. The difference in the two accounts is that in the first, the fire’s activity of heating of water is distinguished from the complete preparation of water for the fiery form, whereas in the second, heating alone is mentioned as the preparatory cause needed for transformation, but that heating is said to be excessive and intense. Avicenna’s claim in *Metaphysics* 9.5 that water’s being prepared for the fiery form is constituted by its being hot to a certain degree is clarified in his discussion of elemental transformation in his treatise from the *Physics of the Shiʃa’* on generation and corruption.

In *On Generation and Corruption*, Avicenna discusses elemental transformation in terms of the possession of degrees of the four contrary qualities:

> Each one of the elements has latitude for receiving increase and decrease in quality. For it may increase and decrease in its natural or accidental quality. And it may do this while maintaining still its form and species. But increase and decrease in this has two extreme limits. When they are surpassed, the complete disposition for its form is annulled in matter. And it is prepared with a complete preparation for another form. And it is of the nature of matter when prepared with a complete preparation for a form that it attains this form from the giver of forms to matter and accepts it. And it is for this reason that indistinct matter is distinguished such that it is matter for successive forms. And this from the giver of forms.

This passage makes clear that an element can suffer changes in degree of one or both of its natural qualities while remaining what it is, but that there are limits to such changes, which, when surpassed, cause the element to lose one form and take on another. This account is compatible with Avicenna’s claim in *Metaphysics* 9.5 that water which is heated

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to an intense and excessive degree will become fire. So why does he claim in *Metaphysics* 6.2 that being heated by fire causes water to lose its disposition in actuality for the watery form, but that “some other thing is a cause for the bringing about the complete preparation in such a circumstance for the reception of its opposite – namely, the fiery form”? It seems that what is needed for complete preparation in this case is not “something else”, but more of the same. I think that Avicenna means that some other factor is needed to explain why the heated water becomes prepared for its opposite – namely, the fiery form – rather than its wet relative, the airy form. Perhaps water which comes into contact with a small portion of fire turns into air, whereas water which comes into contact with a larger portion of fire suffers the sort of intense and excessive heating which brings about its transformation into its opposite. In either case, water acquires a complete preparation for a different form when it suffers a certain degree of increase or decrease in its natural qualities.

Notice also that Avicenna uses the idea of completeness with respect to disposition and preparation in his account of elemental transformation in both *Metaphysics* 6.2 and in *On Generation and Corruption*. In order for an element to change in kind, it must lose its complete disposition for its present form and acquire a complete preparation for another form. Moreover, the cause of the existence of an element is said to be not only its form, but also the total ceasing of a complete disposition opposed to its form. In *Metaphysics* 6.3, Avicenna distinguishes between a “disposition that is complete in the recipient of the action” and a “disposition that is deficient” in the recipient of action. There he says that a complete disposition

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84 Avicenna. *Al-Shifā‘: Al-Kawn wa-‘l- Fasād* [Generation and Corruption], ch. 14, p. 190; *Latinus*, p. 139.
consists in the absence in the nature of the thing of an impediment in opposition to that which is potentially in it, as in the case of the disposition in the heated water to cool because it itself has a natural power – as we have learned in the *Physics* – that either impedes or does not impede the external power in the act of cooling.\textsuperscript{86}

Here water’s complete disposition for cooling is defined in negative terms. That is, water’s complete disposition for cooling is defined not in terms of its power to cool, but in terms of its lack of an impediment to cooling. This seems odd at first but becomes clear when Avicenna describes two other cases in which X has a complete disposition for Y. In the first case, X used to have a power which would have been an impediment to its acquiring some property Y, but it lost that power. So prior to losing that power, X would not have had a complete disposition for Y, since it would have had a power which impedes the acquisition of Y. But now that X has lost the power which impedes Y, it has a complete disposition for Y. For example, hair at one time has a power which impedes graying, but once it loses that power, it has a complete disposition for turning gray.\textsuperscript{87} In the second case, X has a complete disposition for Y because X is neutral with respect to acquiring Y: it isn’t something that ever had a power to impede Y, nor does it have a power which aids in the acquisition of Y. So there are three ways in which X

\textsuperscript{86} *Metaphysics* 6.3, Marmura (trans.), p. 208-9; *Al-Ilâhiyyât*, pp. 271-2; *Latimus*, p. 311. I wonder if the last part of the sentence is better translated as follows: “as in the case of the disposition in the heated water to cool because it itself has a natural power – as we have learned in the *Physics* – that the external power either impedes or does not impede in the act of cooling”. Compare, e.g., Avicenna’s claim two pages later: “[i]t seems possible, in unverified outward appearance, for the recipient of the action to have [an effect] greater than the agent, as is the case with water that the air freezes, where the air’s coldness is not equal to that of the frozen water. If, however, you ascertain [this, you will find] that the agent was not the cold in the air alone, but also the formal cooling power in the substance of the water (which we have indicated in the *Physics*), since the coldness of the air aided and did not impede it” (*Metaphysics* 6.3, Marmura (trans.), p. 210; *Al-Ilâhiyyât*, p. 273; *Latimus*, p. 313.

\textsuperscript{87} Avicenna describes this first case as follows: “there is in the [thing with the disposition] a power opposing the state of affairs, except that it ceases to exists with the existence of the state of affairs, as in the case of hair that becomes gray after being black”(*Metaphysics* 6.3, Marmura (trans.), p. 209; *Al-Ilâhiyyât*, p. 272; *Latimus*, p. 311).
might have a complete disposition for $Y$: (1) it has a power which assists in the 
acquisition of $Y$, (2) it has lost its power to impede $Y$ or (3) it is neutral with respect to 
acquiring $Y$. Given that something may have a complete disposition in any of these 
three ways, a complete disposition for $Y$ must be defined in terms of a lack of a power 
which impedes the acquisition of $Y$, rather than in terms of the possession of a power 
which assists in the acquisition of $Y$.

Avicenna defines a deficient disposition by using the example of water’s 
disposition to become warm. This disposition is deficient because “there is in it a power 
that impedes the heating that occurs to it from the outside, and that exists with the 
heating (remaining in it), and that does not cease”.\textsuperscript{88} So a deficient disposition is simply 
the opposite of a complete one: it is defined in terms of the presence of an impeding 
power, whereas the latter is defined in terms of the absence of an impeding power. 
Water has a deficient disposition for becoming warm because it has a natural power 
which resists heating. This doesn’t mean that it can’t be heated, but that it resists 
heating.

When we apply Avicenna’s distinction between a deficient and a complete 
disposition in a recipient of action to his account of elemental transformation, we see 
that water’s complete disposition for the watery form is the absence of any impediment 
to receiving that form. So when Avicenna identifies fire as a cause for the annulment in 
actuality of water’s disposition to receive or sustain the watery form in \textit{Metaphysics} 6.2, he 
means that heated water has an impediment for receiving or sustaining the watery form. 
But he doesn’t conflate the loss of the disposition in actuality for the watery form with 
the complete preparation for the fiery form. Yet in \textit{On Generation and Corruption}, he

\textsuperscript{88} \textit{Metaphysics} 6.3, Marmura (trans.), p. 209; \textit{Al-I abaixoi}, p. 272; \textit{Latinus}, p. 311.
claims that when an element surpasses its latitude for suffering increase and decrease with respect to its natural qualities, “the complete disposition for its form is annulled in matter. And it is prepared with a complete preparation for another form”. The reason for this discrepancy is that while the loss of a disposition in actuality for the watery form constitutes its complete preparation for some other form, it doesn’t necessarily constitute its complete preparation for the fiery form. The complete preparation for the fiery form, as opposed to the airy form, depends on some other factor.

Since an element’s disposition for a form is constituted by the absence in it of any impediment to that form, we can see why Avicenna includes in his account of the existence of fire the “total ceasing of the complete disposition opposed” to the fiery form. If the complete disposition for a form opposing fire is not entirely eradicated, then the thing which has the uneradicated disposition is without an impediment for a form opposing fire. For example, if fire becomes wet enough, it no longer has an impediment for receiving the airy form. But since the quality of wetness is opposed to the fire’s natural quality of dryness, something that is wet enough to be without an impediment for receiving the airy form must also be wet enough to have lost its complete disposition for the fiery form. For the complete disposition for the fiery form is constituted by its having no impediment for being dry and hot. This means that if the complete disposition for a form opposing fire has not completely ceased, then fire is without its complete disposition for the fiery form and is completely prepared for some opposing form. In that case, fire ceases to exist as fire, for as soon as bodies are prepared for some opposing form, they receive that form from the Agent Intellect. So it

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is not surprising that Avicenna includes the “total ceasing of the complete disposition opposed” to the fiery form in his account of the cause of the existence of fire.\footnote{Metaphysics 6.2, Marmura (trans.), p. 202; Al-Ibīyāt, p. 265; Latinus, p. 302.}

What is puzzling about this account of elemental transformation is the distinction Avicenna draws between the role of increases and decreases in natural qualities in causing an element to lose its complete disposition for one form and acquire a complete preparation for another form from the role of the Agent Intellect in bestowing form. The reason that this is puzzling is that it seems that elemental transformation is easily explained by pointing to the activities of other elements alone. Consider a case of quick and easy conversion, like the transformation of water into air. Water is cold and moist. When it is heated to a sufficient degree, it becomes air, which is hot and moist. So it’s difficult to see what role the Agent Intellect could play by bestowing form, since it seems that nothing else apart from a source of heat is needed in order for water to turn into air.\footnote{In his appraisal of my dissertation, Jon McGinnis suggested to me that Avicenna’s view that the Agent Intellect gives form in cases of elemental transformation may follow from his account of elemental forms. Avicenna denies that the form of an elemental body can be conflated with the two primary qualities which are characteristic of that body, i.e., he denies that the form of fire can be conflated with the qualities of heat and dryness. On this aspect of Avicenna’s view, see Avicenna. Al-Shifa’: Al-Kawn wa-l- Fasad [Generation and Corruption], ch. 6. This issue is also discussed in Stone (2001) and Stone (2008). Avicenna’s main reason for denying that the form of an elemental body can be conflated with its essential qualities relies on the following claims. First, qualities are accidents and accidents are ontologically posterior to their subjects. Second, substantial forms are ontologically prior to their subjects. This means that we can’t conflate an element’s essential qualities with its substantial form. I am not convinced that the distinction between an element’s form and its essential qualities entails that an agent extrinsic to natural things must give form in cases of substantial generation. I explore this issue in Avicenna and Aquinas on Substantial Generation (forthcoming).}

One reason to distinguish the role of preparers from the role of the Agent Intellect as the giver of forms in elemental transformation is that the notion of preparedness pertains to matter, which is the principle of potentiality needed to explain change. Matter is nothing in actuality without form, but matter informed by X now can
change so as to become informed by Y in the future. The notion of preparedness explains why that matter becomes Y rather than Z. But matter itself can’t be the cause of what it is prepared for. Avicenna defends the last claim in *Metaphysics* 2.4.

In the fourth chapter of his discussion of substance, Avicenna addresses the question of the cause of the existence of form and matter. Having already established that corporeal matter can’t exist in actuality apart from form and corporeal form doesn’t exist apart from matter, Avicenna raises a question about the cause of the existence of both. He determines first that despite the fact that form and matter can’t exist apart from one another, they are essentially distinct and so not essentially related; the fact that they can’t exist apart from one another isn’t because they are essentially the same thing. Moreover, since both form and matter are contingent in themselves, it can’t be the case that their coexistence is the result of a straightforward case of causal dependence, i.e., that the coexistence of form and matter is due to the fact that form alone causes the existence of matter or *vice versa*. For a contingent thing cannot by itself necessitate the existence of anything. So either matter is the proximate cause of the existence of form or form is the proximate cause of the existence of matter.

Avicenna rejects the claim that matter is the proximate cause of the existence of form for three reasons. He says first that “matter is only matter because it has the

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93 He says with respect to matter and form that “between them either there must be the connection of relation – where the quiddity of each is only conceivable as predicated with respect to the other – [or not]. But [the first alternative] is not the case. For we apprehend intellectually many of the corporeal forms, but we must [exert] strenuous effort in order to establish that they have matter. Similarly with this matter, we apprehend it intellectually as the substance disposed [for the reception of form]. But from this we know only through investigation and theoretical reflection that that for which it is disposed must have within it [that] from which something [comes to be] in actuality. Yes, inasmuch as [corporeal matter] is disposed, it is related to that for which it is disposed, the connection of relation obtaining between them. We are, however, speaking about comparing the essences of the two, apart from what happens to them or [what] necessarily adheres to them by way of relation. You have known the manner of this” (*Metaphysics* 2.4, Marmura (trans.), p. 63; *Al-Ilāhīyyāt*, p. 80; Latinus, pp. 92-3).
potency for reception (gabūl) and preparedness (isti Ṿādd). But the prepared (musti Ṿidd) insofar as it is prepared is not a cause of existence of what it is prepared for. If it were a cause of existence [of what it is prepared for], then it would have this continuously, without preparedness”. 94 His second argument relies on the absurdity that “the same thing be a cause for something in actuality while it remains in potentiality”. 95 Matter, as the principle of potentiality in change, can’t actualize itself. Third, “if matter were the proximate cause of form, and [if] matter has no variance in itself, and [if] whatever was necessitated by that which has no variance has no variance at all in it, it would then necessarily follow that corporeal forms have no variance in them”. 96

In his argument against the claim that matter is the proximate cause of the existence of form, Avicenna claims that matter can’t cause itself to take on a form for which it is prepared because in that case, the notion of being prepared does not make sense. The reason it doesn’t make sense is that if matter can cause itself to take on a form, then it doesn’t need to be prepared for form at all. But this is clearly not the case. Matter itself is indistinct. So it must acquire some property or properties which make it suitable for it to receive one form rather than another: this is what it means to be prepared for form. Since the notion of preparation pertains to matter as the principle of potentiality in change, it makes sense that Avicenna distinguishes an element’s acquisition of a complete preparation for a form from its acquisition of that form. But it is important to notice that matter is completely prepared for some form at the same time that it acquires that form. This is apparent in his abovementioned discussion of

96 *Metaphysics* 2.4, Marmura (trans.), p. 65; *Al-Ilāhīyyāt*, p. 84; *Latinus*, p. 97.
elemental transformation in his *On Generation and Corruption*, which includes his sole reference to the giver of forms in that treatise. I repeat that passage here:

> [e]ach one of the elements has latitude for receiving increase and decrease in quality. For it may increase and decrease in its natural or accidental quality. And it may do this while maintaining still its form and species. But increase and decrease in this has two extreme limits. When they are surpassed, the complete disposition for its form is annulled in matter. And it is prepared with a complete preparation for another form. And it is of the nature of matter when prepared with a complete preparation for a form that it attains this form from the giver of forms to matter and accepts it. And it is for this reason that indistinct matter is distinguished such that it is matter for successive forms. And this from the giver of forms.  

In this passage Avicenna says that matter completely prepared for some form attains that form. Complete preparation for form and the attainment of form seem to be simultaneous. The reason for distinguishing complete preparation for a form and acquisition of a form is that the former pertains to matter as the principle of potentiality for change and the latter pertains to matter as something actualized by form. Yet it seems to me that if a body is completely prepared for an elemental form when it possesses two of the four contrary qualities to a certain degree and if having an elemental form requires possessing two of the four contrary qualities to a certain degree, then the distinction between the complete preparation for a form and the acquisition of that form breaks down. Moreover, it is difficult to see what it is that the Agent Intellect bestows upon matter in such cases.

Perhaps it is important to notice that Avicenna’s account of elemental transformation assumes a fixed system of forms. The four elemental forms are distinguished from one another in terms of the natural qualities possessed by the bodies that have those forms. These qualities, taken altogether, exhaust the latitude of two continua (1) the continuum whose contrary termini are the hot and the cold and (2) the

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continuum whose contrary termini are the wet and the dry. There is a definite point at which a body becomes so hot that it is no longer something with the disposition to produce the cold and the wet, namely, water, but rather is now something with the disposition to produce the hot and the wet, namely, air. These definite points are established by the fixed system of forms. Given a fixed system of forms, elemental bodies seem to be sufficient causes of elemental transformation; fire, for example, seems to be a sufficient cause for bringing water to the definite point at which it is something with the disposition to produce the hot and the wet, namely, air. But what establishes the fixed system of forms? Here we see a role for a creative cause which is analogous to the role played by the Agent Intellect in causing the various species of plants and animals. We have already seen that the Agent Intellect can’t cause species without causing the forms of individual members of the species. I argued in Section 5 that this view is in tension with Avicenna’s commitment to an Aristotelian account of substantial generation. In this Section, I argued that Avicenna’s claim that the Agent Intellect “bestows forms” in cases of elemental transformation involves a new problem: if a body is completely prepared for an elemental form when it possesses two of the four contrary qualities to a certain degree and if having an elemental form is possessing two of the four contrary qualities to a certain degree, then it is difficult to see what it is that the Agent Intellect bestows upon matter in such cases. In chapter 4, I will consider a different line of argument against the view that the Agent Intellect bestows form in cases of substantial generation, which is raised by Aquinas.
Chapter three
Aquinas and Avicenna on efficient causality and generation

Introduction

Aquinas’ account of efficient causality follows Avicenna’s in two important ways. First, Aquinas appeals to Avicenna in order to address a standard objection to the claim that creation is possible. The objection rests on the Aristotelian idea that what is possible to come to be is possible through a passive potency, i.e. through a power to be acted on. Since a passive potency must belong to something, anything that comes to be must do so from something that already exists.¹ This conclusion conflicts with one of the criteria for an act of creation, namely, that such an act “presupposes nothing in the thing which is said to be created”.²

Aquinas responds to this objection by citing Avicenna’s distinction between “two kinds of agents. One is a natural agent, which is an agent involving motion, and the other is divine, which is the giver of being”.³ The acts or effects of natural agents must be preceded temporally by a passive potency, since motion is the actualization of a potency, or, in other words, motion is the fulfillment or realization of a power which

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² Aquinas. *Writings on the Sentences of Peter Lombard*, Book 2, d. 1, q. 1, a. 4, trans. Baldner and Carroll, p. 74. Aquinas says that the meaning of “creation” includes two things: first, creation “presupposes nothing in the thing which is said to be created” and second, in something created, “non-being is prior to being” (Ibid., p. 74). This priority is not a temporal one but a natural one, that is, non-being is prior in being in the created thing in the sense that “if the created thing is left to itself, it would not exist, because it only has its being from the causality of the higher cause” (Ibid., pp. 74-5). And what belongs to something from itself is ontologically prior to what belongs to it from another. Aquinas mentions a third feature of the meaning of “creation”, which is “that the creature should have non-being prior to being [even] in duration”, but notes that this feature is “cannot be demonstrated and it is not granted by philosophers, but taken on faith” (Ibid., p. 75).
belongs to something. But divine acts or effects don’t presuppose a passive potency, insofar as a thing “receives being from the divine agent without motion”. Aquinas draws on Avicenna’s definition of the efficient cause as “that which bestows an existence that is other than itself”. This definition reflects Avicenna’s recognition of two types of agent, namely, (1) agents who produce existence tout court, such as God, and (2) agents who produce change. Avicenna himself considers both types of agent to bestow existence; he distinguishes the first type from the second on the ground that agents of the second type “do not bestow any existence other than motion in one of the forms of motion”.

Aquinas also draws on Avicennian arguments in order to defend the claim that the existence of a contingent individual needs a cause. Like Avicenna, Aquinas identifies natural agents as causes of the coming to be, but not the existence, of contingent individuals. Like Avicenna, Aquinas identifies an incorporeal principle as the cause of the existence of contingent individuals; for Avicenna, this incorporeal principle is the Agent Intellect; for Aquinas, this incorporeal principle is God. But Aquinas distinguishes his own view from Avicenna’s on the following ground. According to Aquinas, Avicenna holds that natural agents merely dispose matter for form in cases of substantial generation; new forms are bestowed by the Agent Intellect. Aquinas himself holds that new forms are educed from the potency of matter by natural agents, who act as the instruments of God in cases of substantial generation. This chapter focuses on the disagreement between Aquinas and Avicenna on the efficient causal role of natural agents in cases of substantial generation.

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In Section 1, I examine Aquinas’ argument in *De Potentia* 5.1 for the claim that God is the cause of the existence of contingent individuals. This argument raises a question about the role of natural agents in cases of substantial generation. Aquinas’ account of natural agents as instrumental causes of substantial generation is the focus of Section 2. In the first two Sections of the chapter, we see the similarities between Aquinas’ and Avicenna’s accounts of efficient causality, as well as the source of their disagreement on the issue of substantial generation. In Sections 3 and 4, I examine the grounds for Aquinas’ opposition to Avicenna with respect to the role of natural agents in cases of substantial generation. On the one hand, Aquinas argues that Avicenna’s view conflicts with the claim that natural agents have genuine efficient causal powers. On the other hand, he argues that Avicenna’s view rests on a mistaken understanding of the relationship between form and matter in a composite substance. I argue that this second argument provides good support for Aquinas’ denial of the creation of form in cases of substantial generation. In Section 5, I examine Avicenna’s own account of the relationship between form and matter in a composite substance. I argue that this account reveals that Avicenna does not misunderstand this relationship in the way Aquinas contends that he does. But his account of this relationship is in tension with his claim that the Agent Intellect, whom he calls a form-giver, is the cause of the existence of contingent individuals. In Section 6, I argue that Aquinas and Avicenna in fact uphold quite similar views with respect to generation. But Aquinas explicitly resolves the tension between the claim that an incorporeal agent is the cause of the existence of contingent individuals and the claim that natural agents educe form from the potency of matter.
3.1 Aquinas on God as the cause of the existence of contingent individuals

In *De Potentia Dei* 5.1, Aquinas defends the view that things are preserved in being by God. In order to establish this conclusion, Aquinas argues that the existence of an individual substance needs a cause, which he identifies as God. In this Section, I examine Aquinas’ argument for the claim that God is the cause of the existence of individual substances. We will see that this argument owes much to Avicenna’s metaphysical account of agency.

Aquinas’ argument for the claim that God is the cause of the existence of individual substances begins with an appeal to the claim that effects depend on their causes. He first shows how this relationship of dependence holds for all four of Aristotle’s causes. The dependence of a thing on its material and formal causes is clear since were either to be removed, the thing would cease to exist. Aquinas extends this analysis to the efficient cause, which “produces a thing by inducing the form or disposing the matter” and to the final cause, which moves the efficient cause to act: for “there is no action where there is no final cause”.7

Having established that a thing depends on each of its four causes, Aquinas focuses more specifically on the efficient cause. He says first that “the existence of a thing made depends on its efficient cause inasmuch as it depends on the form of the thing made”.8 Aquinas then distinguishes two sorts of efficient cause, one on which a thing made depends directly and another on which it depends indirectly. In the case of a generated fire, the form of that fire depends on the generating fire only indirectly. It doesn’t depend on the generating fire “directly and by reason of its species”, since “the

8 Ibid.
form of fire is in the same way in both the generated and in the generating fire and is
distinguished therefrom only by a material distinction, through being seated in another
matter”.

Aquinas’ argument for the claim that a generating fire is only an indirect efficient
cause of the existence of a generated fire is somewhat cryptic. His first premise tells us
that the existence of an element such as fire depends on an efficient cause inasmuch as
the existence of this element depends on the fiery form. This premise indicates that the
efficient cause of the existence of an element such as fire will be the efficient cause of its
fiery form. He then argues that the existence of a generated fire depends on a generating
fire only indirectly, not directly and by reason of its species. Since Aquinas holds that the
existence of a generated fire depends on an efficient cause inasmuch as its existence
depends on its fiery form, his claim that the generating fire is only an indirect cause of
the existence of the generated fire entails that the generating fire is not the direct cause
of the existence of the generated fire’s form. Aquinas supports the claim that the
generating fire is not the direct cause of the existence of the generated fire’s form on the
ground that “the form of fire is in the same way in both the generated and in the
generating fire and is distinguished therefrom only by a material distinction, through
being seated in another matter”. Why does Aquinas appeal to the fact that the
generating fire and the generated fire share the same type of form in order to support the
claim that the generating fire is not the direct cause of the existence of the generated
fire’s form? Here Aquinas treats as self-evident his inference from the claim that these
two share the same type of form to the conclusion that the generating fire cannot be the

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direct cause of the existence of the generated fire’s form. He elucidates his line of reasoning in *Summa Theologiae* 1.104.1:

Now it is clear that of two things in the same species one cannot be essentially the cause of the other’s form as such, since it would then be the cause of its own form, since both forms have the same nature; but it can be the cause of this form inasmuch as it is in matter – in other words, it may be the cause that *this* matter receives *this* form. And this is to be the cause of *becoming*, as when man begets man, and fire causes fire.\(^{11}\)

Here Aquinas argues that if the generating fire were the direct cause of the existence of the fiery form, then it would be the cause of the existence of its own form, which is impossible.

In the next stage of Aquinas’ argument for the claim that God preserves all things in their being, he identifies the direct cause of the existence of the form of the generated fire. He argues that it must be some incorporeal principle, for “the existence of a form in matter implies no movement or change except accidentally” and bodies act only by being moved.\(^{12}\) This stage of the argument is crucial to its success. It depends on two key claims. First, the existence of a form in matter does not involve movement or change. Second, bodies act only by being moved. The second claim indicates that the reason bodies can’t cause the existence of a form is that they act only by being moved. Aquinas reasons that if bodies act only by being moved, then the effects of their actions will be movements or changes. Since the existence of a form in matter does not involve movement or change, no body can be the cause of the existence of a form in matter. So the cause of the existence of a form in matter must be an incorporeal principle. Aquinas


later identifies this incorporeal principle as God, “from whom things derive not only their form but also their matter”.\textsuperscript{13}

Several aspects of the first leg of Aquinas’ argument for the claim that God is the cause of the existence of contingent individuals are familiar to us as elements of Avicenna’s metaphysical account of agency. First, Aquinas supports the claim that effects depend on their causes by showing that if the cause is removed, the effect is removed. Avicenna uses this strategy in \textit{Metaphysics} 4.1 in order to support the principle that cause and effect coexist. In \textit{Metaphysics} 6.2, Avicenna appeals to the principle that cause and effect coexist to support the claim that natural agents cause the coming to be, but not the existence, of individual substances. The cause of the existence of individual substances is the cause of their forms. We have seen that Aquinas also holds that the efficient cause of the existence of an individual substance is the efficient cause of the existence of its form. Finally, Aquinas draws on an Avicennian argument in order to support the claim that an incorporeal principle is the efficient cause of the existence of the form of a composite substance. In chapter 1, we saw that Avicenna argues that typical Aristotelian efficient causes, e.g., builders and fathers, can’t cause the existence of any quiddity. This argument depends on two claims. First, origination or coming to be is accidental to the existence of any quiddity. Second, the acts of things which are first potential agents and then actual agents are originated. These two claims support the conclusion that no agent whose acts are originated can cause of the existence of a quiddity. Aquinas’ claim that the existence of a form in matter implies no movement or change except accidentally echoes the first of these claims. His claim that bodies act only by being moved echoes the second of these claims. Aquinas’ conclusion that

\textsuperscript{13} Aquinas. \textit{De Potentia} 5.1, Dominican Fathers (trans.), Book 2, p. 82, Marietti 9\textsuperscript{th} rev. ed., vol. 2, p. 132.
bodies can’t cause the existence of a form in matter echoes Avicenna’s conclusion that no agent whose acts are originated can cause the existence of a quiddity. So the first leg of Aquinas’ argument for the claim that God preserves all things in being owes much to Avicenna’s metaphysical account of agency. Aquinas begins to distinguish his view from Avicenna’s in the next stage of the argument when he explains the diverse roles of natural agents and the incorporeal cause of form in cases of substantial generation.

3.2 Aquinas on natural agents as instrumental causes of generation

We have seen that Aquinas holds that a corporeal agent is only the indirect cause of the existence of a composite substance and that an incorporeal agent is the direct cause of the existence of a composite substance. He supports this claim on the ground that only an incorporeal agent can cause the existence of a form in matter. This raises a question about the role of natural agents in cases of substantial generation. In cases of substantial generation, matter takes on a new form. If the cause of the existence of that form is an incorporeal agent, then what contribution do natural agents make in cases of substantial generation? Aquinas’ answer to this question is the focus of this Section. We will also see how Aquinas distinguishes his own account of the role of natural agents in cases of substantial generation from Avicenna’s.

Aquinas claims that “if a corporeal principle be in some way the cause of a form, this is due to its acting by virtue of an incorporeal principle and as its instrument”. Aquinas holds that an instrumental role on the part of a corporeal agent is required in cases of substantial generation. In order for a new form to begin to exist in some matter, this matter must be properly disposed for that form; if “matter is in a disposition unsuitable to a particular form, it cannot directly receive that form from an incorporeal

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principle on which the form directly depends”. Aquinas identifies the act of disposing matter with the act of transmuting matter: in order to be disposed for a particular form, matter must be transmuted; this is the job of the corporeal agent which moves matter. But in transmuting matter, the “corporeal agent acts by virtue of the incorporeal principal”. The corporeal agent’s activity terminates in a form. This form is usually of the same type as the form of the corporeal agent, e.g., fire generates fire. In cases where the generated form is of the same type as the form of the corporeal agent, the corporeal agent is called a univocal agent. In some cases, what is made is not something of the same type as its cause, e.g., the form of an animal generated from putrefaction is caused by a celestial body. In these cases, the corporeal agent is called an equivocal agent. Aquinas claims that in cases of univocal causation, the type of form generated belongs actually to the generating agent, whereas in cases of equivocal causation, the type of form generated belongs virtually to the generating agent.

So far we have seen that Aquinas holds that corporeal agents transmute matter and that their activity terminates in a form. Aquinas then extends the act of transmuting matter to the act of educing form from matter: he says that corporeal agents “do not act except by transmuting” and so corporeal agents are not the causes of the forms of generated things except “by transmuting matter and educing the form from the potentiality of matter”. I take it that Aquinas thinks that we can conflate a corporeal agent’s transmution of matter with its eduction of form from the potency of matter because the activity of transmutation terminates in a form. This point is important.

\[\text{Ibid.}\]
\[\text{Ibid.}\]
\[\text{Ibid.}\]
\[\text{Ibid.}\]
Aquinas claims that in transmuting matter, corporeal agents act as the instruments of the incorporeal cause of the existence of form. Since he conflates transmuting matter with educing form from the potency of matter, he holds that when corporeal agents educe form from the potency of matter in cases of substantial generation, they do so as the instruments of an incorporeal agent. We will see that the claim that corporeal agents are instrumental causes in cases of substantial generation seems to be in tension with the claim that corporeal agents are genuine efficient causes in cases of substantial generation.

In order to see this apparent tension, we need to know more about the nature of instrumental causality. Aquinas explains this type of causality in *De Potentia* 3.7 where he discusses the ways in which God works in the operations of nature.

In *De Potentia* 3.7, Aquinas claims that God works in the operations of nature in four ways. First, he gives natural agents the powers by which they act. Second, he preserves those powers. Third, he moves them to act through his role as the unmoved mover. Fourth, he uses natural agents as instruments. His argument for the last claim has two parts. He first defends the claim that X is the cause of Y’s action if X uses Y as an instrument. He then argues that in causing the existence of new individuals, God uses natural agents as instruments.

In defense of the claim that X is the cause of Y’s action if X uses Y as an instrument, Aquinas says first that “we find that the order of effects follows the order of causes, and this must needs be so on account of the likeness of the effect to its cause”.\(^\text{19}\) He seems to consider this point an obvious one. I take it that he means that the order in any ordered series of effects must correspond to the order in some ordered series of causes. We might question the general principle that effects are like their causes, which

is supposed to support this claim. But the claim the principle is supposed to support here – namely, that the order in an ordered series of effects follows the order of its series of causes – seems plausible. He then claims that the second cause in such a series doesn’t “by its own power have any influence on the effect of the first cause” because the second cause is a cause of the effect of the first cause as an instrument.\textsuperscript{20} An instrument is not a cause through its own power but “insofar as it participates somewhat in the power of the principal cause through being moved thereby”.\textsuperscript{21} He illustrates this point through the example of the causal relationship between an axe and the artifact produced by a craftsman who uses the axe: “the axe is the cause of the craftsman’s handiwork not by its own form or power, but by the power of the craftsman who moves it so that it participates in his power”.\textsuperscript{22} It is important to note that the effect that Aquinas is trying to explain here is the \textit{artifact} produced by the craftsman. An axe is thus a poor example to illustrate this point, so I will explain Aquinas’ argument using a different example. If I write a poem using a pen, the pen is an instrumental cause of my poem. The pen does not cause my poem by its own form or power. Rather, the pen causes the poem by my power as an author who moves the pen in such a way that it forms the words of my poem. The pen causes my poem by participating in my power. It is important to distinguish Aquinas’ account of the way X causes the action of Y by using Y as an instrument from the third way in which one thing causes the action of another by moving it to act.

The third way in which one thing causes the action of a second thing is by moving it to act. In this case, the first cause “applies the power to action, even as a man

\textsuperscript{21} Ibid.
\textsuperscript{22} Ibid.
causes the knife’s cutting by the very fact that he applies the sharpness of the knife to
cutting by moving it to cut”.

God is the cause of the action of every natural thing in
this third way due to his role as the ultimate mover:

And the since the lower nature in acting does not act except through being moved,
because these lower bodies are both subject to and cause alteration: whereas the
heavenly body causes alteration without being subject to it, and yet it does not cause
movement unless it be itself moved, so that we must eventually trace its movement to
God, it follows of necessity that God causes the action of every natural thing by moving
it and applying its power to action.

So just as a knife is something that can cut, but only actually cuts when moved by a man,
a natural agent is something that can do something, but only actually does it when
moved by something else. Ultimately its movement depends on God, the unmoved
mover. In this case, X is the cause of Y’s action in the sense that X causes Y to exercise
Y’s own power. The first cause brings it about that the second exercises a power proper
to the second: the man causes the knife’s cutting. To illustrate the difference between
this sort of case and a case in which X causes the action of Y by using Y as an
instrument, I will use my pen example from above. I can cause the action of my pen by
moving it to write. The power to write is proper to the pen. But the pen cannot
exercise this power unless I move it. I can also cause the pen to write a poem. When I
cause the pen to write my poem, the pen performs an action (writing my poem), but it
does not perform this action by any power proper to it, rather it performs this action by
my power as an author who moves the pen in such a way that it forms the words of my
poem. In the latter case, I cause the action of the pen by using it as an instrument.

In order to defend the claim that God causes the action of a natural thing “as a
principal agent causes the action of its instrument”, Aquinas first distinguishes four

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23 Aquinas, De Potentia 3.7, Dominican Fathers (trans.), Book 1, p. 131, Marietti 9th rev. ed., vol. 2,
p. 58.
24 Ibid.
categories to which a natural thing belongs: a natural thing is (1) a being, (2) a natural thing, (3) a thing of this or that nature and (4) an individual. 25 He then claims that “this or that individual thing cannot by its action produce another individual of the same species except as the instrument of that cause which includes in its scope the whole species and, besides, the whole being of the inferior creature”. 26 By identifying four categories to which a natural thing belongs, Aquinas means to suggest that each of these aspects of a natural thing requires a cause. He then argues that an individual cannot by its action produce another individual of its species except as the instrument of God, on the ground that the production of being and the production of the species are beyond the scope of the causal powers of an individual natural thing.

Aquinas’ claim here that “this or that individual thing cannot by its action produce another individual of the same species except as the instrument of that cause which includes in its scope the whole species” accords with his claim in De Potentia 5.1 that “if a corporeal principle be in some way the cause of a form, this is due to its acting by virtue of an incorporeal principle and as its instrument”. 27 But in De Potentia 5.1 he says that the activity of the corporeal principle in causing form is the activity of disposing matter and educing form from matter. Since Aquinas also claims in De Potentia 3.7 that an instrument does not “by its own power have any influence on the effect of the first cause”, it seems that in educing form from the potency of matter, the corporeal principle

26 Ibid.
does not act by its own power. But this last claim seems to conflict with claims Aquinas makes elsewhere about the role of natural agents in substantial generation.

In *De Potentia* 3.11, Aquinas asks whether the sensible and nutritive soul is created or transmitted through semen. This question arises because Aquinas holds that the rational soul is created. He argues that the other types of soul – namely, the nutritive and sensitive souls – are like other forms; they do not exist *per se* and so are not made *per se*. Like other forms, these souls are not created in cases of substantial generation, but rather they are educed from the potency of matter by natural agents. Aquinas’ account of the acts of these natural agents suggests that he holds that they act through their own power. He claims, for example, that the sensible soul is in semen as the form of a house is in the mind of a builder; these forms are not actually in their respective agents, but they are in these agents in the sense that the active power to produce these forms is in these agents. Here it seems that the semen does act by its own power in educing forms from the potency of matter.

Aquinas’ claim in *De Potentia* 5.1 that corporeal agents act as the instruments of God in educing forms from the potency of matter seems to conflict with his claim in *De Potentia* 3.11 that semen has an active power to produce these forms. Several commentators on Aquinas argue that these two claims are compatible. Since I wish to consider the relative merits of Aquinas’ and Avicenna’s accounts of substantial generation, I will briefly explain here how Aquinas reconciles his claim that corporeal agents act as instruments of God in cases of substantial generation with his claim that

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natural agents have active powers for generation. Aquinas’ view trades on a distinction between God’s role in creating a prototype which is replicated in many individuals and a natural agent’s role in producing an instance of that prototype in one individual. It is clear that no individual natural agent has the power to create a prototype. This is what Aquinas means when he says that the production of the species is beyond the scope of the causal powers of individuals. But natural agents do have active powers for generation. In order to understand why this last claim is compatible with Aquinas’ claim that natural agents act as the instruments of God in cases of substantial generation, we must review what we have learned about Aquinas’s account of instrumental causality. Remember that Aquinas distinguishes (1) the way God causes the action of natural things by using them as instruments from (2) the way God causes the action of natural things by moving them to act. When God causes the action of X by using X as an instrument, X acts by the power of God, not by its own power. When God causes the action of X by moving X to act, X acts by a power proper to X. I illustrated the distinction between these two sorts of cases in my pen example. I can cause my pen to write a poem by using my pen as an instrument. I move my pen in such a way as to form the words of my poem. In this case, the pen is an instrumental cause of my poem; the production of the poem is not due to a power proper to the pen. I can also cause my pen to write by moving it. In this case, my pen is the cause of writing; writing is a power proper to the pen, though it cannot exercise this power unless I move it. In both cases, I move my pen to write. But when I use my pen as an instrument, the action of the pen is not due to a power proper to the pen. This is the distinguishing feature of cases of instrumental causality: an instrument does not act through its own power. Aquinas denies that individuals act through their own power in causing form for the
same reason that we would deny that pens act through their own power is causing poems. Pens have the power to write, but they don’t have the power to write what they please; this power belongs to the author who uses the pen to write her poem. Similarly, natural agents have the power to move matter, but they don’t have the power to move it as they please; this power belongs to God who gives them active powers which he then uses to replicate his prototypes. This view of the instrumental causality of natural agents in cases of generation is compatible with the claim that natural things have active powers for generation. These powers are powers for moving matter. But the result of their motions – namely, the production of an individual member of some species – is not due to their power, but to the power of God who gives them active powers so that they will move matter as he pleases and so will produce an individual who replicates a species prototype.

Aquinas completes his argument in *De Potentia Dei* 5.1 for the claim that God preserves all things in being by introducing a distinction between causes of becoming and causes of being. This distinction mirrors Avicenna’s distinction between true and accidental causes of existence in *Metaphysics* 6.2.\(^{31}\) Avicenna holds that fathers, for example, are merely accidental causes of the existence of their children; they are efficient causes of the temporal origination of new human beings, but not of their existence. The true cause of the existence of new human beings is the incorporeal “giver of forms” or Agent Intellect.\(^ {32}\) Aquinas puts the point this way: he says that “the form of the thing generated depends naturally on the generator in so far as it is educed from the

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\(^{32}\) I discuss this distinction in chapter 2.
potentiality of matter, but not as to its absolute existence”. So the act of the generator is “the eduction of the form from potentiality into actual being”; Aquinas calls this process the becoming of the thing generated. This activity ceases. But the educed form “whereby the thing generated has its existence” remains. The cause on which the existence of the form and thereby the composite depends is an incorporeal agent, namely, God. In this way, he earns his conclusion that things are preserved in their being by God.

It is clear that Aquinas’ position in *De Potentia* 5.1 for the claim that God preserves things in their being draws on several aspects of Avicenna’s metaphysical account of efficient causality. But Aquinas repudiates Avicenna when he responds to the following objection. Since a generated thing has being due to its form, then if lower generating causes do not cause existence, then they do not cause forms. This is contrary to Aristotle’s view that “a form which is in this or that flesh and bones is produced by a form that is in this or that flesh and bones”. So “it will follow that forms in matter are produced by forms outside matter, which was Plato’s view, or by the giver of forms, as Avicenna contended”. Aquinas distinguishes his own view from that of the Platonists and Avicenna by pointing out that they deny the eduction of forms from matter and so hold that “natural agents merely dispose matter, and that the form is induced by a principle that is separate from matter”.

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34 Ibid.
35 Ibid.
37 Ibid.
Notice that in this passage, Aquinas doesn’t say why we must prefer the view that natural agents educe forms in cases of substantial generation to the view that these forms are induced by Avicenna’s Agent Intellect. Earlier in *De Potentia* 5.1, he states that the incorporeal principle of form needs a corporeal principle to act as an instrument in generation insofar as the form begins to exist in matter: in order for the form to begin to exist in some matter, that matter must be properly disposed for this form. For if “matter is in a disposition unsuitable to a particular form, it cannot directly receive that form from an incorporeal principle on which the form directly depends”. But this passage is compatible both with the view that natural agents educe form from matter and with the view that natural agents merely dispose form for matter. In other texts, Aquinas defends the view that natural agents educe form in cases of substantial generation in two ways. First, he argues against several opponents that natural agents have genuine causal powers. I address this strategy in Section 3. Second, he argues that the proponents of the view that form is induced by an incorporeal principle misunderstand form. I address this strategy in Section 4.

### 3.3 Aquinas on the causal powers of natural agents

Whenever Aquinas treats the question whether created things really effect anything, he argues against three main opponents, namely, (1) the Islamic occasionalists, who hold that God is the only true cause, (2) Avicebron, who holds that no body is active, and (3) Avicenna, who holds that substantial generation requires the creation of new forms by the *Dator Formarum* or Agent Intellect. Aquinas’ opposition to Avicenna on this issue is mitigated. Avicenna is right in thinking that created things can effect

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40 See, for example, *Summa Contra Gentiles*, 3.69.
accidental changes, i.e., changes in quality, quantity or place, but wrong in thinking that they can’t effect substantial change. He attributes to Avicenna the view that natural agents can’t effect substantial change since he takes Avicenna to hold that the new forms required for such change are bestowed by the Agent Intellect.\footnote{Aquinas, \textit{Summa Contra Gentiles}, 3.69, §4, Bourke (trans.), pp. 227-228.}

Aquinas’ arguments against these opponents generally rely on empirical claims and/or deductive inferences from claims about God’s wisdom, power, goodness and immutability.\footnote{The scope and variety of these arguments is apparent in \textit{Summa Contra Gentiles}, 3.69. For example, Aquinas argues there that God’s wisdom entails that he wouldn’t employ created things uselessly (Aquinas, \textit{Summa Contra Gentiles}, 3.69, §13, Bourke (trans.), p. 229). His power entails that he can give his creatures causal powers (Aquinas. \textit{Summa Contra Gentiles}, 3.69, §15, Bourke (trans.), p. 230). His goodness entails that the world he creates is really ordered, which requires that things of diverse natures be united into an ordered whole “by the fact that some of them act and others undergo action” (Aquinas. \textit{Summa Contra Gentiles}, 3.69, §17, Bourke (trans.), p. 231). Aquinas appeals to divine immutability in the following argument: “if no lower cause, and especially no bodily one, performs any operation, but, instead, God operates alone in all things, and if God is not changed by the fact that He operates in different things, then different effects would not follow from the diversity of things in which God operates. Now, this appears false to the senses, for cooling does not result from putting something near a hot object, but only heating; nor does the generation of anything except a man result from the semen of man” (Aquinas. \textit{Summa Contra Gentiles}, 3.69, §12, Bourke (trans.), p. 229).} Most of these arguments aren’t helpful with respect to Aquinas’ aim to undermine the view that forms are bestowed by a creative agent in cases of substantial generation. For his opponent could agree to the claim that natural agents have genuine causal powers, but disagree with the claim that these genuine causal powers extend to cases of substantial generation. In order to undermine the view that natural agents can’t cause substantial generation, Aquinas often relies on arguments which draw on the empirical claim that like produces like. For example, in \textit{Summa Contra Gentiles}, Aquinas argues that

it is inductively evident in all cases that like produces like. But what is generated in lower things is not merely the form, but the thing composed of matter and form, since every process of generation is from something, namely from matter, and to something, namely to form. Therefore the generating agent cannot be merely a form, but is, rather, the
composite of matter and form. Therefore, it is not the separate species of things, as the Platonists claimed, nor the agent Intelligence, as Avicenna held.  

This argument is problematic because it isn’t clear to Aquinas himself that the likeness principle which grounds the argument holds in all cases. As he notes a few paragraphs later, animals generated from putrefaction, e.g., maggots from rotting meat, are not generated by something like them in kind.  

So why does Aquinas think that this argument is persuasive? In a very similar argument in De Potentia 3.8, he appeals to Aristotle in order to support his view. He says that “from this principle that the composite and not the form is made the Philosopher (Metaph. vii, 8) proves that forms result from natural agents.” How do we get from the principle that the composite and not the form is made to the conclusion that forms result from natural agents? According to Aquinas, the linking premise is the claim that there must be a likeness between agent and patient. Since the composite is what is made, its maker must be composite.

As Aquinas notes, Aristotle argues in Metaphysics 7.8 that the composite and not the form is made; he holds that the form is generated per accidens when the composite is generated per se. But Aristotle does not use the principle that there must be a likeness between agent and patient to prove that if the composite is what is made, its maker must be composite. Rather, he draws on the observation that like produces like in nature in order to argue against Plato that it is superfluous to posit Forms that exist apart from individuals. Aristotle claims that we would only posit Forms which exist apart from individuals on the ground that they are needed to cause individuals. He then claims that it is obvious that “the cause which consists of the Forms (taken in the sense in which

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44 Aquinas. Summa Contra Gentiles, 3.1, ch. 69, §24, Bourke (trans.), p. 233.
46 Ibid.
some maintain the existence of the Forms, i.e. if they are something apart from the 
individuals) is useless with regard both to comings-to-be and to substances”.

In what sense of “cause” might we posit separate Forms on the ground that they 
are needed to cause individuals? Aristotle says that “it is quite unnecessary to set up a 
Form as a pattern”. So the claim that separate forms are not needed as causes in 
generation means that they are not needed as patterns for generated things: the evidence 
for this claim is clear to the student of nature, for she sees that the natural generator is 
like the generated thing in kind.

Aristotle’s use of the observation that like produces like is different from Aquinas’. 
Aristotle uses this observation to prove that there is no need to posit separate Forms to 
cause individuals. He doesn’t use it to prove that if the composite is what is made, its 
maker must be composite. Aquinas’ claim that the principle that agent and patient must 
be alike entails that composites must be generated by composites is puzzling, since the 
entailment doesn’t hold for all cases of making. In the beginning, God created both 
matter and the forms of composite substances. A version of the principle that agent and 
patient must be alike holds in this case. For whatever God makes bears his likeness in 
some way. But if the principle that agent and patient must be alike entails that 
composites must be generated by composites, then the principle must be false: God is 
not composite, but in the beginning, he created composites. And Aquinas cannot qualify 
the principle such that it applies only to cases of generation. That is, he can’t claim that

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49 Aristotle says that “[i]n some cases it is even obvious that the producer is of the same kind as 
the produced (not, however, the same nor one in number, but in form), e.g. in the case of natural 
products (for man generates man), unless something happens contrary to nature, e.g. the 
production of a mule by a horse. And even these cases are similar; for that which would be 
found to be common to horse and ass, the genus next above them, has not received a name, but 
it would doubtless be both and the mule is both” (Aristotle. *Metaphysics* 7.8 1033b 29-1034a 1).
in cases of natural generation, maker and made must be alike in the sense that if what is
made is a composite substance, its maker must be a composite substance. For the
question at issue is whether cases of natural generation involve creative activity by an
incorporeal agent. So to qualify the principle such that it applies only to cases of natural
generation begs the question.

Aquinas makes a slightly different argument which relies on the claim that like
produces like at the outset of *De Potentia* 3.8. There Aquinas claims that if the substantial
form of the thing generated were produced by God or Avicenna’s Agent Intellect, rather
than by a natural agent, then there would be no need for the form of the generated thing
to be like the form of its natural agent. Since we see that the kind of form acquired by
the generated thing exists actually in an apparent natural agent prior to generation, we
shouldn’t overlook this agent and seek some other source of form.

It is clear that Aquinas does not take this argument to be wholly convincing. For
he does not rest his case for the claim that natural agents educe form from the potency
of matter here, but rather introduces a new argument, which I discuss in Section 4. One
reason he does not take this argument to be wholly convincing becomes apparent when
we consider that Aquinas holds that we must posit some agent who causes the existence
of a form in matter. This agent can’t be a body, since bodies act only by being moved
and the existence of a form in matter implies no movement or change, except
accidentally. So the agent who causes the existence of a form in matter must be
incorporeal; Aquinas identifies this agent as God.

Because Aquinas identifies the agent of the existence of a form in matter as God,
he is vulnerable to the opponent who holds that God, rather than a natural generator, is
the sole cause of form in cases of substantial generation. The claim that there would be
no need for the form of the generated thing to be like the form of its natural agent isn’t persuasive against this opponent. For it could be the case that God produces the form required for substantial generation and there is some other reason why the form of the generated thing is like the form of its supposed natural agent. So Aquinas raises a different argument against this opponent in *De Potentia* 3.8.

### 3.4 Aquinas vs. the creation of form

In *De Potentia* 3.8, Aquinas discusses the generation of form while treating the question whether God works in nature by creating. He claims that the belief that God works in nature by creating stems from the principle that “nature cannot make a thing out of nothing”. This is the principle at work behind two accounts of generation which Aquinas opposes. The first is Anaxagoras’ view that “nothing is made except in the sense that it is drawn out of another wherein it was latent”. Aquinas swiftly counters this view: he says that Anaxagoras fails to distinguish potentiality and actuality. It isn’t the case that what is generated must have actually existed already, but that what is generated must have potentially existed already. If it had actually existed already, then it wouldn’t have been generated at all.

Aquinas treats a second view, which he attributes to Plato and Avicenna, in more depth. This view incorporates Aristotle’s distinction between potentiality and actuality:

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50 A proponent of the view that forms are given by God and the natural agents merely dispose matter for form might hold that the form of the generated thing is like that of its supposed natural agent because the preparatory role of a natural agent determines that this form, rather than that form is given by God. Or he might hold that God acts in nature in such a way that like proceeds from like so that we can predict the natural changes he causes. God might do this in order to enable us to take care of ourselves or in order that we might admire the orderliness of his creation. My point is that we can’t infer that some natural thing gives the form needed for generation from the fact that this natural thing, which seems to us to play a role in the generation of some individual, is like the generated individual in form.


52 Ibid.
what is generated exists potentially prior to its generation due to its matter and
generation occurs when a new form is created in pre-existing matter. On this view,
nature does have a role in generation, but this role is limited to disposing matter for
form. Form itself cannot be presupposed and so must be produced by an agent which
doesn’t presuppose anything, that is, by a creative agent who can produce something
from nothing. For Avicenna, this agent is the lowest of the intelligences, i.e. the Dator
Formarum or Agent Intellect. Aquinas claims that more recently, people have taken up a
modified version of this view: they hold that the agent who produces the form in
generation is God. Aquinas' allusion to contemporaries who hold that God produces
form in generation probably explains his concerted efforts to oppose those whom he
considers the originators of this view, namely, Plato and Avicenna.

Aquinas’ interpretation of Avicenna conflicts with a number of claims Avicenna
himself makes about substantial generation in his *Metaphysics*. First, Aquinas implies that
Avicenna denies that forms exist potentially in matter prior to their actualization. But we
saw in chapter 2 that Avicenna describes the matter produced by the Agent Intellect as
“something having the configuration of the forms of the lower world by way of passive
receptivity to action.” ⁵³ And elsewhere he describes prime matter as that which is “in
potency, all things”. ⁵⁴ In other words, Avicenna holds that when a new form arises in a
portion of matter, it is produced from the potency of matter. So the structure of
substantial change in Avicenna’s system is akin to the structure of substantial change in
Aquinas’ system: matter first has the form potentially and later, through the activity of
some agent or agents, it has it actually.

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Second, Aquinas claims that Avicenna denies that natural agents have active powers with respect to the formation of new members of their species; he is said to limit their powers to disposing matter for form. I argued in chapter 2 that Avicenna upholds Aristotle’s belief that biological organisms generally come to be from natural things which are like them in kind and that his account of the role of semen in animal generation suggests that he too accords natural agents active powers with respect to the formation of new members of their species.

I take it that Aquinas’ criticisms of Avicenna depend solely on Avicenna’s view that the Agent Intellect is the cause of the existence of individuals and of the various species which populate the sublunar world. I argued in chapter 2 that this view conflicts with Avicenna’s claim that natural things generate their progeny. It seems that in order for the Agent Intellect to cause the existence of individuals and of the various species which populate the sublunar world, this Agent must be the cause of the existence of the forms of individual substances. But Avicenna does not reconcile the claim that the Agent Intellect is the cause of the existence of the forms of individual substances with his claims about the causal contributions of natural agents in cases of substantial generation. Since he refers to the cause of the existence of individuals as an agent who “bestows forms”, it is natural to assume that he holds that in cases of substantial generation, natural agents merely dispose matter and that form is given by the Agent Intellect. Aquinas’ argument against Avicenna in De Potentia 3.8 aims to show that this view is untenable on metaphysical grounds. In this Section, I seek to show that this argument is successful.

Aquinas contends that the proponents of the creation of form misunderstand form. He establishes this claim as follows. Since his opponents hold that the role of the
creative agent in a case of generation involves form only, they must predicate being univocally of the created form and of the generated composite. He then points out that being isn’t predicated univocally of the form of the composite and the composite itself: the composite exists \textit{per se}, that is, it exists in its own right, whereas the form of the composite does not exist \textit{per se}, rather it exists because something else, namely, the composite, exists by it.

Here Aquinas assumes that those who posit a creator of form in cases of substantial generation hold that the form of the composite exists \textit{per se}; this is the basis for his claim that they posit being univocally of the form and of the composite of form and matter. Why does he assume this? I take it that he reasons that anyone who holds that form is created in its own right must also hold that it exists in its own right, i.e., it exists \textit{per se}. He points out that the form of the composite does not exist \textit{per se}, but rather the composite of which it is the form exists \textit{per se}.

Aquinas argues next that if the composite exists \textit{per se}, but the form does not, then what is generated is the composite, not the form. He derives this claim from the following principle: “that which is made is said to become according to the way in which it is: because its being is the term of its making”.\textsuperscript{55} The terminus of generation is what exists \textit{per se}, namely, the composite, so what is generated \textit{per se} is the composite, not the form. The form “properly speaking is not made but is that whereby a thing is made”.\textsuperscript{56} Since it is the composite that is generated, the fact that nature can’t act on nothing can’t be used as support for the claim that a creative agent must give form. Nature acts on matter, which has the form potentially. And form is educed from the potentiality of

\textsuperscript{56} Ibid.
matter by a natural agent. In other words, since the composite, not the form itself, is made, we can hold that natural agents educe form from the potentiality of matter without violating the principle that nature can’t make something from nothing.

Aquinas concludes from this argument that there is no need to posit a creative giver of forms in cases of substantial generation. But it seems that he is entitled to a stronger conclusion than that, namely, that the form of the composite can’t be created in cases of substantial generation. If it were created, it would have to be created in its own right and so would have to exist in its own right. If it can’t exist in its own right, it can’t be created.

Aquinas’ argument against the postulation of a creative giver of forms in cases of substantial generation is based on sound claims about the relationship between form and matter in a composite substance. But this argument is puzzling for readers of Avicenna, since Avicenna does not misunderstand this relationship in the way Aquinas contends that he does. Avicenna’s account of the relationship between form and matter in a composite substance is the focus of the next Section.

3.5 Avicenna on the substantiality of form, matter and the composite

In Book 2 of his *Metaphysics*, Avicenna addresses issues related to substance. The first chapter of this book aims to make known “substance and its divisions”.57 Avicenna concludes this first chapter by enumerating the divisions of substance:

Every substance is either a body or not a body. And if it is not a body, then it is either a part of a body of not a part of a body. And if it is not part of a body, then it is separate from bodies entirely. And if it is a part of a body, then it is either form or matter. And if it is separate, rather than a part of a body, then either it has an administrative relation

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57 Avicenna. *Metaphysics* 2.1, Marmura (trans.), p. 45; *Al-Iḥāṣāyāt*, p. 57; *Latinus*, p. 65.
which is in bodies by means of motion, and is called soul, or it is free from matter in every respect and is called intellect.”

Here Avicenna includes both the composite and its form in his list of the sorts of things that are substances. We might assume that it follows from the claim that X is a substance that X exists in its own right. But this assumption doesn’t reflect Avicenna’s account of substance and of the substantiality of the composite and of the form of the composite. Avicenna includes the form of the composite in his list of the things that are substances because he defines a substance as what doesn’t exist in a subject. But he doesn’t hold that every thing which counts as a substance exists in its own right.

Avicenna’s account of substance begins with a distinction between (1) what is in a subject and (2) what is not in a subject. He says that every existent belongs to one of the following divisions:

One of them is the existent in some other thing, which is a thing having subsistence and species in itself. Its existence isn’t that of a part of this other thing, but it can’t be separated from that other thing. And this is the existent in a subject. And the second is the existent which is not in some other thing in this way. So it isn’t in a subject at all. And this is substance.”

This passage identifies substance with what isn’t in a subject. And what isn’t in a subject is contrasted with what is in a subject in a certain way, namely, with what is in a subject in the sense that it is in something else which is subsistent and of some species and, furthermore, is not a part of that thing and can’t be separated from that thing. Notice that while Avicenna holds that a substance is what isn’t in a subject and so denies that what is in a subject is a substance, he doesn’t define a substance as a subject. This becomes clear in the discussion which immediately follows Avicenna’s distinction.

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between what is in a subject and what is not in a subject, which has to do with the relationship between substances and accidents.

Avicenna establishes two points in his discussion of the relationship between substances and accidents. First, accidents depend for their existence on substances, so a substance is ontologically prior to its accidents. Second, accidents can inhere in other accidents. In support of the first claim, Avicenna argues as follows. If something is in a subject, then that subject is either a substance or is not a substance, that is, that subject is either something which is not itself in a subject and so is a substance or something which is in a subject and so is not itself a substance. He then claims that there can’t be a regress \textit{ad infinitum} of subjects which are in subjects and so are not themselves substances, but rather the sequence of subjects which are in subjects ceases with some subject which is not in a subject and so is itself a substance. The aim of this argument is to establish the ontological priority of a substance to its accidents: since accidents are things which exist in a subject and every subject is either itself a substance or ultimately inhere in a substance, then a substance is ontologically prior to its accidents, for it is “the substance that renders the accident subsistent”, not \textit{vice versa}. This conclusion is compatible with Avicenna’s second point about the relationship between substances and accidents, namely, that accidents can inhere in other accidents.

Avicenna holds that accidents can inhere in other accidents in part because he thinks it makes sense to say that “speed [exists] in motion, straightness in a line, and the flat shape in the surface”, as well as because “accidents are attributed to unity and plurality” and unity and plurality are accidents. But he also holds that “if the accident is

\textsuperscript{60} Avicenna. \textit{Metaphysics} 2.1, Marmura (trans.), p. 46, \textit{Al-Ihābiyyāt}, p. 58; \textit{Latinus}, p. 66.
in [another] accident, then the two exist together in a subject. The subject, in reality, is the thing that renders both [of them] subsistent while it [itself] is self-subsistent”.

Avicenna’s discussion of the relationship between substances and accidents provides one clear reason why we can’t define a substance as a subject: it isn’t the case that all subjects are substances. A subject can be in a subject. But a substance is what is not in a subject. So some subjects – namely, those that are in subjects – are not substances. The claim that an accident can inhere in another accident reflects this view. The proximate subject of an accident can be another accident, as in the case of speed, whose proximate subject is motion, which is an accident of a corporeal substance.

Notice, however, that Avicenna distances himself from the claim that an accident can be the subject of another accident in the remarks which conclude his account of this topic. He says that “if the accident is in [another] accident, then the two exist together in a subject. The subject, in reality, is the thing that renders both [of them] subsistent while it [itself] is self-subsistent”. Here it seems that a subject is something self-subsistent. This claim accords with his initial account of what is in a subject; he claims there that what is in a subject is “in some other thing, which is a thing having subsistence and species in itself”. These two passages indicate that Avicenna distinguishes two senses of “subject”. On the one hand, a subject is simply a bearer of properties, e.g., motion is a subject in the sense that it is the bearer of speed. On the other hand, a subject is a subsistent thing of some species which is a bearer of properties. Since Avicenna says that in a case in which an accident is in another accident, “[t]he subject, in reality, is the thing that renders both [of them] subsistent while it [itself] is self-subsistent”, it seems

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62 Ibid.
that he holds the second sense to be the best or primary sense of subject. This idea grounds a different reason to deny the identity of substances and subjects: not all substances are subjects in the best or primary sense. This becomes clear in Avicenna’s account of form and matter.

Avicenna’s main concern in his discussion of the substantiality of form and matter is to show that matter is not a subject. He defends this point by drawing a distinction between a subject and a receptacle. He says that

[i]t was previously known that there is a difference between the receptacle and the subject; that by “subject” is meant that which becomes subsistent in itself and, in terms of being the species, becomes thereafter a cause for something to subsist in it ([but] not as a part of it); and that the receptacle is anything in which something dwells [and which] becomes, by virtue of that [indwelling] thing, [the possessor] of a certain state. Something can exist in a receptacle even though that receptacle hasn’t yet “become in itself a perfectly subsistent species in act”, but rather becomes subsistent through what comes to be in it. So what comes to be in the receptacle can’t be said to be in a subject, since the receptacle isn’t a subject, that is, it isn’t something subsistent and of some species. This is the way form inheres in matter: it is in a receptacle but not in a subject. The notion of the receptacle reflects the indeterminacy of the matter of a composite substance: even though the matter of the composite is itself not in a subject and so is a substance, it is not itself a subject, for it isn’t in itself something subsistent and of some species, but rather becomes something subsistent and of some species through form.

67 He says, “[a]s for establishing this thing which exists in a receptacle but not in a subject, this is something incumbent on us to show shortly. Once we establish it, [it will be seen] that it is the thing to which, in this place, the name “form is properly attributed” (Avicenna. *Metaphysics* 2.1, Marmura (trans.), p. 47; *Al-Ilāhiyyāt*, p. 59; *Latinus*, p. 68).
With regard to the substantiality of form, Avicenna says that “if that which exists in no subject is termed “substance,” then form is also a substance”. And he says the same thing about the substantiality of matter. In his discussion of the nature of body, Avicenna claims that the substantiality of hyle (matter) “does not render it anything in actuality but merely prepares it to become something actual through form. The meaning of its substantiality is nothing but that it is “a something” that is not in a subject. The affirmation here is that it is “a something”. As regards its not being in a subject, [this] is a negation”.

In these discussions of form and matter, it is clear that form and matter are included in the list of things which belong to the divisions of substance because neither of them exists in a subject. But form and matter are not themselves subjects in the best or primary sense; that is, they are not subjects in the sense that they are subsistent of some species. This is in accord with his subsequent arguments that bodily form can’t exist apart from bodily matter and bodily matter can’t exist apart from bodily form. So because neither form nor matter exists in a subject they are substances, but neither is a substance which is subsistent and of some species. This means that the claim that they are substances does not entail that they exist per se. This view is at odds with Aquinas’ claim that Avicenna, whom he identifies as a proponent of the creation of form, must consider the form of the composite to exist per se. Moreover, it seems to accord with Aquinas’ own view that the form of the composite does not exist per se, rather it exists because something else, i.e., the composite, exists by it.

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68 Avicenna. *Metaphysics* 2.1, Marmura (trans.), p. 47; *Al-Ibâhîyat*, p. 60; *Latinus*, p. 68.
70 He does so in *Metaphysics* 2.2-3.
Avicenna’s account of the relationship between form and matter in a hylomorphic composite indicates that he ought not to hold that the Agent Intellect bestows form in cases of substantial generation. So why do Avicenna and Aquinas disagree on the issue of substantial generation? This question will be the focus of the next Section.

3.6 Aquinas and Avicenna on substantial generation

I have shown that Aquinas agrees with Avicenna with respect to the need for an incorporeal principle whose efficacy explains the existence of contingent individuals and the existence of the various species which populate the sublunar world. Aquinas opposes Avicenna on the ground that Avicenna holds that this incorporeal principle bestows form in cases of substantial generation. Aquinas argues that natural agents educe form from the potency of matter in generation. I argued in chapter 2 that Avicenna himself endorses the Aristotelian account of substantial generation which Aquinas champions; this account includes the view that natural agents have active powers with respect to the formation of new members of their species. In this chapter, I argued that Avicenna does not misunderstand form in the way that Aquinas says he must if he holds that new forms are created in cases of substantial generation. It seems, then, that Avicenna, like Aquinas, aims to uphold an Aristotelian account of substantial generation. But this aim is frustrated by his claim that an incorporeal agent who “bestows forms” is the cause of the existence of individuals.

In chapter 2, I argued that the Agent Intellect can only cause the existence of individual composite substances if it causes the existence of their forms. But if the Agent Intellect causes the existence of the form of the composite by bestowing it on matter, then that form cannot also be caused by a natural agent. Aquinas reconciles the
view that God is the cause of the existence of the form of the composite with the view that natural agents educe form from matter by arguing that natural agents act as the instruments of God in cases of generation. His account of the instrumental causal role of natural agents is compatible with his claim that natural agents have active powers for generation. And it accords with his account of the per se unity of a composite substance. But it also explains why God is the direct cause of the existence of the form of the composite. Thus it supports Aquinas’ claim that God preserves all things in being.

Avicenna might defend himself against Aquinas on the ground that Aquinas’ solution to this problem is implicit in his own work. We saw in chapter 2 that Avicenna draws a distinction between causes of individuals and causes of species:

This passage suggests that Avicenna attributes active powers for generation to natural agents, but denies that they are causes of species. It seems that Avicenna could argue that in exercising their active powers for generation, natural agents act as the instruments of the Agent Intellect. But Avicenna does not address in any clear way the tension between (1) his commitment to an Aristotelian account of generation, as well an Aristotelian account of the unity of composite substances and (2) his claim that an incorporeal agent who “bestows forms” is the cause of the existence of individuals. So he leaves himself open to Aquinas’ criticisms.

Aquinas’ criticisms of Avicenna are important because they highlight a potential conflict between the view that God is the cause of the existence of individuals and the  

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Aristotelian view that natural agents generate their progeny. Aquinas claims that some of his contemporaries resolve this conflict by abandoning Aristotle’s account of substantial change in favour of the view that God gives form in cases of substantial generation. We have already seen Aquinas’ main argument against these contemporaries. But he also addresses their view in his response to an objection raised in *De Potentia* 3.8. This objection is based on the claim that the active principles of natural agents are accidents, e.g., fire acts by heat, which is an accident. The objector claims that since an effect cannot excel its cause, and since a substantial form excels an accident, an accident cannot be the active cause of a substantial form. Aquinas argues in response that since “[a]n accidental form acts by virtue of the substantial form whose instrument it is…it is not unreasonable if the action of an accidental form terminate in a substantial form”. This implies that when fire is generated by fire, the heat of the generating fire acts in virtue of its substantial form and for this reason is up to the task of bringing about a new substance. But this response is problematic, since the objection is based on the claim that the active principles of natural things are accidents. Aquinas doesn’t defend the claim that substantial forms themselves are active principles, but the success of his response depends on this claim. In chapter 4, we will see that the claim that substantial forms are active principles is a focus of later debates on substantial generation.

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73 Ibid.
Chapter four

Suarez on substantial forms as efficient causes

Introduction

Suarez’s account of efficient causality is in many respects continuous with that of Avicenna and Aquinas. Like Avicenna, Suarez revises Aristotle’s definition of the efficient cause on the ground that it seems to encompass only natural efficient causes.

Suarez proposes that we define an efficient cause as a \textit{per se} extrinsic principle of the existence of its effect, which it causes by means of an action that flows from it.\footnote{Suarez, Francisco. \textit{Metaphysical Disputations} 17.1, Freddoso (trans.), pp. 5-10; \textit{Disputationes Metaphysicae}, pp. 580-82. Leibniz chastises Suarez for using the verb \textit{influere} to define a cause: “So far we have shown that technical terms are to be avoided as far as possible. Now we must note that whether terms are popular or technical, they ought to involve either no figures of speech or few and apt ones. Of this, the Scholastics have taken little notice, for strange though this sounds, their speech abounds with figures. What else are such terms as \textit{to depend}, \textit{to inhere}, \textit{to emanate}, and \textit{to inflow}? On the invention of this last word Suárez prides himself not a little. The Scholastics before him had been exerting themselves to find a general concept of course, but fitting words had not occurred to them. Suárez was not cleverer than they, but bolder, and introducing ingeniously the word \textit{influx}, he defined \textit{cause as what flows being into something else, a most barbarous and obscure expression}” (Leibniz. \textit{Preface to an Edition of Nizolius}, trans. Loemker (1969), p. 126). Eileen O’Neill discusses Leibniz’s rejection of an influx model of causation which he associates with Scholastic authors. See O’Neill (1993).} He sees his use of the term “action” to be distinctive of his definition of the efficient cause. He claims that by defining the efficient cause as a principle of action, our definition “will encompass every efficient cause, even the First Efficient Cause insofar as he creates”.\footnote{Suarez, Francisco. \textit{Metaphysical Disputations} 17.1, Freddoso (trans.), p. 8; \textit{Disputationes Metaphysicae}, p. 582. Suarez’s claim that the efficient cause “causes by means of an action that flows from it” is also needed in order to distinguish the efficient cause from the final cause. The final cause is also an extrinsic principle of existence, but it “causes only by means of a metaphorical motion insofar as it is an end” (Suarez, \textit{MD} 17.1, Freddoso (trans.), p. 10; \textit{DM}, p. 582). The claim that the efficient cause is an extrinsic principle distinguishes it from the material and formal causes; the latter are intrinsic principles of existence which “do not cause by means of an action; instead they cause by means of a formal and intrinsic union” (Ibid.).}

He defends his altered definition on the following grounds. First, he claims that
Aristotle “used the noun ‘change’ because it is better known to us, inasmuch as through this noun we understand, in the case of each thing, its emanation from or dependence on that principle from which it receives esse”. He then claims that we may understand by “action” the “effect’s emanation from and dependence on that extrinsic cause from which it is receiving esse”. So Suarez agrees with Avicenna an agent is an extrinsic cause of being and that this account of agency encompasses both God’s creative activity and the activities of natural efficient causes, which produce change or rest. He differs from Avicenna in using the noun “action” to bring both types of efficient cause under one definition. Avicenna himself considers his definition of the efficient cause as a source of existence in another to encompass both the acts of creative agents who bestow existence and the acts of natural agents who “do not bestow any existence other than motion in one of the forms of motion”.

Suarez also takes up another position familiar to us from Avicenna’s and Aquinas’s accounts of efficient causality, namely, that an incorporeal principle is needed to cause the existence of contingent individuals. Like Aquinas, Suarez discusses this issue while treating the question whether God preserves all things in being. His defense of this claim takes Aquinas’ Summa Theologiae 1.104.1 as its starting point. While Suarez finds this article obscure, he ultimately accepts its core argument, namely, that if some effect (X) receives from its efficient cause (Y) a form of the same type that belongs to Y, then X can depend on Y only for its coming to be, not for its existence. For example, if

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3 Suarez, Francisco. Metaphysical Disputations 17.1, Freddoso (trans.), p. 9; Disputationes Metaphysicae, p. 582. This seems to me to be somewhat controversial interpretation of Aristotle’s use of the noun “change”. The fact that Suarez doesn’t work very hard to defend it might reflect his assumption that his more general point, namely, that the definition of the efficient cause must encompass both agents of change and divine, creative agency is not controversial.

4 Ibid.

5 Gilson (1962) notes Avicenna’s influence on Suarez in this respect.

a foal receives from a stallion its form, then the foal depends on the stallion only for his coming to be, not for his existence:

[If] otherwise such an effect would, by reason of its form, essentially require the cause in question; but this is impossible, since if it were so, then given that the agent’s form is being assumed to be of the same species, it would essentially require the very same cause; therefore it would need to be caused by itself – which is an absurdity.\(^7\)

Here Suarez endorses Aquinas’ claim that if the stallion were itself the cause of the existence of the form of foal, then it would be the cause of the existence of its own form, which is impossible.\(^8\) This means that we must posit an efficient cause of the existence of the form of the foal. Like Aquinas, Suarez identifies this cause as God.

Suarez also agrees with Aquinas that the claim that God preserves all things in their being is compatible with the claim that natural agents effect new corporeal substances by educing form from the potency of matter. In chapter 3, we saw that Aquinas uses two main strategies to defend the latter claim against proponents of the creation of form. On the one hand, Aquinas draws on the empirical observation that like produces like to argue that the maker of a composite must be composite and to argue that there is no need for an incorporeal source of form in generation. On the other hand, he argues that the view of the proponents of the creation of form rests on a mistaken understanding of the relationship between form and matter in a composite substance.

In Disputation 18, Suarez argues that natural agents can educe form from the potency of matter, but he doesn’t rely on Aquinas’ two main strategies to defend this


\(^8\) I discuss Aquinas’ argument for this claim in chapter 3.
position. He identifies as the main threat to his own position the view that natural agents are adequate causes of accidental change, but not of substantial change. This view is supported by the claim that natural agents act through their accidents. This claim, when coupled with a principle Suarez holds as true – namely, that the lower can’t effect the higher – entails that corporeal agents can’t produce substantial forms. And if corporeal agents can’t produce substantial forms, then new substances can’t be educed from matter by natural agents. This means that substantial generation requires the intervention of some higher cause, e.g., God. Suarez opposes this line of reasoning by arguing that the actions of natural agents depend directly not only on their accidents, but also on their substantial forms. In other words, he holds that substantial forms are immediate efficient causes of natural action.

In chapter 3, we saw that Aquinas also addresses the view which Suarez identifies as the main threat to his own position. Aquinas opposes this view by arguing that the substantial forms of natural things buttress their causal powers. For example, he claims that since “[a]n accidental form acts by virtue of the substantial form whose instrument it is…it is not unreasonable if the action of an accidental form terminate in a substantial form”. But Aquinas does not develop this view in detail. Suarez’s development of a robust account of the efficient causal role of substantial forms is the focus of this chapter.

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9 He alludes to this argument in Disputation 15. There he claims that it is true that one substantial form – namely, the rational soul – is created; but it is false that other substantial forms are created, for if they were, then “all substantial forms would be subsistent and independent of matter in their coming to be and, consequently, also in their being. This is absurd; otherwise the souls of brute animals would be immortal” (MD 15.2, Kronen and Reedy (trans.), p. 50; DM, p. 508).
In Section 1, I introduce the problem Suarez attempts to solve in his account of the causal powers of natural agents in cases of substantial generation. His solution depends in part on his account of the efficient causal role of accidents in cases of generation. I discuss this account in Section 2. The core of his solution is his account of the efficient causal role of substantial forms in cases of generation. I discuss this account in Section 3. In Section 4, I discuss Suarez’s resolution of a problem posed by his own view. This problem has to do with cases of generation in which accidents, which are insufficient causes for generation, are separated from any substantial form which could supplement their causal contributions. While Suarez’ defense of the efficient causal powers of natural agents in cases of substantial generation is ingenious, it is also in some respects unsatisfying. In Section 5, I review the key problems with this defense. Finally, in Section 6, I relate Suarez’s arguments to an interpretive claim put forth by Robert Pasnau, namely, that “scholastic philosophers transformed the notion of what a form is, replacing what was for Aristotle a mode of functional explanation with something much more like an internal efficient cause”.\footnote{Pasnau (2004), p. 32.} Drawing on Suarez’s account of the substantial forms as immediate efficient causes, I argue that Pasnau fails to distinguish two different Scholastic accounts of the efficient causal role of substantial forms.

4.1 Suarez on natural agents as causes of generation: introduction

Suarez begins his investigation of efficient causality in Disputation 18 by asking whether created things really effect anything. He identifies three positions on this issue. According to the first, “created things do nothing”, but rather “God effects all things in
their presence”. On this view “action is attributed to fire, water, and so on because of the appearances and because God has resolved, as it were, to produce certain effects only in the presence of such things”. Suarez describes this view as an “old position” mentioned in works by Averroes and Aquinas, among others. While Suarez himself is unsure of the origin of this doctrine, his citations from Averroes and Aquinas indicate that he is referring to the Islamic occasionalist view that God is the only true efficient cause. According to the second position, bodily creatures can’t effect anything, but spiritual creatures can. Suarez attributes this view to both Avicebron and Augustine. Finally, according to the third position “corporeal things are able to effect accidents but not substances, whereas created spiritual substances are able to effect certain lower substances”. Suarez attributes this view to Avicenna, who “seems to have espoused two errors regarding this matter”. The first error has to do with Avicenna’s emanationist account of creation according to which the first cause, God, immediately creates only one thing, namely, an intellect, which then creates another intellect and so on. In this account, creation occurs in a stepwise fashion through intermediaries, rather than immediately from God. Avicenna’s second error has to do with substantial generation; according to Suarez, Avicenna holds that in cases of substantial generation,

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13 Ibid.
14 Ibid.
17 Ibid.
the lowest created intellect, i.e., the Agent Intellect, “infuses substantial forms into matter that has been disposed by proximate corporeal agents”.  

Suarez rejects the first two positions, as well as Avicenna’s claim that one created intellect can create another, quite quickly. His swift treatment of these arguments indicates that he did not consider these views to pose a serious threat to his own, which is that created things can effect accidents or corporeal substances, but not incorporeal substances, which must be created by God. 

Suarez is most concerned with Avicenna’s second error, namely, that in substantial generation, forms are infused by the lowest created intellect into matter disposed by corporeal agents. Suarez himself holds that no created thing can effect a new substance as a whole, that is, “as regards its whole being and without presupposing anything that belongs to the substance”. In short, no creature can create. But corporeal creatures can “generate a substance from presupposed substantial matter by educing a substantial form”, whereas spiritual creatures, like Avicenna’s Agent Intellect, cannot do so since their separation from matter entails that they are not suited to this sort of activity. In order to support his claim that corporeal creatures can effect substances by educing form from matter, Suarez must overcome a significant problem

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18 Suarez, Francisco. *Metaphysical Disputations* 18.1, Freddoso (trans.), p. 39; *Disputationes Metaphysicae*, p. 594. Interestingly, Suarez claims in Disputation 15 that it is not established that Avicenna “said that all the lower forms are made by creation”, but that “whoever held that opinion, it is improbable if it is taken as universal” (*MD* 15.2, Kronen and Reedy (trans.), p. 50; *DM*, p. 508). So in Disputation 15, Suarez is not convinced that Avicenna is a proponent of the creation of form. Nevertheless, in Disputation 18, he identifies Avicenna as a proponent of the view that natural agents can’t educe substantial forms from the potency of matter. Perhaps he thinks that Avicenna holds that some, but not all forms, are induced by the Agent Intellect in cases of generation. At any rate, Suarez is probably not especially interested in the accuracy of his account of Avicenna’s view; his account of that view mirrors that of Aquinas.


which stems from the belief that he thinks motivates Avicenna’s view, namely, that corporeal agents “do nothing except through the mediation of accidents, which are themselves insufficient principles for effecting substantial forms”.\textsuperscript{21}

The problem Suarez faces has to do with the \textit{principal efficient cause} or \textit{principal principle} of generation, so I will first explain what he means by this term. Suarez defines a principal efficient cause in Disputation 17.2, which is devoted to enumerating the various divisions of the efficient cause, such as \textit{per se} and \textit{per accidens} efficient causes, as well as first and secondary efficient causes. A principal cause is contrasted with an instrumental cause. These two notions are defined in terms of one another: something is specified as a principal efficient cause only if it operates through an instrument and something is specified as an instrumental efficient cause only if it is something given to another so that the other may operate through it. For example, if a writer could write without a pen or a pen could write by itself, then both would be considered efficient causes and the distinction between a principal cause and an instrumental cause would not apply. Since writers need pens to write and pens can’t write by themselves, we call writers the principal causes of writing and pens their instrumental causes. Suarez is troubled by how properly to define these two types of cause for reasons which anticipate his discussion of how one created substance produces another in Disputation 18. He settles on the following account, which foreshadows his answer to the latter question.

Suarez defines a principal cause as “a cause which through a principal power – that is, a power that is more noble than, or at least as noble as, the effect – influences the

action whereby such an effect is produced. \(^{22}\) A principal cause operates “through its own power, not only because it has an intrinsic and innate power to act but also because it has a power that is \textit{per se} proportionate to the effect and does not stand in need of any elevation”. \(^{23}\) The claim that a principal cause operates through its own power is compatible with the claim that some principal causes, e.g., created substances, require the concurrence of a superior cause, e.g., God, because the need for such concurrence is due to “the general nature of a participated being and not because of any special lack of proportionateness” with respect to the effect. \(^{24}\) He defines an instrumental cause as “a cause that concurs in, or is elevated to, the production of something more noble than itself”. \(^{25}\) An instrument “is said to operate ‘in the power’ of the principal agent” not because it doesn’t require its own intrinsic power, but rather because its intrinsic power “is not proportionate or sufficient, and the instrument has the ability to operate only according to the measure of the principal agent’s power and elevation”. \(^{26}\)

Suarez begins his account of the principle by which one created substance produces another by noting that “[w]e are investigating at one and the same time both the principal principle and the proximate – that is, instrumental – principle, since the one cannot be adequately explained without the other”. \(^{27}\) He identifies three things in a created substance – namely, matter, form, and accidents – and asks which of these is a

\(^{23}\) Ibid.
\(^{24}\) Ibid. Suarez’s account of God’s concurrence with the acts of natural agents is explained in Freddoso (1991).
\(^{25}\) Suarez, Francisco. \textit{Metaphysical Disputations 17.2}, Freddoso (trans.), p. 29; \textit{Disputationes Metaphysicae}, p. 590.
\(^{26}\) Suarez, Francisco. \textit{Metaphysical Disputations 17.2}, Freddoso (trans.), p. 31; \textit{Disputationes Metaphysicae}, p. 591.
\(^{27}\) Suarez, Francisco. \textit{Metaphysical Disputations 18.2}, Freddoso (trans.), p. 51; \textit{Disputationes Metaphysicae}, p. 598.
principle of substantial production. He rules out matter immediately. He then argues that no accident can be the principal principle of the production of a substance on the ground that “a principal cause must be either more noble than, or at least no less noble than, the effect”. This claim reiterates his aforementioned definition of a principal cause, but Suarez here provides a defense of it: “no one gives what he does not have”. Since an accidental form is less perfect than a substantial form, an accidental form cannot be the principal principle of a substantial form. Given that there are in a created substance only matter, form and accidents and that matter has already been ruled out as a principle, Suarez argues that the principal principle by which one created substance produces another is its substantial form. This doesn’t mean that accidents aren’t principles at all, but rather that they are instrumental principles. This last claim reflects a belief which is obvious from experience and taken for granted by everyone, namely, that “the substantial form does not produce a similar substance immediately and by itself alone” but rather makes use of its accidents as instruments.

The claim that accidents are the instruments through which a substantial form produces a new substance poses two problems. The first has to do with the way in which accidents are instruments for producing new forms. I discuss Suarez’s response to this problem in Section 2. The second has to do with whether the substantial form has an immediate influence in educating new forms or whether its influence is merely remote and originating. I discuss Suarez’s response to this problem in Section 3.

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29 Ibid.
4.2 The instrumental role of accidents in generation

Suarez identifies two positions on the question of how an accident is an instrument for producing a substance. The first position, which he attributes to Scotus and Ockham, is that the accident “operates dispositively for the induction of the substantial form that is the effect primarily intended by principal agent”. The second is that the accident “immediately attains to the eduction of the [new] substantial form itself”. Suarez attributes this position to the Thomists, but he also says that it “seems to be the common position of the Peripatetics” and cites Aristotle, Alexander of Aphrodisias and Averroes as its proponents. If we take up the second position, then our view conflicts with the principle that the lower can’t effect the higher. The first position avoids this conflict, which isn’t surprising since, according to Suarez, the main argument in favour of this position “is that an accident, since it is a more imperfect being than a substantial form, cannot in any way effect the latter”. On this view, the role of accidents in substantial generation is as follows:

accidents are instruments for inducing the [new] substantial form – not because they immediately attain to it or effect it (for their own action ceases and is terminated in the effecting of accidents that are perfectly similar to themselves) but rather because, insofar as they are subordinated to their own substantial form, their action tends toward the production of a similar substantial form.

So the proponents of this view hold that accidents are the immediate causes of other accidents. But their action tends toward the production of a substantial form similar to

32 Ibid.
34 Suarez, Francisco. *Metaphysical Disputations* 18.2, Freddoso (trans.), p. 54; *Disputationes Metaphysicae*, p. 600.
their own because they themselves are subordinated to that form. How the production of accidents by other accidents results in a new substantial form similar to the form to which the producing accidents are subordinated is not clear here. But I will focus on the aspect of this account which Suarez finds problematic, namely, the denial that accidents immediately attain to or effect a substantial form.

Before stating his own view on this issue, Suarez presents arguments in favour of the second position, which is that accidents immediately attain to the eduction of new forms in substantial generation. As mentioned above, Suarez attributes this position to Thomists and Peripatetics in general. He reports four arguments in support of this position, but I will address only the first and the fourth here, since these arguments are affirmed by Suarez and play a role in his own account.

One argument for the view that accidents immediately attain to or effect a substantial form relies on the claim that “a substantial form is not per se immediately active but is instead active through a power, which is a quality distinct from it”.36 This claim is evident by induction: “we see that any substance whatsoever uses accidents for all its other actions”.37 Suarez does not provide an example to support this claim. He takes it to be clear from experience that a substance, e.g., a knife, uses an accident, e.g., sharpness in order to act, e.g., to cut. This claim derives further support from the following argument: “a substantial form is of itself determined only to giving esse as a formal cause, whereas with respect to its actions it is an indeterminate principle, since it is almost always able to effect several actions to which it is determined by its

So one argument in support of the Thomist or Peripatetic position that accidents themselves immediately attain to the eduction of new forms is that the role of a substantial form is to give being to the composite substance as a formal cause. The substance’s actions are achieved by means of its accidents. Experience confirms the latter claim, but it can also be deduced from the fact that the form itself is not determined to any one action. For example, a maple tree has the powers to nourish itself and to grow, to produce seed and to produce sap. Its substantial form makes it be by making it be something, namely, a maple tree. And the various powers of the maple tree are powers which it has in virtue of what it is. But since the substantial form confers upon this substance a variety of powers, the substantial form is not itself determined to any one action (apart from the act of giving being). Rather, the accidents of the maple tree are determined to specific actions. So, properly speaking, the accidents of the maple tree, not its substantial form, are its principles of action.

Another argument for the view that accidents immediately attain to the eduction of substantial forms relies on the empirical claim that “substances are often generated by means of accidents when there is no substantial form from which the action could proceed, either because the form is too distant or because there is no such form at all”. This suggests that accidents act immediately to educe new forms, as the Thomists and Peripatetics think, rather than dispositively, as Scotus and Ockham think.

According to Suarez, Scotus has a two-fold argument against this objection. First, he holds that “in some cases the fact that a form is distant does not prevent it from having an influence on the eduction of the [new] form, since by its force and efficacy it is

able to attain to distant places”. For example, the sun educes the forms of minerals, even though it is distant from its effects. I take it that on this view, earthly accidents dispose matter to receive the form of some mineral whose eduction is due to the heat of the sun. Second, in cases where there is no such form from which the action of educing a new form could proceed, “the form is effected immediately by the First Cause”, i.e., by God. Such activity on the part of God explains not only how animals are generated from putrefaction, e.g., maggots from rotting meat, but also how animals “come to exist from semen whose power is imperfect and insufficient for educing a soul from the potency of matter”. Note that semen is included here because it is obvious that it acts apart from the substantial form which is proportionate to the educed form, i.e., apart from the form of the father. And whatever powers belong to the semen itself, they are not considered great enough to account for the eduction of a new soul. So Scotus’ view, as reported by Suarez, is that accidents separated from a substantial form from which their action could proceed do not immediately attain to the eduction of form. Rather, they dispose matter for forms which are educed either by celestial bodies or by God.

Suarez objects to the first part of this response, which has to do with the role of the sun in educing the forms of minerals, on the ground that it “contradicts the Aristotelian principle that the agent and the patient have to be in the same place”. And he objects to the second part on the ground that it smacks of the Platonist view that the forms exist in the divine mind and are effected by God or some other supernatural agent, such as Themistius’ world soul or Avicenna’s lowest intelligence, i.e., his Agent

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41 Ibid.
42 Ibid.
43 Ibid.
Intellec. Suarez later states why this view is problematic: he says that if we deny that accidents immediately and *per se* attain to the production of substantial forms, then it will be necessary in many cases to attribute the entire effecting of a substance to universal causes or even to the First Cause – something that ought to be avoided in philosophy as far as possible. For the proper management of the universe demands that whatever can be brought about appropriately and connaturally by secondary causes should be brought about by them.  

This last claim is one reason he gives in favour of his own view, which is that accidents immediately and *per se* attain to the production of substantial forms. He also adds that experience, “which philosophy especially depends on, confirms this claim to a very high degree; and there is nothing that contradicts it”. Finally, he thinks that “this mode of efficient causality is consonant with the nature of an accidental form, which is given to a substance not only for its embellishment and beautification but also for the exercise of its actions”. But the claim that accidents immediately attain to the eduction of new forms must be reconciled with the claim that the lower can’t effect the higher. Suarez’s solution to this problem depends on his account of the role of the substantial form itself in educing new forms.

4.3 The influence of substantial forms in generation

Suarez reconciles the claim that accidents attain immediately and *per se* to the production of a new substantial form with the claim that the lower can’t effect the higher by denying that accidents are sufficient to produce a new substantial form. Rather, we should hold that the substantial form “has through itself an immediate influence along with the accidental and instrumental principle, as long as it is conjoined to the latter in

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45 Ibid.
46 Ibid.
reality and is sufficiently proximate to it”. 47 Suarez explains what he means by using the example of fire which generates fire from nearby flax: the fire influences this action “not only instrumentally through its heat but also principally through its own substantial form”. 48 His claim that the influence of the substantial form is immediate is important. Suarez contrasts this claim with the alternative view that the influence of the substantial form is merely remote and originating. The latter claim means that the influence of the substantial form is restricted to its role in giving esse as a formal cause to a substance of some natural kind, whose actions are achieved immediately by its accidents. Suarez thinks that if we hold that the influence of the substantial form in generation is merely remote and originating, then our view conflicts with the principle that the lower can’t effect the higher. He argues for this claim as follows.

If when we say that the form of fire is a principle of the action of heating, we mean only that the form gives being to the composite and its accidents, including heat, then our account of the efficient causality of the substantial form “is not proper and per se efficient causality” since an action that arises immediately from an accidental form alone likewise depends per se and essentially on it alone as a proximate principle”. 49 He supports this claim by an example: if we think that the role of the substantial form is only to give being to the substance and its accidents, then we must also think that if God were to conserve heat apart from the substantial form of fire, then he also conserves whatever action proceeds immediately from heat. This shows that “the substantial form

49 Ibid.
is not a *per se* principle of any such action*. And if the causality of the form isn’t proper and *per se* efficient causality, then the eduction of forms in cases of generation depends essentially on accidents alone. This entails that the lower effects the higher, which is impossible.

Suarez identifies two principles which support his claim that the substantial form itself has an immediate influence on the eduction of a new form. The first principle is that the instrumental form, namely, the accident, can’t be sufficient for effecting a substantial form, since the latter is more noble than it. Here Suarez reiterates his commitment to the claim that the lower can’t effect the higher. The second principle is that “the mode of activity in question can, speaking *per se*, belong to a material substantial form, as long as the general conditions required for acting are not absent for some other reason”, i.e. because of a lack of existence on the part of the form or because of a spatial distance. So Suarez’s own view can be summarized as follows: accidents have an immediate influence in the eduction of new forms, but they aren’t sufficient to educe new forms because the lower can’t effect the higher. If the substantial form were to have an immediate influence, then it would provide the perfection accidents lack. And since substantial forms can have an immediate influence in educing new forms, we should hold that they do in fact have an immediate influence in educing forms.

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51 Ibid.
53 Suarez provides two reasons in support of the claim that substantial forms can have such an influence. First, it “seems absurd” to deny this, since “then a substance would never be *per se* active or generative of what is similar to itself; nor would any action proceed from a created substantival supposition except by reason of its accidents” (*MD* 18.2, Freddoso (trans.), p. 58; *DM*, p. 601). This claim seems odd, since even if the accidents, not the substantial form, produce the new form, it seems that the substance could still be considered a *per se* cause if the accidents belong to it essentially. Suarez suggests that if the heat of a fire were itself alone the
The view Suarez defends is similar to the view he attributes to Scotus and Ockham in the sense that it includes the claim that the substantial form is an immediate cause of the eduction of a new form. His view differs from theirs in that he holds that accidents also attain to the production of a new form immediately, whereas on their view accidents act only dispositively, not immediately, in the production of a new form.

Remember that Suarez raised arguments in favour of the view that accidents immediately attain to the production of new forms which tell against the view he attributes to Scotus and Ockham. These arguments conclude that accidents alone attain to the eduction of new forms and that the influence of the substantial form is merely remote and immediate cause of the generation of another fire, then the first fire would be a cause only per accidens, just as water is a cause only per accidens when, due to its having been heated, it heats something else. In the latter case, water is considered a per accidens cause because “it is accidental to water that it should be hot and thus accidental to it that it should produce heat” (MD 17.2, Freddoso (trans.), pp. 11-12; DM, p. 583). I take it that he reasons as follows. First, he defines a per se cause in Disputation 17.2 as “a cause on which the effect directly depends for the proper esse that it has insofar as it is an effect” (MD 17.2, Freddoso (trans.), pp. 11-12; DM, p. 583). He then reasons that if accidents alone immediately produce new forms, then no new form directly depends either on any substantial form or on any substance, rather it directly depends only on an accident. So regardless of whether this accident belongs to a substance essentially (due to its substantial form) or accidentally (in the way that heat belongs to water, which is essentially cold), the effect directly depends on the accident alone. He then claims that this is “incompatible with the perfection of a substance”; if an accident can produce something similar to itself, then a substantial form ought to be able to do so as well (MD 18.2, Freddoso (trans.), p. 58; DM, p. 601). He also claims that Aristotle attributes formal, final and efficient causality to the substantial form, citing his claim in Physics 2.7 that that the formal, final and efficient cause often coincide (MD 18.2, Freddoso (trans.), p. 58; DM, p. 601). In Physics 2.7, Aristotle says that “the what and that for the sake of which are one, while the primary source of motion is the same in species as these. For man generates man – and so on too, in general, with all things which cause movement by being themselves moved” (Aristotle, Physics 2.7 192a 25-28).

Suarez’s second reason for holding that substantial forms can have an immediate influence in educing new forms is that there is nothing “contradictory in this mode of efficient causality; therefore, there is no reason why it should be denied” (MD 18.2, Freddoso (trans.), p. 71; DM, p. 607). He argues that such a contradiction would be either on the part of the educed form or on the part of the educating form. But there is no contradiction on the part of the educed form, since it is finite and is effected in a finite mode, “that is, through eduction with no trace of creation” (MD 18.2, Freddoso (trans.), p. 72; DM, p. 607). And there is no contradiction on the part of the educating form, since it is not less perfect than the educed form, but rather “is a more noble or an equally noble act of matter, and by its nature it has been instituted for, and is especially inclined toward, generating that which is similar to itself” (MD 18.2, Freddoso (trans.), p. 72; DM, p. 607).
originating. Suarez must show that these arguments aren’t successful against his own view, which is that both the accidents and the substantial form are immediate causes of the eduction of new forms. As mentioned above, Suarez is most concerned with the first and fourth of those arguments, so I will address only those two.

The first argument relies on the claim that “a substantial form is not per se immediately active but is instead active through a power, which is a quality distinct from it”. 54 This claim is evident by induction: “we see that any substance whatsoever uses accidents for all its other actions”. 55 But it derives further support from the following argument: “a substantial form is of itself determined only to giving esse as a formal cause, whereas with respect to its actions it is an indeterminate principle, since it is almost always able to effect several actions to which it is determined by its accidents”. 56 Suarez thinks that this argument “proves at most that the instrumental activity of the accidents should not be excluded. But it does not prove that the relevant influence of the [substantial] form is impossible or that it is not necessary. 57 Suarez is right that this first argument does not prove that the influence of the substantial form is impossible or not necessary. Nevertheless, his claim that the substantial form is an immediate efficient cause of generation is puzzling, since we can’t grasp in any precise way what the substantial form contributes to generation. The claim that substantial forms are needed to provide a degree of perfection which accidents lack is too vague. This frustrates the explanatory aim of efficient causal analysis.

56 Ibid.
It is not surprising that Suarez does not tell us in any precise way what the substantial form contributes to generation. This demand is impossible for him to meet. It is important to remember that we do not directly experience substantial forms. Our knowledge of them is inferential. We infer that bodies have substantial forms for metaphysical reasons. (I discuss these reasons in Section 5.) And we infer that bodies have different substantial forms based on our experience of differences in the effects of those bodies. But this inferential knowledge of forms tells us little about substantial forms themselves. As Robert Pasnau notes, Scholastic authors “were the first to stress that they had no grasp of what substantial forms actually were”. And if we don’t know what they are, we can’t grasp how they achieve their effects. We do directly experience accidental forms, such as heat. Since we experience the quality of heat in fire and we also experience the quality of heat in water which becomes hot in the presence of fire, we can grasp how fire heats; its causal power is grounded in its accidental property of heat.

58 Aquinas puts the point this way, in an argument against those who deny that created things have genuine causal powers: “if effects are not produced by the action of created things, but only by the action of God, it is impossible for the power of any created cause to be manifested through its effects. Of course, an effect does not show the power of a cause unless by virtue of the action which proceeding from the power terminates in the effect. Now, the nature of a cause is not known through the effect unless its power is known through this effect, for the power results from the nature. So, if created things have no actions productive of effects, it follows that no nature of anything would ever be known through the effect. And thus, all the knowledge of natural science is taken away from us, for the demonstrations in it are chiefly derived from the effect” (Aquinas, Summa Contra Gentiles, Book 3.69, Bourke (trans.), p. 231).

59 Pasnau (2004), p. 46. For example, Scotus concluded “that there is no informative account of how substantial and accidental forms differ. In practice, according to Scotus, philosophers give various derivative (“a posteriori”) accounts of what the difference is: they point to the having of contraries, to the taking on of more or less, to being known in its own right, etc. These are all characterizations of accidental forms and not substantial ones. Still, they don’t tell us about the thing in itself. It just is true that pale is an accident, or that humanity is a substantial form. Such propositions are known per se, and in these cases there is nothing more to be said, because nothing more can be said. For Scotus, the distinction between substantial and accidental forms is basic and unanalyzable” (Pasnau (2004), p. 33).
The problem with identifying substantial forms as immediate efficient causes was apparent to Early Modern philosophers, such as Descartes, who claims that:

no action at all can be explained by these substantial forms, since their defenders admit that they are occult and that they do not understand them themselves. If they say that some action proceeds from a substantial form, it is as if they said that it proceeds from something they do not understand; which explains nothing.  

Suarez is clearly not troubled by this problem: he thinks that the principle that the lower can’t effect the higher is sufficient ground for attributing to the substantial form an immediate efficient causal role in generation. His claim is not unreasonable: if it is true that the claim that forms are educed by accidents violates the principle that the lower can’t effect the higher and if it is true that natural agents educe form from the potency of matter, then the attribution of causal efficacy to substantial forms in generation is justified. But this solution is frustrating if we focus on the aim of explaining generation.

Suarez also responds to a second argument which concludes that accidents alone attain to the eduction of new forms and that the influence of the substantial form is merely remote and originating. This argument appeals to experience, which shows that “substances are often generated by means of accidents when there is no substantial form from which the action could proceed, either because the form is too distant or because

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61 An opponent could argue that instead of identifying an obscure entity as an efficient cause of generation, Suarez ought to reconsider his belief that the principle that the lower can’t effect the higher poses a problem with respect to the adequacy of natural agents as causes of generation. That is, an opponent to Suarez’s view could argue that all cases of substantial generation can be explained without violating this principle. For example, semen and seeds could be considered sufficient active principles for animal and plant generation. Elemental transformation can be explained simply by appealing to the active and passive powers of the contrary qualities. For example, water, which is wet and cold, is turned into air, which is wet and hot, simply by heating water.
there is no such form at all”. 62 If this is the case, then it seems that the substantial form can’t have an immediate influence in educing new forms.

It is important to notice that Suarez’s account of the role of the substantial form includes the proviso that the substantial form has an immediate influence in educing new forms only when it is conjoined to and sufficiently proximate to the instrument. In other words, his claim that the substantial form is an immediate efficient cause of generation holds only in those cases in which the substantial form is conjoined with the instrumental accidents, e.g., as the form of fire is conjoined with the accident of heat. It does not hold in those cases in which the form is separated from the instrumental accidents, e.g., as the human form of the father is separated from semen. He makes this proviso because he can’t see how the substantial form can transfer (as I will put it) its whole power of acting to an accidental form in such a way that even when (should this be necessary) the substantial form perishes and only the accidental form is conserved, the latter can by itself effect a substantial form more perfect that itself – even though it does not actually have as perfect an esse and even though it is not actually being aided by a higher form. 63

Suarez’s claim that he can’t see how a substantial form could transfer its power of acting to an accidental form makes sense. But notice that he also denies that an accident not conjoined to a substantial form can effect a new form by itself on the ground that the lower can’t effect the higher. So Suarez owes us an explanation of how substantial forms are educed in cases where the accidents which play a role in eduction are not conjoined to a substantial form from which the action could proceed. His explanation of such cases is the focus of the next Section.

4.4 The action of separated accidents

We have seen that the claim that the lower can’t effect the higher encourages Scotus and Ockham to argue that accidents never have an immediate influence in educing new forms; they merely prepare for the reception of a new form, whose eduction is attributed to the substantial form or to some higher cause, such as a celestial body or God. Suarez at first objects to the claim that a higher cause must make up for the lack of perfection on the part of accidents on the ground that this view sounds like the Platonist one according to which forms exist in the divine mind and are effected by God or some other supernatural agent. Suarez argues that if we deny that accidents immediately and per se attain to the production of substantial forms, then it will be necessary in many cases to attribute the entire effecting of a substance to universal causes or even to the First Cause – something that ought to be avoided in philosophy as far as possible. For the proper management of the universe demands that whatever can be brought about appropriately and connaturally by secondary causes should be brought about by them.⁶⁴

How, then, can we explain cases in which the accidents which play a role in eduction are separated from a substantial form from which the action could proceed? The cases to be explained include the formation of minerals, the generation of animals, as well as the conversion of water to wine when it is mixed with sacramental wine.

In the first case, namely, the formation of minerals, there is no substantial form which could influence the eduction because minerals are held to be formed from the four elemental qualities (heat, coldness, dryness and moistness), rather than from a generator like them in kind. While the sun is often appealed to as the higher cause whose heat contributes to the formation of a mineral with a certain proportion of the

four qualities, it seems that the sun is too far distant from minerals formed in the depths of the earth to be considered viable as a cause.

The problem in the case of the generation of animals is twofold. Some animals are generated from putrefaction, e.g., maggots from rotting meat, rather than from a generator like them in kind. Other animals are generated from semen, which clearly operates apart from the fathers whose substantial form is like the generated progeny in kind. While Suarez entertains the idea that “the semen is an instrument not only by reason of its accidents but also by reason of the substantial form that exists in the spirits included in the dense part of the semen”, he concludes that “since the whole substance in question”, i.e. the sperm, “along with its form, is much less perfect than the soul that is introduced through the action”, semen is not a sufficient cause of the eduction of a soul. So the sperm “needs a greater concurrence and assistance on the part of a higher cause, especially in the generation of perfect animals and living things”.

The third problem case is related to the Eucharist: how can the accidents in sacramental wine, which are separated from the substantial form of wine, convert into wine a drop of water which is mixed with them?

Since Suarez is committed to the claim that the lower can’t effect the higher, he denies that the accidents themselves can educe the new forms needed in these cases. His solution to this problem is similar to the one he attributes to Scotus, namely, that a higher cause, i.e., either a celestial body or God, lends its efficacy in such cases:

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66 Suarez, Francisco. *Metaphysical Disputations* 18.2, Freddoso (trans.), p. 81; *Disputationes Metaphysicae*, p. 611. As Freddoso notes with respect to this passage, “[b]y ‘perfect animal’ Suarez means higher animals, such as mammals, as opposed to lower life forms such as worms” (Ibid., p. 81, n. 51).
one should claim that whenever it is the case among lower things that the substantial form’s influence is insufficient to educe a similar form, then that influence is supplied by the power of celestial causes in those effects that do not exceed their perfection and power. However, in those effects that do surpass their perfection and power, the influence in question is supplied by the efficient causality of the First Cause.\textsuperscript{67}

The difference between this view and the one he attributes to Scotus is that the latter philosopher holds that accidents only dispose matter for form, whereas Suarez holds that accidents have an immediate influence in the eduction of form. Remember that Suarez claims that if we deny that accidents immediately and \emph{per se} attain to the production of substantial forms, then “it will be necessary in many cases to attribute the entire effecting of a substance to universal causes or even to the First Cause”.\textsuperscript{68} I take it that he thinks that his own view avoids the attribution of the “entire effecting” of a substance to God because accidents have an immediate influence in educing new forms. Nevertheless, since he holds that in cases such as animal generation, God must lend his efficacy to make up for the imperfection of accidents, he himself attributes much of the management of the universe to God.

\textbf{4.5 Suarez on natural agents as causes of generation: conclusion}

From Suarez’s account of the Scholastic debate about the causal powers of natural agents in generation, we have learned several things. First, the principle that the lower can’t effect the higher motivated some Scholastic philosophers to hold that efficacy on the part of the substantial form itself is needed in order to explain the eduction of new corporeal substances from the potency of matter. Second, we have seen that this claim faced serious obstacles. Experience indicates that accidents, not substantial forms, are the principles from which the actions of substances proceed. The

evidence of experience is supported by the claim that substantial forms are themselves indeterminate with respect to action. Moreover, it seems that accidents in many cases act when there is no substantial form from which the action could proceed. We have also seen that Suarez is mindful of these reasons for holding that the immediate principles of the actions of substances are accidents, but he is also committed to the principle that the lower can’t effect the higher.

Suarez himself proposes a compromise position, namely, that both the accidents and the substantial form of a substance have an immediate influence in the eduction of new forms, so long as they are conjoined. The claim that the substantial form’s influence is immediate, not remote and originating, is important. According to Suarez, the claim that the substantial form’s influence is remote and originating entails that the form itself is not a genuine efficient cause of action. Its role is to give being to the substance and its accidents, but the substance’s actions directly depend on its accidents, not on its substantial form.

While Suarez upholds the view that the substantial form is an immediate principle of action, he does not identify any specific contribution made by the substantial form to action. This is not surprising, since the obscurity of substantial forms makes the identification of their contributions to action impossible. Suarez’s view that the substantial form has an immediate influence rests partly on the claim that such an influence is needed because the lower can’t effect the higher and partly on the claim that there is nothing repugnant to the claim that the substantial form has an influence. Suarez’s compromise position includes the proviso that the substantial form can only have an immediate influence when it is conjoined to the instrumental accidents. While this claim seems reasonable, it raises the question of how accidents act in the absence of
a substantial form from which the action could proceed. To solve this problem, Suarez appeals to a higher cause, which in almost all cases is God. This aspect of his view sits uneasily with his aim to avoid appealing to higher causes whenever possible, an aim which is motivated by the belief that “the proper management of the universe demands that whatever can be brought about appropriately and connaturally by secondary causes should be brought about by them”. 69

Suarez’s account of the immediate efficient causal role of substantial forms would surprise those Aristotelians or students of Aristotle who think that the causal role of substantial forms is limited to formal causality. Suarez was not alone in holding substantial forms to be efficient causes; other Scholastics also held this view. These Scholastics provide support for Robert Pasnau’s claim that Aristotle’s conception of form is transformed in the late Middle Ages. This transformation and its relationship to Suarez’s account of the efficient causality of substantial forms is the focus of the next Section.

4.6 The late Medieval conception of substantial form

In his letter to Regius of January 1642, Descartes claims that substantial forms “were introduced by philosophers solely to account for the proper actions of natural things, of which they were supposed to be the principles and bases”. 70 This claim might startle Suarez, since he holds that in addition to accounting for the actions of natural things, substantial forms also play important metaphysical roles. For example, he argues in Disputation 15, which addresses formal causality, that substantial forms are needed to explain the unity of natural things. He claims that

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an aggregation of many accidental faculties or forms in a simple substantial subject is not enough to constitute a natural thing. For in human beings there are perhaps more accidental faculties and forms, and more perfect ones, than in other natural things, and yet these do not suffice for the constitution of any complete natural being. In addition to these accidental forms there is required a form to rule, as it were, over all those faculties and accidents and to be the source of all actions and natural changes of the human being and the subject in which the whole variety of powers and accidents is rooted and unified in a certain way. For the same reason, therefore, in the other natural beings there is needed a substantial form distinct from the accidents and more intimate and perfect than they are.\footnote{Suarez, Francisco. \textit{Metaphysical Disputations} 15.1, Kronen and Reedy (trans.), p. 21; \textit{Disputationes Metaphysicae}, p. 499.}

Suarez presents a second argument for positing substantial forms which depends on the claim that generation consists in the union of these forms with the body, rather than on the acquisition or loss of accidents.\footnote{Ibid. \footnote{Kronen argues that Suarez’s arguments for hylemorphism “show a new emphasis, taking their rise, not only, or even primarily, from the consideration of substantial change, but rather from the demand that any theory explaining the nature of material substances must be able to adequately account for their unity” (Kronen (1991), p. 335).}} Here Suarez alludes to the role substantial form play in constituting new individuals. A new individual comes to be when matter is unified with a substantial form. Suarez does not emphasize this metaphysical role of substantial forms.\footnote{Ibid.} But it is worth noting that if the coming to be of a new individual consisted in the acquisition or loss of accidents, then we could not distinguish cases of generation and corruption, e.g., the birth and death of George the monkey from cases of alteration, e.g., George the monkey gains two pounds. The claim that we ought to be able to distinguish between generation and alteration is supposed to be uncontroversial. One reason it is supposed to be uncontroversial is that this distinction reflects our ordinary beliefs about what sort of changes something can suffer while continuing to exist. A substantial form establishes a subject which can suffer alteration while continuing to exist. Its appearance marks the beginning of some substance whose continuity mirrors the continuity of this form and whose demise is identified with the
disappearance of that form. By appealing to form, we can distinguish cases of generation/corruption from cases of alteration.\textsuperscript{74}

The metaphysical roles Suarez attributes to substantial forms indicate that he would deny Descartes’ claim that substantial forms were introduced solely in order to explain natural action. Nevertheless, Suarez’s account of the efficient causal role of substantial forms in generation provides support for an interpretive claim put forth by Robert Pasnau, namely, that in the late Middle Ages, Aristotle’s conception of substantial form is transformed. Rather than emphasizing its metaphysical role, late Medieval philosophers emphasize its concrete, causal role. Such a transformation might explain Descartes’ contention that substantial forms were posited only to explain natural action.

According to Pasnau, the concrete, causal side of the Scholastic doctrine of substantial form holds that the substantial form plays “something very much like the role of an internal efficient cause, sustaining and regulating the existence of that which the efficient cause originally produced”.\textsuperscript{75} Pasnau finds support for his interpretation in several quarters. He begins with Avicenna and Aquinas. He argues that they view the substantial form as an internal efficient cause because they hold that the accidents of a substance either flow from its substantial form or are caused from without. For example, risibility in a human being is an accident which flows from her substantial form, but sunburnt skin is caused from without. He then claims that this view of the substantial form as a producer and regulator of accidental properties is even clearer in later authors, citing Ockham’s argument that the reversion to coldness on the part of heated water must be caused by the substantial form of water, as well as Buridan’s

\textsuperscript{74} Whiting (1990), pp. 37-44 elucidates Aristotle’s arguments for the claim that we must introduce form in order to distinguish cases of generation from cases of alteration.

\textsuperscript{75} Pasnau (2004), p. 35.
argument that unless the substantial form itself is an active principle of change, we can’t explain why the high body temperature of a fever patient returns to normal.

Pasnau’s description of the late Scholastic view of substantial forms as efficient causes which produce and regulate the accidents of substances seems apt with respect to Ockham’s and Buridan’s arguments. The reversion to coldness on the part of heated water, for example, seems to require an efficient cause, i.e., an active principle of change. And since Ockham identifies the substantial form of water as the cause of this reversion, it follows that he considers the substantial form of water to be an efficient cause. But arguments like those of Ockham and Buridan are not the focus of Pasnau’s account of the late Medieval conception of the concrete, causal role of substantial forms. His concluding remarks on this conception are as follows:

[...]In all these texts, the dominant conception of form is decidedly concrete rather than metaphysical. Substantial forms are understood as causal agents that would figure centrally in any complete scientific account of the natural world. They explain why water is cold, why gold is heavy, why horses have four legs and human beings two, and why horses merely whinny whereas human beings talk. Given this conception of form, it is no wonder that some scholastic authors contemplated describing the substantial form as a kind of efficient cause. 76

This summary passage suggests that the concrete, causal side of the Scholastic doctrine of substantial forms is grounded in the explanatory role of substantial forms with respect to the sorts of properties which belong to members of some natural kind. This causal role of substantial form seems to me to differ from Ockham’s account of the substantial form as the efficient cause of the reversion of heated water to coldness. In the latter case, it is clear that the substantial form is viewed as an active principle. But this is not so clear in the former case: an accident, such as risibility in human beings, could be produced concomitantly with the human form, but not by that form. Suarez

acknowledges this possibility in Disputation 18.3, when he discusses how created substances produce accidents.

One of Suarez’s key questions about the production of accidents by created substances is how the accidental properties which are “owed” to a substance due to its form are caused by that substance. He holds that they are efficiently caused by the substance through a “natural resulting” or “natural emanation”. On this view, a substantial form “has a certain power for having its proper accidents emanate from it”. One reason Suarez finds this view probable is that it “confirmed by the sensory example of water reducing itself to pristine coldness”. Here Suarez indicates that the substantial form’s “power for having its proper accidents emanate from it” is akin to its role in causing the reversion of heated water to coldness. Thus it is not surprising that Suarez aims to defend the view that “natural resulting” is true efficient causality: he says that “it is impossible to imagine what this resulting might be if it is not efficient causality”. But he notes that some authors deny that this is so. He presents two different arguments against his view.

Suarez’s first opponent is Cajetan, who suggests that natural resulting is “a natural consequence without any mediating operation”. According to Suarez, efficient causality consists in an action; so Cajetan’s view entails that natural resulting is not genuine efficient causality. Suarez discounts this view, since Cajetan doesn’t explain

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78 Ibid.
79 Ibid.
82 Ibid.
what he means by a “natural consequence” or how it occurs without a mediating action or operation. Moreover, Suarez argues that natural resulting must be genuine efficient causality, for if it isn’t it can’t be considered a resulting, but rather is “merely a logical consequence by reason of the fact that when one is posited, the other is posited”. This is a plausible objection to Cajetan’s position: the claim that accidents result from the substantial form implies a causal, not a logical, relationship between substantial forms and accidents. But it is interesting that Cajetan himself is comfortable with the claim that accidents result from substantial forms even though he denies that this resulting involves any mediating operation on the part of the substantial form. His position suggests that some Medieval authors use language that implies that substantial forms are efficient causes of their accidents, but when pressed will deny that they mean to attribute to substantial forms this sort of causal role.

Suarez also addresses a second, unnamed opponent who claims “that the resulting in question is not efficient causality but a quasi-efficient causality that consists solely in the fact that the cause that produces the substance is determined, by reason of the substance, to give it the properties that are appropriate to it”. Suarez rejects this view on the ground that “this is no true efficient causality but merely a connaturality of the sort that also exists between a natural passive power and its act”. Suarez is right to deny that this is a plausible account of how accidents arise from a natural resulting or emanation from the substantial form. But we might think that Suarez has only shown that these opponents should consider changing the way they talk about this issue; he has

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84 Ibid.
85 Ibid.
86 Ibid.
not shown that their position is untenable. After all, they have identified a genuine
efficient cause of the production of accidents – namely, the cause that produces the
substance – and they have explained why certain accidents are produced concomitantly
with certain substantial forms.

Suarez’s argument for the claim that “natural resulting” implies genuine efficient causality is persuasive, but his discussion of the views of his opponents indicates that even if they used this language, they did not hold that the substantial form produces accidents through an action. The views of his opponents on this issue are interesting because they suggest that while some Scholastic authors held that substantial forms explain what sorts of accidents a substance has, e.g., they explain why water is cold, they did not consider this explanatory role to entail that substantial forms are efficient causes of their accidents. This point is important with respect to Pasnau’s characterization of the concrete, causal role of substantial forms. His claim that for the Scholastics, substantial forms “explain why water is cold, why gold is heavy, why horses have four legs and human beings two” is compatible with Scholastic accounts of substantial form which deny that substantial forms explain these features of the natural world because they are efficient causes of those features. 87

Suarez’s own account of the production of accidents by substantial forms mirrors his account of the production of substantial forms by other substantial forms. In both cases, he insists that substantial forms are genuine efficient causes. And in both cases he cites opposition on the part of other authors to this characterization of substantial forms. From Suarez we have learned that what Pasnau calls the concrete, causal side of the doctrine of substantial forms is itself two-sided. On the one hand, the

form is considered by some Scholastic authors, including Suarez, to be a genuine
efficient cause of action. Suarez himself identifies three specific actions performed by
substantial forms. First, a substantial form is the efficient cause of accidents appropriate
to it, e.g., the power to sense, which is an accident appropriate to all animals, is efficiently
causally caused by an animal’s substantial form, namely, its soul. Second, an elemental substantial
form, e.g., the watery form, is the efficient cause of the reversion of heated water to
pristine coldness. Third, substantial forms are efficient causes of the generation of new
corporeal substances. I will call this the robust account of substantial forms as efficient
causes.

Suarez defends the robust view of the efficient causal role of substantial forms
against opponents who deny that substantial forms are immediate efficient causes. His
most vigorous defense of this view is directed against the Thomists and Peripatetics who
maintain that the actions of substances depend directly on their accidents alone.
According to these Aristotelians, substantial forms give esse as a formal cause; their role
in explaining action is limited to their role in explaining why substances of some natural
kind have certain accidents. Suarez denies that this is genuine efficient causality. He says
that these opponents attribute to substantial forms a merely “remote and originating”
efficient causal role with respect to action. Following him, I will refer to this view as the
weak account of the efficient causal role of substantial forms. But it seems to me that
the sort of explanatory role these Aristotelians attribute to substantial forms does not
imply that substantial forms are efficient causes at all. Substantial forms can explain
why a substance of some kind has certain properties by being formal causes.

Pasnau’s account of the concrete, causal role of substantial forms in late
Medieval Aristotelian philosophy does not distinguish the robust from the weak account
of the efficient causal role of substantial forms. His focus on the role of substantial forms in explaining the accidents of a substance is far too weak to capture Suarez’s account of the efficient causal role of substantial forms. And his account doesn’t really capture the efficacy attributed to substantial forms by Ockham, when he claims that the substantial form causes heated water to revert to coldness, or by Buridan, when he claims that soul itself is the active principle that reduces to normal the temperature of the fever patient, even though Pasnau cites these claims as support for his account of the concrete, causal role of substantial forms.

Drawing on Suarez’s discussion of the efficient causal roles of substantial forms, I have argued that some Scholastic philosophers defend what I call a robust account of the efficient causality of substantial forms, while others defend a weak account of the efficient causality of substantial forms. While these two accounts of the efficient causality of substantial forms are conflated by Pasnau, they were distinguished by Suarez in his discussion of the role of form as a principle of action in Disputation 18.2 and his discussion of the role of form as the producer of accidents appropriate to a substance of some natural kind in Disputation 18.3. From Suarez we have learned that what Pasnau calls the concrete, causal side of the Scholastic doctrine of substantial forms was itself two-sided. In chapter 5, we will see that these two different conceptions of the causal role of substantial forms play a role in Descartes’ account of the causal powers of bodies.
Chapter Five

Descartes on the causal powers of bodies without substantial forms

Introduction

Like his Medieval predecessors, Descartes holds that existence stands in need of a cause. In the *Fifth Set of Replies* to his *Meditations*, he uses the distinction between causes of being and causes of coming to be in order to illustrate the view that creatures depend on God for their existence so long as they exist:

When you deny that in order to be kept in existence, we need the continual action of the original cause, you are disputing something which all metaphysicians affirm as a manifest truth – although the uneducated often fail to think of it because they pay attention only to the causes of *coming into being* and not the causes of *being itself*. Thus an architect is the cause of a house and a father of his child only in the sense of being the causes of their coming into being; and hence, once the work is completed it can remain in existence apart from the ‘cause’ in this sense. But the sun is the cause of the light which it emits, and God is the cause of created things, not just in the sense that they are causes of the *coming* into being of these things, but also in the sense that they are causes of their *being*; and hence they must always continue to act on the effect in the same way in order to keep it in existence”.

Unlike his Medieval predecessors, Descartes does not relate the cause of the existence of something with the cause of its substantial form. Descartes rejects the Aristotelian notion of substantial form. He sees God as the cause of the existence of human minds and of the total quantity of matter and motion. But the idea that underlies the distinction between causes of being and causes of coming to be survives Descartes’ rejection of Aristotelian metaphysics.

1 CSM II 254-5/AT VII 369-70
2 Marleen Rozemond shows that Descartes’ notion of a principal attribute is the successor of substantial form in the sense that “the principal attributes of extension and thought determine the kinds of modes found in bodies in general and in minds” (Rozemond (1998), p. 117). So just as the substantial form of salt determines the kind of accidents found in bodies which have such a form, so the principal attribute of body determines the kind of modes found in bodies in general and the principal attribute of thought determines the kind of modes found in minds. Descartes explains the relationship between the principal attribute of a substance and its modes at *Principles* I.53.
Descartes also endorses the principal that the lower can’t effect the higher. In the *Third Meditation*, Descartes uses this principle in his argument for God’s existence:

Now it is manifest by the natural light that there must be at least as much <reality> in the efficient and total cause as in the effect of that cause. For where, I ask, could the effect get its reality from, if not from the cause? And how could the cause give it to the effect unless it possessed it? It follows from this both that something cannot arise from nothing, and also that what is more perfect – that is, contains in itself more reality – cannot arise from what is less perfect.  

We have seen that some Scholastics worry that the principle that the lower can’t effect the higher entails that natural agents are without causal powers in cases of substantial generation. They argue as follows. Generation requires the coming to be of a new substantial form, which is an entity more perfect than any accidental form. Since bodies act through their accidents, they can’t produce new substantial forms. This argument lends support to the view that God gives form in cases of substantial generation. We have also seen that both Aquinas and Suarez are concerned to oppose this view.

Descartes’ endorsement of the principle that the lower can’t effect the higher does not pose any problem with respect to his own account of generation, since he denies that bodies have Aristotelian substantial forms. He accounts for the variety of things in nature

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3 CSM II 28/ AT 41

4 Descartes himself sometimes appeals to the notion of form to explain physical phenomena. He says in his letter to Regius of January 1642 that “[e]ssential forms explained in our fashion…give manifest and mathematical reasons for natural actions, as can be seen with regard to the form of common salt in my *Meteorology*” (CSM III 208-9/AT III 506). He occasionally uses the term “substantial form” to describe the distinguishing features of particular types of bodies (CSM III 37/AT I 243). In his letter to Morin of September 12, 1638, he explains the difference between his own use of the term “substantial form” and the Scholastic one. There he says that a substantial form “in so far as it differs from the qualities to be found in its matter, is an altogether philosophical entity which is unknown to me” (CSM III 121-2/AT II 366-7). So Descartes’ rejection of the Scholastic notion of substantial form has partly to do with the Scholastic view that a substantial form differs from the qualities found in the matter that has that form. He also disagrees with them on the issue of the character or nature of the “qualities” found in bodies. He expresses this point in a passage from his letter to Regius of January 1642, which I discuss below. He thinks that these qualities are modes. He also thinks that the modes which belong to bodies are referred to and presuppose the principal attribute of body, i.e., extension (CSM I 210-11/AT VIII A 25). Examples of modes include size, shape and motion.
by pointing to differences in the modes of material substance, e.g., size, shape and motion. So Descartes could explain the coming to be of new things by identifying the relevant changes in modes of matter. This means that he could provide a neat solution to the Scholastic problem of the generation of form. On Descartes’ view, the claim that bodies act through their accidents doesn’t conflict with the claim that creatures can bring about new things because bringing about new things doesn’t require the effecting of anything with a higher degree of reality than accidents.⁵ One advantage of this view is that it avoids attributing the management of the universe to God, which Suarez claims is “something that ought to be avoided in philosophy as far as possible”.⁶

Descartes himself does not vaunt this advantage of his view. Unlike his Scholastic predecessors, he is not especially concerned to prove that created things have causal powers. He frequently speaks as though they do. But he does not defend this claim in any detail. Some of his interpreters deny that he attributes genuine causal powers to bodies; others deny that bodies as he describes them can have causal powers. One important source of evidence for these views relates to Descartes’ rejection of Aristotelian substantial forms.

It seems to some of Descartes’ interpreters that his denial of substantial forms deprives bodies of causal efficacy. Daniel Garber puts the point this way:

For the schoolmen, the world God sustains is a world of matter and substantial forms. These forms are active principles that constitute an important class of the mediating causes of change that the schools recognized. But in a physical world whose only constituents are extended bodies, a world without forms (at least if we set aside human souls), then this class of mediating causes is not available to press into service. What Descartes chooses in

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⁵ The success of this solution depends on the merits of Descartes’ arguments for rejecting Aristotelian substantial forms. These arguments are assessed by Rozemond (1998), ch. 4 and by Garber (1992), ch. 4. I will not address this issue here.

their place is God, who will act not only as the general conservator of the world, but as the
*direct* cause of motion and change in that world.⁷

Notice that Garber claims that Descartes’ Scholastic predecessors consider substantial
forms to be “active principles that constitute an important class of the mediating causes of
change that the schools recognized”.⁸ In chapter 4, we saw that the Scholastics agree that
there is an important relationship between substantial forms and the active powers of
created substances: differences in substantial form are correlated with different active
powers. But they disagree on the issue of whether substantial forms play efficient causal
roles. One of the important goals of this chapter is to show that Scholastic debates about
the efficient causality of substantial forms plays a role in Descartes’ account of the causal
powers of bodies.

This chapter has three parts. In Section 1, I review the Scholastic debate on the
issue of the efficient causal roles of substantial forms as reported by Suarez in his
*Metaphysical Disputations*. In Section 2, I show that Descartes responds to this debate in his
letter to Regius of January 1642. In that letter, he rejects the view that substantial forms
are immediate principles of action. But he embraces the view that the modes of bodies are
immediate principles of action. This letter indicates that Descartes himself does not hold
that in a world devoid of Aristotelian substantial forms, God must be the direct cause of
change. Rather, he thinks that in such a world, bodies have genuine causal powers in virtue
of their modes, e.g., size, shape and motion.⁹ This view raises an important question: is

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sees Descartes’ denial of substantial forms as a problem for his account of the causal powers of
bodies, but he defends this account. (Della Rocca (1999), pp. 49, 67). I discuss Della Rocca’s view
below.


⁹ Other interpreters have also argued that Descartes holds that bodies have genuine causal powers.
differs from previous ones in two ways. First, my account of the relationship between Scholastic
Descartes’ account of the causal powers of bodies compatible with his claim that the nature of body is extension? In Section 3, I argue against several recent interpreters that it is. Finally, in Section 4, I argue that Descartes’ account of the causal powers of bodies is based on an intuitively appealing principle which he holds in common with some of his Scholastic predecessors, namely, that a body has causal powers if its properties contribute to determining what results from its contact with another body.

5.1 Scholastic debates about the efficient causality of substantial forms

In chapter 4, I distinguished two different Scholastic views on the efficient causal role of substantial forms. On the one hand, substantial forms are considered by some Scholastic authors, including Suarez, to be immediate efficient causes. Suarez holds that substantial forms play an efficient causal role in three sorts of cases. First, a substantial form is the efficient cause of accidents appropriate to it, e.g., the power to sense, which is an accident appropriate to all animals, is efficiently caused by an animal’s substantial form, namely, its soul. Second, an elemental substantial form, e.g., the watery form, is the efficient cause of the reversion of heated water to pristine coldness. Third, substantial forms are efficient causes of the generation of new corporeal substances. I call this the robust account of substantial forms as efficient causes.

Suarez’s most vigorous defense of the robust view of the efficient causal role of substantial forms is directed against the Thomists and Peripatetics who maintain that the actions of substances depend directly on their accidents alone. According to these Aristotelians, “a substantial form is of itself determined only to giving esse as a formal cause,

debates about the efficient causal role of substantial forms and Descartes’ view that bodies act in virtue of their modes introduces new evidence in support of the claim that Descartes attributes causal powers to bodies. Second, I offer new arguments in support of the view that Descartes’ claim that bodies have causal powers is compatible with his claim that the nature of body is extension.
whereas with respect to its actions it is an indeterminate principle, since it is almost always able to effect several actions to which it is determined by its accidents”. On this view, the role of substantial forms in explaining the actions of substances is limited to their role in explaining why substances of some natural kind have certain accidents, which are direct principles of action. I call this the weak account of the efficient causal role of substantial forms.

According to Suarez, the weak account of the efficient causal role of substantial forms attributes to substantial forms “a merely remote and originating” influence on action. He argues that a remote and originating influence “is not proper and per se efficient causality” on the ground that “an action that arises immediately from an accidental form alone likewise depends per se and essentially on it alone as on a proximate principle”. He supports this claim with an example: if we think that the role of a substantial form is only to give being to a substance and its accidents, then we must also think that if God were to conserve heat apart from the substantial form of fire, then he also conserves whatever action proceeds immediately from heat. This shows that “the substantial form is not a per se principle of any such action”. And if the causality of the form isn’t proper and per se efficient causality, then action depends essentially on accidents alone.

Garber’s claim that substantial forms are “active principles that constitute an important class of the mediating causes of change that the schools recognized” does not distinguish the robust from the weak account of the efficient causal role of substantial forms.

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12 Ibid.
forms. Some Scholastics view substantial forms as active principles of change; others hold that the actions of substances depend directly on their accidents alone. Garber holds that Descartes’ rejection of substantial forms deprives bodies of causal powers. In the next Section, I will argue that Descartes himself thinks that the actions of bodies without Aristotelian substantial forms depend on their modes.

5.2 Descartes’ account of the causal powers of bodies

We have seen that the Scholastics were divided on the question of whether substantial forms are immediate principles of action. Descartes presents his own view on this issue in his letter to Regius of January 1642. There he says that,

[It] would certainly be absurd for those who believe in substantial forms to say that these forms are themselves the immediate principle of their actions; but it cannot be absurd to say this if one does not regard such forms as distinct from active qualities. Now we do not deny active qualities, but we say only that they should not be regarded as having any degree of reality greater than that of modes; for to regard them so is to conceive of them as substances. Nor do we deny dispositions, but we divide them into two kinds. Some are purely material and depend only the configuration or other arrangement of the parts. Others are immaterial or spiritual, like the states of faith, grace and so on which theologians talk of; these do not depend on anything bodily, but are spiritual modes inhering in the mind, just as movement and shape are corporeal modes inhering in the body.

So Descartes objects to the view that substantial forms are immediate principles of action, but affirms the view that active qualities and dispositions are immediate principles of action. While the terms “active quality” and “disposition” are Aristotelian in origin, Descartes clearly does not mean to suggest that he agrees with his predecessors about the character or nature of these things. For example, while Aristotelians of all stripes consider heat an active quality, Descartes considers it an obscure sense impression which arises in part from the size and speed of bits of matter and in part from an idea in the mind. But I think he does mean to suggest that he affirms one of the Scholastic views mentioned

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14 CSM III 208/AT III 503-4
above, namely, that substances act through their accidents alone. For in Scholastic ontology, active qualities and dispositions are accidents. Descartes’ letter to Regius indicates that he considers his denial of substantial forms to be compatible with the claim that bodies have causal powers. Indeed, he advocates the view that we should replace substantial forms with modes, like movement and shape, for the purposes of identifying the immediate causes of natural action. So this letter tells against Garber’s claim that Descartes replaces substantial forms with God in order to explain change. And it provides support for the claim that Descartes himself attributes causal powers to bodies. Descartes’ account of change in both The World and the Principles also supports this claim.

In The World, Descartes claims that change in the created world happens in accordance with the laws of nature. He also says that

by ‘nature’ here I do not mean some goddess or any other sort of imaginary power. Rather, I am using this word to signify matter itself, in so far as I am considering it taken together with all the qualities I have attributed to it, and under the condition that God continues to preserve it in the same way that he created it. For it follows of necessity, from the mere fact that he continues thus to preserve it, that there must be many changes in its parts which cannot, it seems to me, properly be attributed to the action of God (because that action never changes), and which therefore I attribute to nature. The rules by which these changes take place I call the ‘laws of nature’.  

Here Descartes explains change in the world by pointing to matter taken together with the qualities he has attributed to it, namely, “that its parts have had various different motions from the moment they were created, and furthermore that they are all in contact with each other on all sides without there being any void between any two of them”. So Descartes thinks that change in the world depends on the motion of bodies, coupled with the absence of empty space. It is important to notice that Descartes also claims that change

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15 CSM I 92-3/AT XI 37
16 CSM I 93/AT XI 37
must be attributed to matter in motion on the ground that the action of an unchanging
God can’t explain change.

Descartes presents a similar view in his *Principles*. In *Principles*, Part Two §36, he
claims that the cause of motion is “in fact twofold: first, there is the universal and primary
cause – the general cause of all the motions in the world; and second there is the particular
cause which produces in an individual piece of matter some motion which it previously
lacked”. God, who creates and conserves matter, along with its motion and rest, is
identified as the universal or primary cause of motion. Descartes then claims that “[f]rom
God’s immutability we can also know certain rules or laws of nature, which are the
secondary and particular causes of the various motions we see in particular bodies”. This
seems like a departure from his view in *The World*, since there nature itself is identified as
the cause of change, whereas here the laws of nature are identified as the causes of change.

But a little later, in his account of the third law of nature, Descartes presents a different
view of the rules or laws of nature. He says that “[a]ll the particular causes of the changes
which bodies undergo are covered by this third law”. Here the third law is said to cover
the particular causes of motion, rather than to be a particular cause of motion. So what
should we make of Descartes’ earlier claim in *Principles*, Part Two §37 that “the rules or
laws of nature” are the particular causes of motion?

The claim that laws are causes is *prima facie* implausible: laws themselves can’t make
anything happen. Gary Hatfield thinks that the laws of nature are causes “inasmuch as it is
according to them that God finds reason to change the direction and speed of any given
moving particle as it comes in contact (one might say ‘upon the occasion of its contact’)

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17 CSM I 240/AT VIII A 61
18 CSM I 240/AT VIII A 62
19 CSM I 242/AT VIII A 65
with one or more other particles”. This view avoids the implausible claim that the laws themselves are causes, but is itself problematic for two reasons. First, it is incompatible with Descartes’ claim that God is immutable and his related claim that change must be attributed to matter in motion on the ground that the action of an unchanging God can’t explain change. Say a moving body (A) collides with another body (B), which is at rest. As a result, A ceases to move, while B begins to move. If we hold that God makes B begin to move at a certain speed in accordance with the laws of nature, then we must hold that when A collides with B, God stops making A move and starts making B move. So God’s activity changes. But this is impossible. Second, it is incompatible with Descartes’ distinction between God’s role as the universal and primary cause of motion and the role of secondary and particular causes of motion, which produce “in an individual piece of matter some motion which it previously lacked”. As Hattab notes, this distinction collapses if we view the laws of nature as reasons according to which God causes change.

Since the claim that the laws of nature are themselves the particular causes of motion is implausible and since the claim that these laws capture God’s reasons for causing particular changes conflicts with divine immutability and with Descartes’ distinction between universal and particular causes, I think that we should favour Descartes’ later claim that the third law of nature covers the particular causes of the changes bodies undergo. What are these particular causes? Descartes’ third law of motion states that “if a body collides with another body that is stronger than itself, it loses none of its motion; but if it collides with

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21 CSM I 240/AT VIII A 61
23 Perhaps Descartes refers to his three laws of nature as causes due to their explanatory power. For example, once we have deduced the first law of nature from God’s immutability, we might cite that law as the reason why a body at rest can’t begin to move of its own accord. Of course, we would be speaking loosely.
a weaker body, it loses a quantity of motion equal to that which it imparts to the other body”. 24

Descartes explains the law as follows:

when a moving body collides with another, if its power of continuing in a straight line is less than the resistance of the other body, it is deflected so that, while the quantity of motion is retained, the direction is altered; but if its power of continuing is greater than the resistance of the other body, it carries that body along with it, and loses a quantity of motion equal to that which it imparts to the other body. Thus we find that when hard projectiles strike some other hard body, they do not stop, but rebound in the opposite direction; when, by contrast, they encounter a soft body, they are immediately halted because they readily transfer all their motion to it. 25

In this passage, changes in motion which occur when a moving body collides with another body are due to the moving body’s power of continuing to move. Since Descartes says that his third law of nature “covers” all the particular causes of changes bodies undergo and since changes in motion are due to the power of continuing to move which belongs to a moving body, it seems that Descartes considers bodies themselves to be the particular causes of motion which he refers to in Principles, Part Two §36, when he claims that there is a twofold cause of motion and distinguishes the universal cause of motion (God) from the particular cause of motion “which produces in an individual piece of matter some motion which it previously lacked”. 26

While Descartes himself attributes causal powers to bodies in his letter to Regius of January 1642, as well as in The World and the Principles, we might think that he is not entitled to do so. Two features of Descartes’ view seem to support this interpretation. First, Descartes’ claim that the nature of body is extension seems incompatible with his claim.

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24 CSM I 242/AT VIII A 65
25 Ibid.
26 CSM I 240/AT VIII A 61. Della Rocca also argues that Descartes identifies bodies themselves as the particular causes of motion in his discussion of the third law (Della Rocca (1999), pp. 52-54). Della Rocca notes that this passage provides important evidence against the occasionalist interpretation of Descartes’ view of body-body causation, since the passage is one in which Descartes is “giving us his official account of the causation of motion”, rather than speaking loosely or casually about bodies as causes as even an occasionalist might do in nontechnical passages (Della Rocca (1999), p. 52).
that bodies have active powers. Second, Descartes attributes a body’s power of continuing
to move to its tendency to remain in the same state unless checked. Since he derives the
latter claim from divine immutability, it seems that God is the cause of a body’s tendency
to remain in the same state and thus of its power of continuing to move. I address these
problems in the following Section.

5.3 Can Cartesian bodies have causal powers?

In *Principles* Part Two §23, Descartes claims that

> [t]he matter existing in the entire universe is thus one and the same, and it is always
> recognized as matter simply in virtue of its being extended. All the properties which
> we clearly perceive in it are reducible to its divisibility and consequent mobility in respect of its
> parts, and its resulting capacity to be affected in all the ways which we perceive as being
> derivable from the movement of parts.\(^{27}\)

Some of Descartes’ interpreters think that his claim that all the properties of bodies are
reducible to its divisibility and consequent mobility is incompatible with the claim that
bodies have active powers. Helen Hattab puts the point this way:

> [g]iven that all the properties of matter are derived from its divisibility and the consequent
> capacity of its parts to be moved, Descartes leaves no room for active forces or causal
> powers originating from the nature of bodies. Properties such as active forces are not
> ultimately reducible to extension so they do not belong to body.\(^{28}\)

Notice that Hattab infers the claim that “Descartes leaves no room for active forces or
causal powers originating from the nature of bodies” from the claim that he holds that all
the properties of matter are reducible to its divisibility and consequent mobility. So she
takes Descartes’ claim that all the properties of matter are reducible to its divisibility and
consequent mobility to mean that he holds that all the properties of matter *originate* from
the nature of body, i.e. extension. But the claim that all the properties of matter originate
from the nature of body conflicts with Descartes’ central point in *Principles* Part Two §23.

\(^{27}\) CSM I 232/AT VIII A 52
Principles Part Two §23 begins with the claim that “all the variety in matter, all the diversity of its forms, depends on motion”. 29 Descartes’ aim in this section is to explain this point. He notes first that “[t]he matter existing in the entire universe is thus one and the same, and it is always recognized as matter simply in virtue of its being extended”. 30 This claim follows from Descartes’ assertion that variety in matter depends on motion: if variety in matter depends on motion, then matter considered in itself is undifferentiated extension. His next claim explains the relationship between the nature of matter and the properties which cause variety in matter: he says that “[a]ll the properties which we clearly perceive in [matter] are reducible to its divisibility and consequent mobility in respect of its parts, and its resulting capacity to be affected in all the ways which we perceive as being derivable from the movement of parts”. 31 This claim is primarily a descriptive one. But it has a proscriptive overtone: we should ascribe to matter only those properties which we clearly perceive to be in matter and those properties are reducible to its divisibility and consequent mobility. Since he claims that “any variation in matter or diversity in its many forms depends on motion”, he must think that motion is something we clearly perceive to be in matter and so is something reducible to the divisibility and consequent mobility of matter. 32 But motion is not reducible to the divisibility and consequent mobility of matter in the sense that it originates from the divisibility and consequent mobility of matter. Descartes makes this point clear in his hypothetical account of creation in The World. There Descartes first posits the creation of matter conceived as “a real, perfectly solid body which uniformly fills the entire length, breadth and depth” of his imagined world and then suggests that “this matter may be divided into as many parts having as many shapes as we

29 CSM I 232/AT VIII A 52
30 CSM I 232/AT VIII A 52
31 CSM I 232/AT VIII A 52-3
32 CSM I 232-3/AT VIII A 52-3
can imagine, and that each of its parts is capable of taking on as many motions as we can conceive”. Finally, he proposes that God really does divide matter into parts and suggests how he would do so:

It is not that God separates these parts from one another so that there is some void between them; rather, let us regard the differences he creates within this matter as consisting wholly in the diversity of the motions he gives to its parts. From the first instant of their creation, he causes some to start moving in one direction and others in another, some faster and other slower (or even, if you wish, not at all); and he causes them to continue moving thereafter in accordance with the ordinary laws of nature.34

Given that Descartes claims in Principles Part Two §23 that all the properties which we clearly perceive to be in matter are reducible to its divisibility and consequent mobility and that motion is a property of matter, his claim that all the properties which we clearly perceive to be in matter are reducible to its divisibility and consequent mobility cannot mean that all of these properties originate from its divisibility and consequent mobility. By “reducible to” he means something weaker than “originate from”, namely, that all the properties which we clearly perceive to be in matter are properties which matter can have because it is divisible and so mobile in respect of its parts. This means that Descartes can attribute causal powers to bodies even if those powers don’t originate from the nature of extension; he is restricted only by the weaker claim that whatever powers bodies have must be powers which can belong to something whose nature is extension. Since he thinks that the changes in motion which occur when a moving body collides with another body are due to the moving body’s power of continuing to move, we must determine whether it makes sense to attribute to a body the power of continuing to move.

33 CSM I 91/AT XI 33-4
34 CSM I 91/AT XI 34
Descartes' claim that the changes in motion which occur when a moving body collides with another body are due to the moving body’s power of continuing to move gives rise to a different objection to the view that Cartesian bodies can have genuine causal powers, which has to do with the source of a body’s power of continuing to move. Hattab cites Descartes’ claim in the Second Meditation that self-motion doesn’t belong to the nature of bodies as support for the general conclusion that “[b]odies are inert on their own, requiring an external source of motion to begin to move and continue to move”. In the Second Meditation, Descartes reports his conception of the nature of bodies prior to engaging in methodological doubt. He says that he understood a body to be something which “can be moved in various ways, not by itself but by whatever else comes into contact with it. For, according to my judgement, the power of self-movement, like the power of sensation or of thought, was quite foreign to the nature of body”. But he retracts this claim in the *Fifth Set of Replies*.

You also question my statements that I had no doubts about what the nature of body consisted in, and that I attributed to it no power of self-movement, and that I imagined the soul to be like a wind or fire, and so on; but these were simply commonly held views which I was rehearsing so as to show in the appropriate place that they were false.

Furthermore, in his letter to Mersenne of October 28, 1640 he says that “[i]t is a big mistake to accept the principle that no body moves of itself. For it is certain that a body, once it has begun to move, has in itself for that reason alone the power to continue to move”.

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36 CSM II 17/AT VII 26
37 CSM II 243/AT VII 351
38 CSM III 155/AT III 213
Notice that Descartes says in his letter to Mersenne that “a body, once it has begun to move, has in itself for that reason alone the power to continue to move”.\(^{39}\) This suggests that a body’s power to continue to move is constituted by its being in motion. Since motion is clearly a property that matter can have because it is divisible and so mobile in respect of its parts, Descartes’ claim that bodies have in themselves the power to continue to move is compatible with his account of the relationship between the nature of matter and its properties in *Principles* Part Two §23. A body’s power to continue to move is constituted by its property of being in motion. But there is a further problem. Why should we agree that bodies have in themselves the power to continue to move if they are in motion? This claim finds support in Descartes first law of nature: “each thing, in so far as it is simple and undivided, always remains in the same state, as far as it can, and never changes except as a result of external causes”.\(^{40}\) In other words, we know by the first law of nature that a body in motion will remain in motion unless checked by something else. Since it is the case that a body in motion will remain in motion unless checked by something else, we should agree that bodies have in themselves the power to continue to move if they are in motion. The principle at work here seems to be the following: (1) \(X\) has the power to continue to \(\varphi\) if (a) \(X\) is actually \(\varphi\)ing and (b) \(X\) will cease to \(\varphi\) only if something else makes it cease.\(^{41}\) Note that Descartes does not need to establish that (a)

\(^{39}\) Ibid.

\(^{40}\) CSM I 241/AT VIII A 63

\(^{41}\) We might think that if Descartes really does endorse this principle, then his claim that creatures depend on God for their existence so long as they exist is in trouble. For the principle as applied to existence yields the following claim: \(X\) has the power to continue to exist if (a) \(X\) is actually existing and (b) \(X\) will cease to exist only if something else makes it cease. In the *Fifth Set of Objections* Gassendi raises an objection along these lines against Descartes claim that creatures depend on God for their existence (CSM II 210/AT VII 301-2). Descartes responds to Gassendi’s objection as follows: “You say that we have a power which is sufficient to ensure that we shall continue to exist unless some destructive cause intervenes. But here you do not realize that you are attributing to a created thing the perfection of a creator, if the created thing is able to continue in existence independently of anything else (CSM II 255/AT VII 371). What is interesting about this reply is
and (b) are necessary conditions for (1); his view makes sense so long as they are sufficient conditions for (1). This principle seems to me to be unobjectionable. For example, I clearly have the power to continue to breathe if I am actually breathing and will only cease to breathe if something else makes me cease.

Gary Hatfield denies that Cartesian bodies have in themselves the power to continue to move. He thinks that God is directly responsible for this power. He reasons as follows. Since Descartes appeals to the first law of nature to support his claim that bodies have in themselves the power to continue to move and since the first law of nature is grounded in divine immutability, it follows that a body’s power to continue to move is grounded in divine immutability. This means that God is directly responsible for a body’s power to continue to move. Hatfield makes this point in the following passage:

that Descartes does not attack Gassendi’s line of reasoning, i.e. he does not deny that it makes sense to hold that an existing thing has the power to continue to exist if it will continue to exist in the absence of a destructive cause. Rather, he points out that this view misattributes to a creature a perfection that belongs to creators alone. What is the perfection that belongs to creators alone? Descartes might mean that power to continue to exist independently belongs to a creator alone. Why is this so? Descartes might mean that God, the sole creator, is the only being with the power to continue to exist independently. If so, then his response begs the question. I think that it is more likely that Descartes means that the power to cause the existence of something belongs to creators alone. Aquinas defends this view in Summa Theologiae 1.45.5. He says that “to produce being absolutely, and not merely as this or that being, belongs to the nature of creation” (Aquinas. “Summa Theologiae.” In Basic Writings of Saint Thomas Aquinas, vol. 1, ed. Pegis. Indianapolis: Hackett, 1997, p. 440). Aquinas draws a distinction between producing being absolutely and producing this or that being in order to distinguish the creative act, which is proper to God, from the acts of creatures. Only God produces being absolutely, i.e. only God makes be something from nothing. Creatures cause changes in things whose existence depends on God. This means that no creature can keep itself in being, since to be able to keep something in being is to be able to produce being absolutely. If this is Descartes’ point, then his response to Gassendi amounts to the following. To cause existence is among the perfections of a creator; it is one of the features which distinguish creators and creatures. To attribute to a creature the power to continue to exist is to attribute to that creature the power to cause existence. This response indicates that he does not endorse without qualification the principle that X has the power to continue to φ if (a) X is actually φing and (b) X will cease to φ only if something else makes it cease. But this response also suggests that Descartes does not object to the line of reasoning which grounds the principle itself, but rather to its application to existence, which stands in need of a creative cause. The latter belief finds support in the view that to cause the very existence of something is to create it from nothing. For this reason, I don’t think that Descartes’ claim that bodies in motion have in themselves the power to continue to move conflicts with his claim that creatures can’t keep themselves in existence.
Descartes gives no reason why bodies should tend to persist in their own state other than the immutable nature of the divine action that preserves bodies at each moment. *A fortiori*, in explaining the tendency to persevere he does not appeal to the force that a body has by virtue of its motion. Indeed, the relation is just the reverse: ‘the force of a body to act…is simply the tendency of everything to persist in its present state’, a tendency that does not follow from any property of matter, but rather from an attribute of God. Just as with the preservation of the quantity of motion, it is difficult to see how a tendency to move could be grounded upon the immutability of God, unless God were directly responsible for the tendency itself.  

Hatfield cites Descartes’ claim in *Principles*, Part Two §43 that a body’s power to act on another body “consists simply in the fact that everything tends, so far as it can, to persist in the same state, as laid down in our first law”. This claim follows from the claims that (1) a body’s power to act on another body is constituted by its power to continue to move and (2) a body’s power to continue to move is established by the first law of nature. Hatfield infers from Descartes’ appeal to the first law of nature in claim (2) that God is directly responsible for a body’s power to continue to move. He justifies this inference on the ground that the first law of nature follows from divine immutability. I think Hatfield is mistaken in thinking that a body’s power to continue to move “does not follow from any property of matter”. I think that it is constituted by a property which belongs to any body which has this power, namely, that body’s property of being in motion. And I think that Descartes is entitled to attribute to a body in motion the power to continue to move on the ground that X has the power to continue to φ if (a) X is actually φing and (b) X will cease to φ only if something else makes it cease.

My position on this issue is *prima facie* similar to Michael Della Rocca’s. Della Rocca defends Descartes’ claim that bodies have the power to continue to move and so to move other bodies on the ground that Descartes holds that what a body tends to do is a

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43 CSM I 243/AT VIIIA 66
44 Hatfield (1979), p. 126.
function of its nature. If this is the case, then a body’s tendency to remain in motion belongs to it by nature. Since Descartes thinks that a body’s power to continue to move constitutes its power to move other bodies, the claim that a body’s tendency to remain in motion belongs to it by nature entails that its force or power to move other bodies belongs to it by nature. Della Rocca notes that

[i]n holding that a body’s nature is the source of what it can do causally, Descartes, as I have interpreted him, is in agreement with the Aristotelian-scholastic tradition. On this tradition, a body’s nature or form is the locus of causal explanations. Now…these forms or natures, as they were traditionally conceived to be, were rejected by Descartes. But in rejecting this conception of the natures of physical objects, he did not reject the general view that we should turn to the natures of bodies in order to account for their causal powers.  

I think Della Rocca is right that Descartes’ rejection of substantial forms does not include a rejection of the view that bodies have genuine causal powers. But I have shown that he thinks that the efficient causal role of substantial forms in Scholastic natural philosophy can be supplanted by accidents and that he thinks that in his own physics, the efficient causal role of substantial forms is supplanted by the mechanistic properties of bodies. So I don’t think that he considers the claim that bodies have causal powers to depend on the claim that bodies have the tendency to remain in motion by nature. Rather I think that he considers the claim that bodies have causal powers to depend on the claim that they have in themselves the power to continue to move. This power is constituted by a body’s modal property of being in motion, as discussed above. So my view does not result in the problem which Della Rocca raises with respect to his own view: “on the view I have attributed to Descartes, the nature of a body consists in or at least somehow involves its

tendency to remain in its current state. It is not immediately clear how or if this view is compatible with his view that extension constitutes the nature of a body”.

In this Section, I have argued that Descartes’ view that bodies have in themselves the power to continue to move depends on the principle that that X has the power to continue to φ if (a) X is actually φing and (b) X will cease to φ only if something else makes it cease. On this view, a body’s power to continue to move is constituted by its modal property of being in motion. We have seen that Descartes holds that a body’s power to move other bodies is constituted by its power of continuing to move. Since the latter power belongs to bodies, then bodies can move other bodies. In the next Section, I will argue that this account of the causal powers of created things is continuous with an account of those powers offered by Aquinas.

5.4 Causal powers as properties

In *Principles*, Part Two §36-37, Descartes distinguishes the primary cause of motion – namely, God – from the secondary causes which produces in an individual piece of matter some motion which it previously lacked. Hattab argues that “[g]iven Descartes’ education at the hands of the Jesuits, he must have been conscious of employing a well-known Scholastic Aristotelian distinction in his account of the causes of motion”.

As Suarez notes in Disputation 17, the chief difference between a primary and a secondary cause is that the first “operates altogether independently”, whereas the second is dependent on the first. The Scholastics held that natural agents were secondary causes whose causal activity depends on God in various ways. But this not does mean that natural things are

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without genuine causal powers. In fact, many Scholastic authors vehemently insisted that natural things have genuine causal powers. We saw in chapter 3 that Aquinas, for example, offers a plethora of arguments in favour of this view. Some of these arguments depend on deductive inferences from claims about God’s wisdom, power, goodness and immutability.\(^4\) We have seen that Descartes also thinks that God’s immutability is grounds for attributing causal powers to bodies: he says in *The World* that changes in nature cannot “properly be attributed to the action of God (because that action never changes)”.\(^5\) This aspect of Descartes’ view provides strong support for the interpretive claim that he himself attributes causal powers to bodies. But it is not sufficient to establish the claim that bodies as he describes them can have genuine causal powers.

Aquinas also offers arguments for the claim that natural agents have genuine causal powers that rely on empirical evidence.\(^\) The key observation on which these arguments rely is that different types of things happen when different types of bodies come into contact with other bodies; for example, fire burns wood, but water rots it. Aquinas thinks that we can infer from the fact that different types of things happen when different types of bodies come into contact with other bodies that bodies have genuine causal powers. The causal powers which a body has in virtue of the type of thing it is are

\(^4\) His wisdom entails that he wouldn’t employ created things uselessly (Aquinas. *Summa Contra Gentiles*, 3.69, §13, Bourke (trans.), p. 229). His power entails that he can give his creatures causal powers (Aquinas. *Summa Contra Gentiles*, 3.69, §15, Bourke (trans.), p. 230). His goodness entails that the world he creates is really ordered, which requires that things of diverse natures be united into an ordered whole “by the fact that some of them act and others undergo action” (Aquinas. *Summa Contra Gentiles*, 3.69, §17, Bourke (trans.), p. 231). Aquinas appeals to divine immutability in the following argument: “if no lower cause, and especially no bodily one, performs any operation, but, instead, God operates alone in all things, and if God is not changed by the fact that He operates in different things, then different effects would not follow from the diversity of things in which God operates. Now, this appears false to the senses, for cooling does not result from putting something near a hot object, but only heating; nor does the generation of anything except a man result from the semen of man” (Aquinas. *Summa Contra Gentiles*, 3.69, §12, Bourke (trans.), p. 229).

\(^5\) CSM I 92-3/AT XI 37

\(^\) Aquinas. *Summa Contra Gentiles*, 3.1, ch. 69, §12, 18, Bourke (trans.), pp. 229, 231.
constituted by its essential properties, e.g., the power to burn which fire has in virtue of being fire is its essential property heat. The core idea on which Aquinas’ view is based is that body has causal powers if its properties contribute to determining what results from its contact with another body. \(^{52}\) I think that this claim is intuitively appealing. I also think that it supports Aquinas’ attribution of causal powers to bodies, even though the existence of bodies (and their properties) depends on God.

We have seen that Descartes holds that bodies have causal powers in virtue of their modal properties. In particular, he holds that a body’s power of continuing to move constitutes its power to make other bodies move. Descartes thinks that we can estimate a body’s power of continuing to move as the product of its size and its speed. \(^{53}\) The size and speed of a moving body contribute to determining what results from its contact with another body. I think that Descartes’ claim that the modes of bodies are principles of action indicates that he shares Aquinas’ view that a body has causal powers if its properties contribute to determining what results from its contact with another body. I also think that this aspect of Descartes’ view supports his attribution of causal powers to bodies, despite the fact that the existence of these bodies (and their properties) depends on God.

\(^{52}\) I say “contribute to determining”, rather than simply “to determining” because features of the patient also influence the result of body-body contact. For example, fire burns wood, but melts lead.

\(^{53}\) CSM I 244/AT VIII A 66-67
Conclusion: Avicenna’s legacy

One of the main goals of this dissertation was to examine the arguments which constitute Avicenna’s metaphysical account of agency. We have seen that this account departs in significant ways from Aristotle’s account of efficient causality. Its first departure is an obvious one. Aristotle defines the efficient cause as a source of change or rest in another qua other. Avicenna holds that this definition is adequate for the purposes of the natural philosopher, who investigates bodies insofar as they move and come to rest. But he denies that this definition satisfies the metaphysician, who investigates the existent as such. I have argued that an Avicennian metaphysician takes her investigation of agency to be an investigation of agency as it is in itself. Her aim is to provide an account of agency which is free from the concerns proper to any of the special sciences, e.g., physics. In keeping with this aim, she develops a definition of the efficient cause which will encompass all agents, including creative ones. She holds that an efficient cause is a source of existence in another qua other. We have seen that Aquinas appeals to Avicenna’s definition of the efficient cause in order to characterize divine agency. We have also seen that Suarez’s definition of the efficient cause is a successor of Avicenna’s. Suarez defines the efficient cause as a per se extrinsic principle of the existence of its effect, which it causes by means of an action that flows from it. He defends his alteration of Aristotle’s definition of the efficient cause on the ground that it “will encompass every efficient cause, even the First Efficient Cause insofar as he creates”.

Avicenna’s metaphysical account of agency includes the claim that a contingent thing needs not only an efficient cause of its coming to be, but also an efficient cause of its

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1 Suarez, Francisco. Metaphysical Disputation 17.1, Freddoso (trans.), p. 8; Disputationes Metaphysicae, p. 582.
existence. We have seen that his arguments for this claim form the basis for Aquinas’ conclusion that God preserves all things in being. These arguments also ground Avicenna’s distinction between causes of coming to be and causes of being. Aquinas, Suarez and Descartes borrow this distinction to defend the view that God is the cause of the existence of creatures. Descartes claims that “all metaphysicians affirm as a manifest truth” that “in order to be kept in existence, we need the continual action of the original cause”, but that “the uneducated often fail to think of it because they pay attention only to the causes of coming into being and not the causes of being itself”. This spirit of these remarks echoes Avicenna’s claim in *Metaphysics* 6.1 that on the “common” view of agency, “the agent and the cause are needed only for the coming to be of the existence of something after it did not exist and once a thing exists, if the cause is missing, the thing would exist as self-sufficient”. I have argued that the “common” conception of agency to which Avicenna refers reflects the basic features of the efficient cause in Aristotelian natural philosophy. His effort to undermine the “common” conception of agency was quite successful. By Descartes’ time, this view is attributed to the uneducated, not to Aristotelian natural philosophers. And the Avicennian view that contingent things must be “kept in being” by an incorporeal cause of existence is “a manifest truth” affirmed by all metaphysicians.

We have also seen that Avicenna’s metaphysical account of agency played a role in Scholastic debates about the causal powers of natural agents in cases of substantial generation. Aquinas was an important opponent of Avicenna on this issue. His criticisms of are appropriate because Avicenna does not explicitly reconcile his claim that a separate substance who “bestows form” is the cause of the existence of contingent individuals with

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2 CSM II 254-5/AT VII 369-70  
his claim that like generates like in nature or with his commitment to the unity of a composite substance. But Aquinas' pronounced opposition to Avicenna with respect to the issue of substantial generation to some extent distorts Avicenna’s contribution to late Medieval accounts of efficient causality. This distortion is also apparent in Suarez’s treatment of Avicenna.

As mentioned above, Suarez is influenced by two key aspects of Avicenna’s metaphysical account of agency. The first is Avicenna’s definition of the efficient cause as a source of existence in another qua other. The second is the distinction between causes of coming to be and causes of existence. But Suarez’s allusions to Avicenna in Metaphysical Disputations 17, 18, and 19, which address efficient causality, are wholly negative. Moreover, although Suarez identifies the view that natural agents can’t educe form in cases of substantial generation as "Avicenna’s error", the argument for this view with which Suarez is most concerned is not Avicennian in origin. This argument relies on the principle that the lower can’t effect the higher, which does not play a role in Avicenna’s account of generation or in his account of the Agent Intellect as the cause of the existence of contingent things.

In my view, the controversy over the generation of form as reported by Suarez in Disputation 18 has little to do with Avicenna’s own account of agency, though he is identified as one of its chief instigators. But this controversy is interesting in its own right, since it illuminates late Medieval accounts of the efficient causal roles of substantial forms. Suarez himself defends a robust view of the efficient causality of substantial forms. This view supports Daniel Garber’s claim that for the Scholastics, “forms are active principles that constitute an important class of the mediating causes of change that the schools
recognized”. Garber infers from this claim that Descartes’ rejection of substantial forms deprives bodies of causal efficacy. I have argued that Descartes’ himself favours the view of Suarez’s opponents on the issue of the efficient causality of substantial forms. These opponents hold that the substantial form of a composite substance gives being as a formal cause and that the actions of substances depend directly on their accidents alone. Viewed from this perspective, Descartes’ rejection of Aristotelian substantial forms is compatible with the claim that bodies have genuine causal powers in virtue of their modes, e.g., size, shape and motion. Indeed, he could reasonably believe that his own explanations of natural phenomena are in a very general way in accord with those of some of his Scholastic predecessors.

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