

# The Impact of Climate Change on Late Medieval English Culture

by

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## Abstract

This MA thesis scrutinizes metaphors used by the late medieval English in order to explore the cultural response to climate anomalies of varying severity prefacing the Little Ice Age. The thesis indicates that changes in these cultural expressions marked a transformation in late medieval English writers' conceptions of the natural world and their relationship to it. The central hypothesis is that repeated, long-term unreliable and uncertain weather conditions, and the resulting material insecurities and losses, stimulated a fundamental cultural response which reconfigured the metaphors used for the natural world. Although the representation of nature is inescapably an act of imagination, metaphors and metonymies for nature will be identified in the medieval creative literature, as well as the proto-scientific study of weather, and, in the context of the socioeconomic metabolism model, be brought under the light of conceptual metaphor analysis for elucidation.

## Acknowledgements

I would like to express my gratitude to my colleagues at the Centre for Medieval Studies for checking my Latin translations (although any errors continue to be my responsibility), to Gabriel Jones for the occasional psychic supercharge, to Freija, Karmen and Tom for their love and support, and to Drs. Marie-Françoise Guédon and Richard Hoffmann for encouragement, inspiration and guidance.

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A Man may a while  
Nature begile  
    By doctrine and lore,  
And yet at the end  
Wil Nature home wend  
    There she was before.  
                                - *anon*\*

## Introduction

Environmental determinism is a dirty idea. No-one will say it out loud. There are reasons for this, and they are good ones; the notion that one's place of birth on the planet determines one's character or quality of government is offensive. The roots of the perspective developed from the medieval application of a Classical concept, where the human being is composed of four humours (sanguine, phlegmatic, melancholic and choleric), to questions of climate, physiology and identity.<sup>1</sup> The causative impact of climate on human behaviour was a potent combination, and was used for centuries as one plank in the imperial justification of colonial goals.<sup>2</sup> However, as the notion of 'Empire' dwindled in prestige, the first half of the 20<sup>th</sup> century saw an academic response of intellectual disgust to environmental determinism and the possibility that the natural environment is able to exert any influence on human societies or cultures. Today, environmental determinism gains as much attention from academia as the notion that a person's character can be determined by the colour of their skin or the shape of their skull.

Having dismissed environmental determinism, the theories of most twentieth-century scholars did not easily admit of any long-term influence on humanity from the natural world.

Respectable academics in the humanities and social sciences theorized, analyzed, debated and asserted as though human beings lived in an environmental vacuum. According to this perspective, the economy, the state, society and culture have developed and operate in a closed system which, theoretically at least, exerts a uni-directional influence on the natural world. That is, human beings exploit nature and may change it, but are not, in turn, deeply affected by changes in the environment. Changes which occur in social, political or economic systems originate from within that particular system, as each pursues a reflexive trajectory with its own internal logic.

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\* Celia and Kenneth Sisam, eds., *The Oxford Book of Medieval English Verse* (Oxford: Clarendon Press, 1970), 554.

<sup>1</sup> For example, M.C. Seymour, ed. *On the properties of things : John Trevisa's translation of Bartholomaeus Anglicus De proprietatibus rerum : a critical text* (Oxford : Clarendon Press, 1988), book 15. Also, Suzanne Akbari, *Idols in the East: European Representation of Islam and the Orient, 1100-1450* (Ithaca: Cornell University Press, 2009), 140-6.

<sup>2</sup> Harry A. Miskimin, *The Economy of Later Renaissance Europe* (Cambridge: Cambridge University Press, 1977), 2.

This thesis challenges the extremes of both environmental determinism and the modernist perspective that humanity exists in social and/or cultural isolation from the natural environment. To make this statement is not a conceptual regression to notions of environmental determinism, but rather, to take advantage of the historical perspective to trace a long-term cultural response to equally long-term climate change. As Rudolf Brázdil reminds us, “climate” and “history” are blanket terms located on such a high level of abstraction that relationships between them cannot be investigated directly according to the rules of scientific methodology. “In order to become more meaningful, the issue needs to be broken down to lower scales of analysis, e.g. by putting a focus on specific human activities and/or needs in relation to a given set of climatic variables.”<sup>3</sup> The interactive model of socio-economic metabolism developed by Marina Fischer-Kowalski and Helga Weisz fosters an analysis which explicitly includes both the social-cultural and natural environments as independent and interdependent factors to be considered.<sup>4</sup> As such, it provides a theoretical framework which integrates formerly isolated systems into a dynamic relationship and, for the purposes of this research, provides a framework for a discussion of the role played by the natural environment in human societies and cultures.

Where ecological scholarship examines how the natural world responds in unique and contextualized ways to the events and trends of human society, so too are the humanities and social sciences in a unique position to investigate the contextualized socio-cultural responses of humanity to the events and trends of the natural world. Great scholarly attention has now been focussed upon the reconstruction of quantifiable and detailed models of past climates, in order to provide reliable bases of comparison for contemporary and future anthropogenic global warming. However, comparatively little attention has been given to assessing past cultural responses to changing climate. Simply said, due to scholarly reaction against the extreme notion of environmental determinism, we lack any meaningful clarity about how our ancestors integrated changes in the environment into their cultures.

With the support of recent detailed research into late medieval climatology and conceptual metaphor theory, and the newly developed model of socioeconomic metabolism, this paper will

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<sup>3</sup> Rudolf Brázdil, Christian Pfister, Heinz Wanner, Hans Von Storch and Jürg Luterbacher, “Historical Climatology in Europe – The State of the Art,” *Climatic Change* 70 (2005): 403.

<sup>4</sup> Marina Fischer-Kowalski and Helga Weisz, “Society as Hybrid Between Material and Symbolic Realms: Toward a Theoretical Framework of Society-Nature Interaction,” *Advances in Human Ecology* 8 (1999), 215-51.

create a historical narrative about the impact of climate change<sup>5</sup> on late medieval English culture through the metaphors used by English writers for the natural world. In respect to the various approaches to environmental history, this thesis operates within a paradigm where humanity and the natural environment affect each other, and where the connection between power and nature is openly addressed in a context where natural laws apply equally to human beings.<sup>6</sup> This is conceptualized theoretically in the model of socioeconomic metabolism and an accompanying concept, the human colonization of nature, both of which will be explored in more detail later.

The central argument I pursue is that the onset of the Little Ice Age allows us to perceive the impact of environment on culture by tracing changes in conceptual metaphor expressed by the English people, due to the central position conceptual metaphors have in conceptualizing and communicating about subjective experienced and abstract reasoning. First, I shall explore socioeconomic metabolism, the theoretical model from the field of human ecology within which this research is located. In brief, ecologists Marina Fischer-Kowalski and Helga Weisz' concept of the natural, social and cultural environments as united in a single, interactive, dynamic hybrid system contextualizes this research as located at the point of interaction where the natural world affects the socio-cultural world. Second, I shall summarize the conceptual metaphor theory established by George Lakoff, Mark Johnson and their colleagues, where cognitive science and metaphor theory have come together to deepen understanding of the nature of human thought and communication. Thirdly, I shall summarize recent advances in knowledge from historical climatology and environmental history for northwestern Europe during the late medieval period, with a focus on England. These will introduce the environmental consequences of changing climatic conditions which, I argue, among other factors, evoked the response of a transformed metaphorical structure in late medieval English culture. Finally, I shall provide and explore primary evidence with a plurality of metaphors selected from three successive late medieval periods to support my assertion that English culture changed in response to climate irregularities and the impact those irregularities made on society.

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<sup>5</sup> The 14<sup>th</sup> and 15<sup>th</sup> centuries saw the onset of the so-called Little Ice Age, characterized by evident changes in weather patterns (climate variables).

<sup>6</sup> With respect to the paradigms and perceptions of nature by human beings, these would be considered to be convivial and egalitarian; for a full discussion, see Verena Winiwarter, "Approaches to Environmental History: A Field Guide to Its Concepts," in *People and Nature in Historical Perspective*, ed. József Laszlovszky and Péter Szabó (Budapest: Dept of Medieval Studies, Central European University and Archaeolingua Foundation, 2003), 3-22.

Ten late medieval English texts provide the empirical sequence of metaphors here analyzed; each analysis features a brief description of the manuscript and the work, locates the metaphor in the text and explores it. Material has been selected for some diversity of genre, and thus access to metaphorical representations that are not predicted by a literary style. Metaphors that were found in literature, however, are included (indeed, provide the foundation of the study) because poetic metaphor amplifies normal thought, extending and elaborating it.<sup>7</sup> Poetic metaphor, then, exaggerates cultural trends and renders them more visible. Moreover, recent research has broken down the boundaries between literate and oral medieval culture, showing that literacy was a more public practice than today's private experience; people commonly and frequently read aloud to audiences of mixed age, gender and status.<sup>8</sup> Access to literary metaphors did not depend on personal literacy, and a literary metaphor could penetrate oral culture through its suitability for articulating and representing the experience of the illiterate.

Material was chosen for inclusion in this study on the simple basis of the author's metaphorical reference to the natural world. Consciousness of the environment was rarely demonstrated by late medieval English writers; following St. Augustine's guidance, the orthodox religious view was that nature was to be understood as completely subordinate to God's will and the religious community dominated the production of textual material. The view that nature was only profitably examined as an avenue towards understanding Divine Will was supplemented with a facility for exploiting the natural world as the source domain for metaphors about the human soul, as in the *Fasciculus Morum: A Fourteenth-Century Preacher's Handbook*.<sup>9</sup> As Edward Grant writes, "The study of nature and its laws... had to serve the higher needs of religion and theology."<sup>10</sup> This was a contested perspective, particularly following the translation of texts outlining Aristotle's methodology in the early 13<sup>th</sup> century. However, the Catholic Church effectively re-established authority over natural philosophy with the Condemnation of 1277, a list of 219 theologically erroneous propositions derived from Aristotelian philosophy - espousing

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<sup>7</sup> George Lakoff and Mark Turner, *More Than Cool Reason: A Field Guide to Poetic Metaphor* (Chicago: University of Chicago Press, 1989), 67-9.

<sup>8</sup> Joyce Coleman, *Public Reading and the Reading Public in Late Medieval England and France* (Cambridge: Cambridge University Press, 1996), 79-108 passim.

<sup>9</sup> Siegfried Wenzel, trans. and ed., *Fasciculus Morum: A Fourteenth-Century Preacher's Handbook* (University Park and London: The Pennsylvania State University Press, 1989).

<sup>10</sup> Edward Grant, "Science and Theology in the Middle Ages," in *God and Nature*, ed. David C. Lindberg and Ronald L. Numbers (Berkeley: University of California Press, 1986), 50.

any one of which could be the grounds for excommunication. Even an author as widely travelled as Margery Kempe mentions the natural world on only four occasions in her *Booke*;<sup>11</sup> that each event is identified as an elemental expression of God's will serves to strengthen her self-portrayal as an orthodox visionary woman (sadly for my purposes, she used no metaphors when dictating these incidents to her amanuensis). This controversy over natural philosophy may have contributed to the scarcity of references to the natural world by late medieval English writers, as finding metaphors for weather, the climate, or even the natural environment in texts from late medieval England was surprisingly difficult.

After a wide search of several genres, including poetry, religious drama, song lyrics, romances, sermons, chronicles, the Bishopric of Winchester's account rolls, the Paston letters, and assorted other texts, I have analyzed all the metaphors for the natural environment I have found to date. Hence, I must acknowledge that this thesis is a preliminary or pilot project for potential future research, perhaps on a different period of climatic stress, another location or culture.

Moreover, the distance of centuries imposes certain hurdles between myself and my source material: as well as the obvious ones of source scarcity and language differences, I will only be able to recognize metaphors from late medieval authors that are still recognizable as such in the early 21<sup>st</sup> century. Expressions that were metaphors hundreds of years ago may have died and become definitive,<sup>12</sup> in which case I will be unable to perceive them. However, although the English language has evolved since the late medieval period, English culture has evolved less quickly, and we still have many metaphors in common with medieval writers of English.

## **Socio-economic Metabolism and the Human Colonization of Nature**

Traditionally, practitioners in the sub-field of environmental history have legitimately explored three aspects of the nature-human relationship: the nature and evolution of past natural

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<sup>11</sup> Margery Kempe, *The Book of Margery Kempe*, trans. B.A. Windeatt (London: Penguin Books Ltd., 1985). Margery dictated her *Booke* to a scribe during the 1420s, as she was illiterate.

<sup>12</sup> A metaphor is described as having 'died' when users no longer recognize that it as metaphorical in ordinary usage. Murray Knowles and Rosamund Moon, *Introducing Metaphor* (London and New York: Routledge, 2006), 6.

environments, the impact technology has made on the environment and the nature/human relationship, and the cultural and social beliefs and behaviour which powerfully influence how humans perceive the natural world and act upon it.<sup>13</sup> Our human view of the environment is demonstrably varied over time and across the planet, from a partnership model found in many Indigenous cultures to a capitalist valorization of natural resource exploitation.

In common with environmental historians in general, the great preponderance of medieval environmental history focuses on the tangible relationships of human activity and behaviour in relation to nature, where human beings are causative agents in environmental change.

Nevertheless, a perspective that the medieval environment influenced human society and culture, in a more complex and subtle fashion than proponents of Malthus' crisis might acknowledge, has recently been argued by, for example, economic historian Bruce Campbell in "Four Famines and a Pestilence: Harvest, Price and Wage Variations in England, 13<sup>th</sup> to 19<sup>th</sup> Centuries"<sup>14</sup> and Wolfgang Behringer in *A Cultural History of Climate*.<sup>15</sup> In my argument that the natural world exerted an influence on medieval English culture, I will begin by articulating the human ecological and cognitive linguistic theoretical bases of my research.

In order to be able to theorize about particular aspects of the relationship between humanity and nature, various proposals have been suggested, from the environmental determinism of the late 19<sup>th</sup> / early 20<sup>th</sup> century mentioned earlier to the others developed more recently. Only some, such as the Organization for Economic Cooperation and Development's Pressure-State-Response Framework<sup>16</sup> or the 35 models developed by the European Environmental Agency,<sup>17</sup> address the

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<sup>13</sup> Donald Worster, "Transformations of the Earth: Toward an Agroecological Perspective in History," *The Journal of American History* 76, no. 4 (March 1990): 1090-1091. Also: J. Donald Hughes, *What is Environmental History?* (Cambridge: Polity, 2006.). Also: Clarence J. Glacken, *Traces on the Rhodian Shore: Nature and Culture in Western Thought from Ancient Times to the End of the Eighteenth Century* (Berkeley, Los Angeles and London: University of California Press, 1990).

<sup>14</sup> Bruce M.S. Campbell, "Four Famines and a Pestilence: harvest, price, and wage variations in England, 13<sup>th</sup> to 19<sup>th</sup> centuries." In *Agrarhistoria på många sätt; 28 studier om människan och jorden. Festskrift till Janken Myrdal på hans 60-årsdag*, eds. Britt Liljewall, Iréne A. Flygare, Ulrich Lange, Lars Ljunggren, and Johan Söderberg (Stockholm: KSLAB, 2009): 23-56

<sup>15</sup> Wolfgang Behringer, *A Cultural History of Climate*, trans. Patrick Camiller (Cambridge: The Polity Press, 2010).

<sup>16</sup> Organization for Economic Cooperation and Development, *OECD environmental outlook* (Paris: OECD Publishing, 2001), 32 ff.

<sup>17</sup> EnviroWindows Team, "Modelling tools for the 2010 State of the Environment and Outlook Report – Part II: Participative Model Inventory," European Environmental Agency, [http://scenarios.ew.eea.europa.eu/fo1079729/copy\\_of\\_fo1615122/participative\\_model\\_inventory.pdf](http://scenarios.ew.eea.europa.eu/fo1079729/copy_of_fo1615122/participative_model_inventory.pdf) (Accessed February 19, 2010).

mutuality of the relationship. Of all the available models for the culture-nature relationship, the most integrated and comprehensive is the notion of socioeconomic metabolism developed during the 1990s by human ecologists Marina Fischer-Kowalski and Helga Weisz, then elaborated in conjunction with colleagues in the Institute of Social Ecology at the Faculty for Interdisciplinary Studies (IFF) of Klagenfurt University in Vienna, Austria [*sic*].

The theoretical model proposed by Fischer-Kowalski and Weisz explicitly acknowledges that the human experience of the environment is greater than mere exploitation of it in meeting human needs. Particularly pertinent to this study, the socio-economic metabolic model addresses the human experience of nature and its representations developed within the cultural causative sphere (see Figures 1). This feature makes the model both a central theoretical element in justifying my research and provides the intellectual context within which it occurs. To clarify, I offer a description of its development and features.

Motivated by the need to develop a common epistemological basis that would allow for a comprehensive dialogue between the natural and social sciences, Fischer-Kowalski and Weisz drew on modern systems theory to overcome the theoretical impact of the Cartesian model of duality, where both natural science and social science respectively acknowledge only material or symbolic systems as the basis of analysis. That is, concepts of both society and nature are framed as “highly complex units to be explained solely by their internal mechanisms.”<sup>18</sup> This isolation of analytical subjects, however, fails to reflect the reality that the human and natural worlds interact constantly.

The theory of socioeconomic metabolism rests on the pioneering work of three scholars from different disciplines: Stephen Boyden, human ecologist; Maurice Godelier, cultural anthropologist; and Rolf Peter Sieferle, historian. Starting from a recognition of the distinct and self-reinforcing systems traditionally posited by the natural and social sciences, Boyden and Godelier both regarded the interrelationships between the biosphere and human society as overlapping. Boyden, however, placed causative agency in nature, exposing his model to criticisms frequently applied to emergent theory, while Godelier allotted causative agency to

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<sup>18</sup> Fischer-Kowalski and Weisz, “Society as Hybrid,” 216.

culture in a framework influenced by Marx and Levi-Strauss, and similarly vulnerable to critiques of those theories.<sup>19</sup>

Historian Rolf Peter Sieferle resolved the tension between both these uni-directional models by introducing a third element into the theory - 'Population' - which represents the specifically biological aspects of the human population that are the interface between nature and culture. Population has a functional role as a carrier of information from nature to culture and as a carrier of physical work from culture to nature; population is culture's sense organ, representing its experiences metaphorically and symbolically. In this context, culture can be understood as the assembled body of information that is stored within each human being or on other information carriers; "Culture in and of itself is an autopoietic system, consisting of recursive information and differentiated in to various subsystems."<sup>20</sup> According to Sieferle, both the nature/population relationship and the population/culture relationship are each regularly assessed as a single system (the first through natural science as a biological or technical relationship, the second through social science as a symbolic relationship), but each analysis fails to address the variations produced by the missing independent element.

Integrating insights from all three scholars, Fischer-Kowalski and Weisz introduced the dynamic concept of energy flow (adopted from the concept of industrial metabolism) to create the interactive model of socioeconomic metabolism (see Figure 1; this and the following two diagrams serve only as heuristic simplifications).

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<sup>19</sup> Ibid., 217-9.

<sup>20</sup> Ibid., 221; autopoiesis is the process of self-generation characteristic of living systems, as introduced by biologists Humberto R. Maturana and Francisco J. Varela in *Autopoiesis and cognition: the realization of the living*, 2<sup>nd</sup> ed, Boston Studies in the Philosophy of Science 42 (1973; repr., Dordrecht: D. Reidel Publishing Company, 1980).

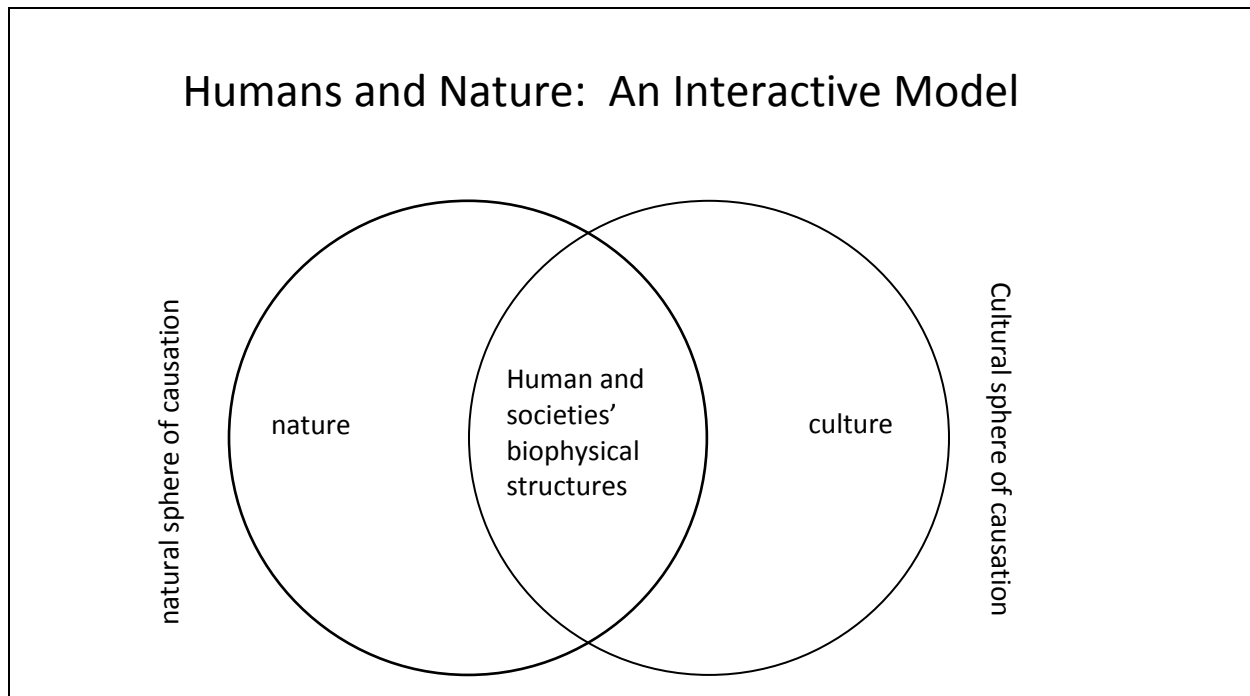


Figure 1: hybrid model of socioeconomic metabolism (From Hoffmann after Fischer-Kowalski and Weisz, © Richard C. Hoffmann, reproduced with permission)

This acknowledgment that human bodies and material products are inescapably both natural *and* cultural emerges within an academic context where, with respect to the social sciences, sociology has failed to consider the natural environment as a site of investigation, while neofunctionalist trends in anthropology limit understandings of human populations as functioning within ecosystems similarly to populations of others species, and biological anthropologists consider culture to be an evolutionary adaptation by *homo sapiens sapiens*.<sup>21</sup> With respect to these last two approaches, Fischer-Kowalski and Weisz note that they minimize the “autopoietic character of culture which allows for social development far beyond adaptationism.”<sup>22</sup> In contrast, the natural sciences understand the concept of metabolism to be essential to the biological analysis, as it describes the biochemical conversion of material and energy by organisms to sustain life. To expand this concept beyond the level of biological organism is to apply the definition of metabolism to an entity like a human society or community, as follows:

<sup>21</sup> Winiwarter, “Approaches to Environmental History,” 12.

<sup>22</sup> Ibid., 228.

The biological concept of metabolism refers to a complex, dynamic system (“organism”) consisting of highly interdependent compartments (“cells,” “organs”). This system reproduces its compartments and thereby itself as a whole, materially and energetically, by means of a highly complex self-organizing process (called metabolism) which the system seeks to maintain in widely varying environments. Metabolism requires certain energetic and material inputs from the environment, and it returns these to the environment, in a different form. If the system cannot maintain its metabolism, it “dies” or, more abstractly, ceases to exist in its present form.<sup>23</sup>

By considering societies as settings that organize the means of reproducing human populations, the primary material compartment of any society will be the bodies of its population. The total biological metabolism of the society will be the approximate sum of the biological metabolisms of its human members, a complex relationship of body weight and reproduction rate of the people, their working hours and the energy spent per working hour. The climate and other environmental circumstances play a small role as well. Also included in Fisher-Kowalski’s model are the material components of the natural world over which the culture assumes authority, such as domesticated animals, and those it takes responsibility for reproducing through its organized state, such as crops. The identity of these elements will depend on the mode of subsistence and technology, with significant differences between the various social economies. As well, human-made and -maintained technical structures are added into the sum. As such, human society depends on a functioning metabolism for existence.<sup>24</sup>

However, current issues arising from the unintended results of human behaviour, such as loss of biodiversity, potential hazards connected with genetic engineering, or environmental degradation, failed to be addressed by the initial socioeconomic metabolism model. There are “interconnected changes in both the environment and in social structures [that] can be observed that have at best a very indirect connection to metabolic changes.”<sup>25</sup> Fischer-Kowalski and Weisz introduced the concept of the human colonization of nature to address this, which refers to “the intended and sustained transformation of natural processes, by means of organized social interventions, for the purpose of improving their utility for society.”<sup>26</sup> The features of a colonizing intervention is that it is causally effective in altering a biophysical process and it is intentionally conceived of, organized and monitored within the cultural sphere. A primary

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<sup>23</sup> Ibid., 228.

<sup>24</sup> Ibid., 228-30.

<sup>25</sup> Ibid., 234.

<sup>26</sup> Ibid.

colonial intervention in nature began with the Neolithic revolution, demonstrating that cultures which assume responsibility for reproducing their own biological resources become dependent upon their own colonized systems (see Figure 2).<sup>27</sup>

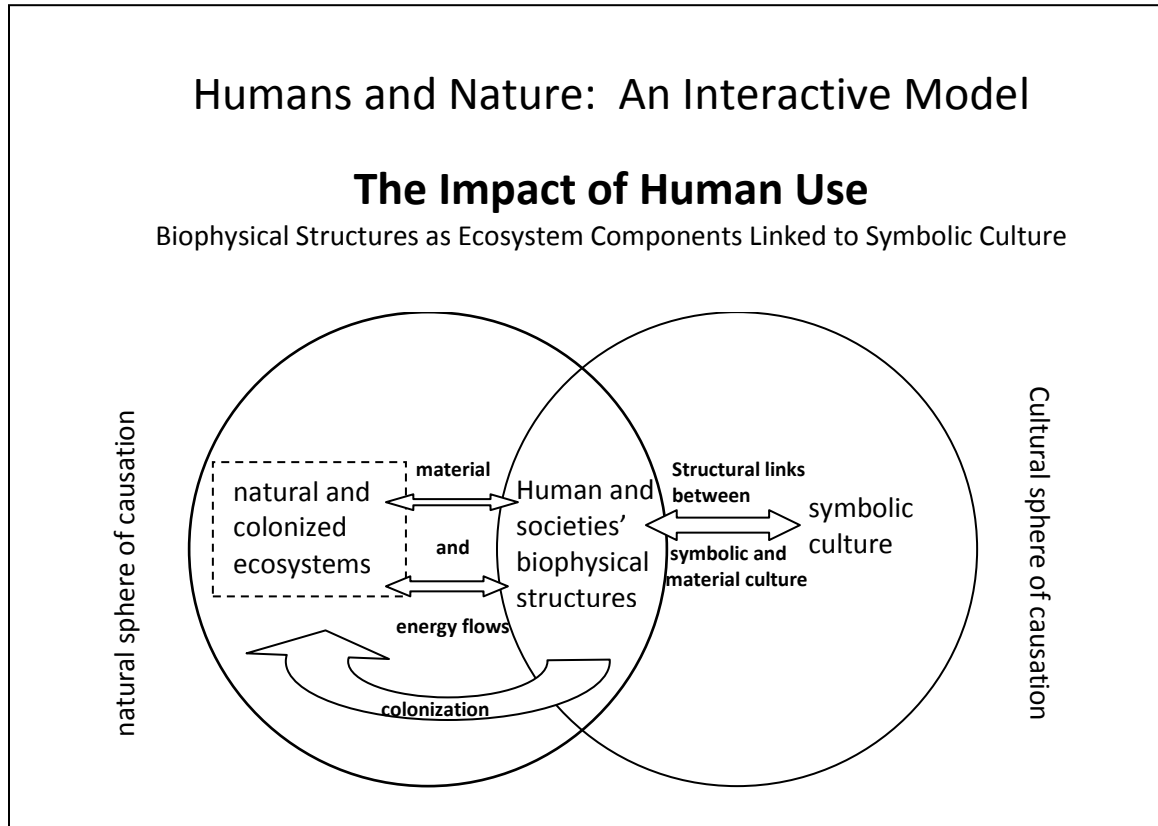
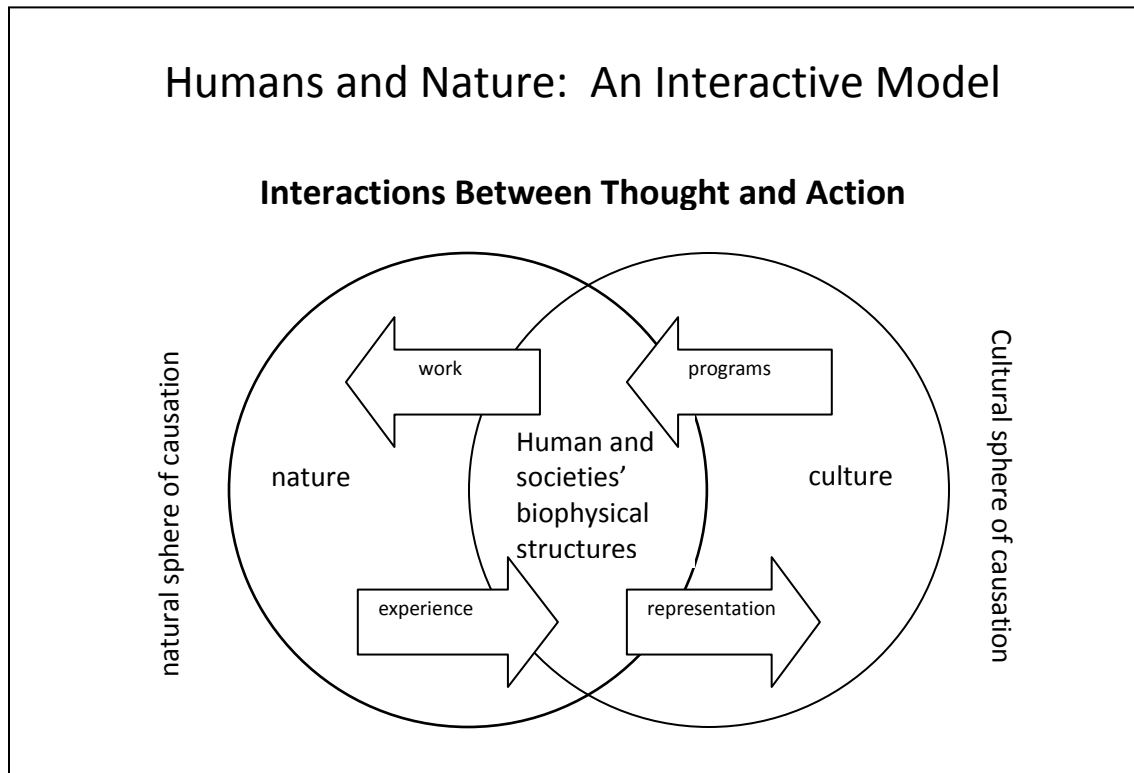


Figure 2: hybrid model of socioeconomic metabolism incorporating the human colonization of nature (from Hoffmann after Haberl et al. © Richard C. Hoffmann, reproduced with permission)

A long-term and slow co-evolutionary process ensues, possible only at the systems level, and is central to the focus of this paper. Fischer-Kowalski and Weisz' model argues strongly that the pre-condition of any systemic cultural reproduction is the maintenance of its metabolic exchange with its relevant environment. As subsystems of one metabolic circuit, cultural changes affect the natural environment, as occurred with the Neolithic revolution, the industrial revolution, or other less monumental changes. Equally, Sieferle's model, as adopted by Fischer-Kowalski and Weisz, indicates that changes in the relevant environment necessarily produce change (albeit long-term and slow) in the cultural system, as variations in the natural environment are sensed by the population and then integrated and represented within culture. This stimulates the

<sup>27</sup> Ibid., 234-6.

development of appropriate responses from within the system of recursive communication that allows for cultural reproduction to continue at the same level of sophistication (if possible). Since cultural control of the appropriated environment is determined by the cultural system, long-term failure to adequately manage those environmental elements deemed within social boundaries will summon alternatives from within the culturally acceptable range of options in an attempt to re-exert control (see Figure 3).



*Figure 3: hybrid model of socioeconomic metabolism incorporating the human colonization of nature (from Hoffmann after Winiwarter. © Richard C. Hoffmann, reproduced with permission)*

One avenue for the translation of human subjective experience into cultural representation occurs, as I argue below, through conceptual metaphors. Moreover, once this experience enters the cultural system, the collected wisdom of that particular society is able to conceptualize and reason about it and, within the limits imposed by its particular worldview, respond accordingly. Much (although not all) cultural representation is verbal and, for students of past cultures, embedded in texts. This study is located at the place of 'representation,' where human and social experience of nature is transformed into cultural expression. That the slow and gradual onset of the so-called Little Ice Age occurred during the period of historical record in Europe

gives us the means of assessing the centuries-long process whereby late medieval English cultural concepts of nature adapted in response to a changing human experience of the natural world. Since this study relies upon conceptual metaphor theory to reveal cultural responses by the late medieval English to climate variability, a clarification of the theory is valuable before proceeding to a description of northwestern European climate in the late medieval period.

## Conceptual Metaphors and Culture

### *Conceptual Metaphor*

As St. Augustine argues in *De Doctrina Christiana*, speech itself may be understood as nothing more than metaphoric representation, where words merely signify reality and written words are the material representations of verbal representations of reality.<sup>28</sup> The other pole of this perspective views metaphors as interesting (but relatively trivial) conversational short-cuts to meaning, easily bandied about in common speech. For example, *the bottom line* is an acknowledged imperative used in a much wider context than that of business decision-making, he can *hang up his skates* even if retiring from a career other than that of professional hockey, and a new romantic interest will soothe *her broken heart*. This paper will not delve into the linguistic and theological depths of the former in examining medieval metaphors, nor simply list the latter for the sake of comparison, but rather will work with metaphor as an avenue for entry into the organizing principles of culture.

According to cognitive linguist George Lakoff and linguistic philosopher Mark Johnson in their groundbreaking 1980 work *Metaphors We Live By*,<sup>29</sup> conceptual metaphors are the essential conceptual systems which organize our consciousness, by allowing us to use sensual experience in order to conceptualize and reason about subjective experience and to make personal judgements about abstract concepts,<sup>30</sup> similar to the use of diagrams, earlier, to understand an

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<sup>28</sup> Augustine, *On Christian Doctrine*, trans. D.W. Robertson, Jr. (New York: Liberal Arts Press, 1958), 8-9 ff.

<sup>29</sup> George Lakoff and Mark Johnson, *Metaphors We Live By*, 2<sup>nd</sup> ed. (1980; repr., Chicago and London: The University of Chicago Press, 2003). Citations are to the 2003 edition.

<sup>30</sup> George Lakoff and Mark Turner, *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought* (New York: Basic Books, 1999), 45.

abstract model. As a result, the very framework through which we order experience, including the manner in which situations are approached, the options we consider in decision-making or the lexical metaphors employed as speech conventions are all unavoidably conditioned by conceptual metaphors. In this context, lexical elements such as the three metaphors mentioned above can be understood as realizing the concepts they refer to: LIFE IS COMMERCE, LIFE IS A GAME, and EMOTIONS ARE MATERIAL THINGS.<sup>31</sup>

In the 2003 update to their 1980 publication, Lakoff and Johnson assert that the foundation of their theory is confirmed by the ‘Neural Theory of Language,’ where conceptual metaphors are constructed physically in the body via neural maps (networks of neurons located in the central or peripheral nervous system, linking the sensory-motor system with higher cortical areas).<sup>32</sup> The

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<sup>31</sup> Lakoff and Johnson’s theory emerged as a response to naive theories of metaphor, language and thought, which, similar to Augustine’s, rely on a dualistic model of reality where words with fixed meanings apply to objective things outside of ourselves. A large body of fruitful research has been conducted using this perspective in several fields and it is difficult to select only a few for reference: with respect to language acquisition, see Christopher R. Johnson, “Metaphor vs. Conflation in the Acquisition of Polysemy: The Case of SEE,” *Current Issues in Linguistic Theory*, 1999, 155-69; for discourse analysis, Srinivas Narayanan, “Embodiment in Language Understanding: Sensory-motor Representations for Metaphoric Reasoning About Event Descriptions” (PhD doctoral thesis, Dept. of Computer Science, University of California (Berkeley), 1997); regarding historical semantic change, Eve Sweetser, *From Etymology to Pragmatics: Metaphorical and Cultural Aspects of Semantic Structure* (Cambridge: Cambridge University Press, 1990); the journal *Metaphor and Symbol* is largely focused on empirical psychological research on metaphor and Raymond W. Gibbs provides a good overview in *The Poetics of Mind: Figurative Thought, Language, and Understanding* (Cambridge and New York: Cambridge University Press, 1994); also from the discipline of psychology, the article by Lera Boroditsky, “Metaphoric Structuring: Understanding Time Through Spatial Metaphors,” *Cognition* 75, no. 1 (April 2000): 1-28; with respect to gesture, see David McNeill, *Hand and Mind: What Gestures Reveal About Thought* (Chicago: University of Chicago Press, 1992) and sign language, Sarah F. Taub, *Language From the Body: Iconicity and Metaphor in American Sign Language* (Cambridge and New York: Cambridge University Press, 2001); for the analysis of literature, see George Lakoff and Mark Turner, *More Than Cool Reason: a field guide to poetic metaphor* (Chicago: University of Chicago Press, 1989). Significant criticism of the conceptual metaphor theory seems to be based on philosophical differences, such as that expressed by Verena Haerl, *Metaphor, Metonymy and Experientialist Philosophy: Challenging Cognitive Semantics*, *Topics in English Linguistics* 49, ed. Elizabeth Closs Traugott and Bernd Kortmann (Berlin, Germany, and New York: Mouton de Gruyter, 2005), or by Marina Rakova, “The philosophy of embodied realism: A high price to pay?” *Cognitive Linguistics* 13, no. 3 (2002): 215-44. The theory is also contested on methodological grounds from other disciplines, but overall, results found from research undertaken based on Lakoff and Johnson’s theory report deeply consistent results.

<sup>32</sup> Lakoff and Johnson, *Metaphors We Live By*, 255-6: “Neuronal clusters throughout the body “project” (that is, are connected) to neuronal clusters in the motor cortex, with neuronal clusters adjacent or nearby on the body projecting to neuronal clusters adjacent to or nearby the corresponding clusters in the motor cortex. Maps of such types are common in the brain. In the neural theory of metaphor, therefore, the terms map and projection take on a whole new meaning. The maps or mappings are physical links: neural circuitry linking neuronal clusters called *nodes*. The *domains* are highly structured neural ensembles in different regions of the brain. The neural maps are learned via *neural recruitment*, the long-term potentiation of neurons connected to the source and target neural ensembles that are coactive during Johnson’s period of conflation. This neural learning mechanism

embodied conditions of metaphor production produce two kinds of conceptual metaphors: primary and complex. Primary metaphors develop from direct personal experience, unconsciously, automatically and spontaneously; are often gathered in childhood; and endure throughout life. An example of this production is the conceptual metaphor AFFECTION IS WARMTH, with lexical examples such as *he's a block of ice* or *she's a warm person*. Lakoff and Johnson write that many primary metaphors are universal because human beings have basically the same types of bodies and brains, and live in basically the same kinds of environments (as far as the features relevant to metaphor construction are concerned).<sup>33</sup> The universal nature of primary metaphor is modelled by the presence of the above metaphor in other languages, such as in French, where *elle est chaleureuse*, in Classical Latin when *calorus est*, or where the traditional Chinese say 她有熱的心臟 (“she has a hot heart”).

An example of a primary metaphor mapped by Lakoff and Johnson is IMPORTANT IS BIG, as follows:

Subjective judgment: Importance

Sensorimotor domain: Size

Primary experience: As a child, finding that big things (e.g., parents) are important and can exert major forces on you and dominate your visual experience.

Example: “Tomorrow is a *big* day.”<sup>34</sup>

However, it is in *Philosophy in the Flesh* where Lakoff and Johnson detail their integrated theory of primary metaphor, which integrates Johnson’s Theory of Conflation, Grady’s Theory of Primary Metaphor, Narayanan’s Neural Theory of Metaphor and Fauconnier and Turner’s Theory of Conceptual Blending.<sup>35</sup> According to Lakoff and Johnson,

"The integrated theory - the four parts together - has an overwhelming implication: We acquire a large system of primary metaphors automatically and unconsciously simply by functioning in the most ordinary ways in the everyday world from our earliest years. We have no choice in this. Because of the way neural connections are

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produces a stable, conventional system of primary metaphors that tend to remain in place indefinitely within the conceptual system and are independent of language.” (italics original)

<sup>33</sup> Ibid., 257.

<sup>34</sup> Ibid., 50.

<sup>35</sup> Lakoff and Turner, *Philosophy in the Flesh*, 46-7.

formed during the period of conflation, we all naturally think using hundreds of primary metaphors."<sup>36</sup>

Lakoff and Johnson's research into the corporeal foundation of human thought affirms Fischer-Kowalski and Weisz in their situation of human societies and biophysical structures ('population' in Sierferle's model) at the junction between natural sphere of causation and the cultural sphere of causation (see Figure 2). As posited by Sierferle, and adopted by Fischer-Kowalski and Weisz, the human population is indeed the sense organ of culture: Lakoff and Johnson demonstrate how embodied human experience is the foundation of metaphorical construction, which, as will be briefly addressed below, is understood as one of the primary materials of culture.

Primary conceptual metaphors, then, are the basic elements of the conceptualization of subjective experience and abstract thought. They can be characterized neurally as cross-domain conceptual mappings, which allow us to conceptualize and reason about subjective and material experiences. The vast systems of metaphorical mappings do not impede *non*-metaphorical thought, as there is an equally vast system of literal concepts available for us. To the extent that a concept is understood and structured on its own terms, it is not metaphorical.<sup>37</sup> However, without metaphorical thought and its grounding in a sensori-motor inferential structure, literal concepts would be impoverished and subjective and abstract concepts would be very, very difficult (if not impossible) to conceptualize at all.<sup>38</sup>

### ***Complex Metaphor***

Abstract thought and subjective experience, however, are not fully addressed by primary metaphors, which may be inadequate to the depth of the experience or the grandeur of the thought. Our experience and rational processes are enriched by the union of plural, conceptually-related primary metaphors into complex metaphors ("Primary metaphors are like atoms that can be put together to form molecules."<sup>39</sup>); these also make use of culturally-based

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<sup>36</sup> Ibid., 47.

<sup>37</sup> Lakoff and Turner, *More Than Cool Reason*, 57.

<sup>38</sup> Lakoff and Turner, *Philosophy in the Flesh*, 58-9.

<sup>39</sup> Ibid., 60.

conceptual frames to integrate greater degrees of abstract thought. The difference between a primary metaphor and a complex metaphor is one of degree and complexity. Complex metaphors are commonly unique to a culture, as they incorporate culturally-specific information, and, as Lakoff and Johnson relate, include both universal metaphors and cultural variations. These scholars provide an accessible example of a complex metaphor, which I will here exploit, in the complex metaphor A PURPOSEFUL LIFE IS A JOURNEY. This complex metaphor builds upon the cultural belief that people are supposed to have a purpose in life, two primary metaphors (PURPOSES ARE DESTINATIONS and ACTIONS ARE MOTIONS) and the simple fact that a long trip to a series of destinations is a journey. Taken together, they create a complex metaphorical mapping:

A Person Living a Life Is A Traveler  
Life Goals are Destinations  
A Life Plan Is An Itinerary

The complex metaphor is grounded in experiential reality through the two primary metaphors, ACTIONS ARE MOTIONS and PURPOSES ARE DESTINATIONS, as shown in the following:

#### ACTIONS ARE MOTIONS

Subjective Experience: Action  
Sensorimotor Experience: Moving one's body through space  
Primary Experience: The common action of moving oneself through space, especially in the early years of life  
Metaphorical Example: "I'm *moving* right along on the project."

#### PURPOSES ARE DESTINATIONS

Subjective Judgement: Achieving a purpose  
Sensorimotor Experience: Reaching a destination  
Primary Experience: Reaching destinations throughout everyday life and thereby achieving purposes (ie: if you want a drink, you have to go to the water cooler)  
Metaphorical Example: "She'll ultimately be successful, but she isn't *there* yet."<sup>40</sup>

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<sup>40</sup> Ibid., 52.

The presence of this complex metaphor is found in common speech: a young person *looks for a direction in life*, hindsight shows us where we may have *missed the boat*, and we work *towards* our goals. But its impact extends beyond speech: an important cultural document we learn to create in high school is the *Curriculum Vitae* (Latin for ‘the course of life’), we are supposed to feel bad for those who feel *lost* and impressed with those who have come very far, very quickly. Personal decisions may be undertaken for the purpose of *moving forward* in one’s career. Through the metaphor A PURPOSEFUL LIFE IS A JOURNEY, our knowledge about the nature of journeys also has existential consequences; for example, that journeys may have obstacles and a good traveler should try to anticipate them is metaphorically understood to mean that purposeful lives may have difficulties and a good person should try to anticipate them.<sup>41</sup> In this context, a comment such as ‘he is easily navigating through the shoals of life’ may be understood to mean that the man has gathered sufficient knowledge and skill to successfully meet the challenges of life he is experiencing.

Like primary metaphors, complex metaphors may be used as the basis of even more complex metaphors, where, for example, the complex metaphor A PURPOSEFUL LIFE IS A JOURNEY contributes to the more complex metaphor LOVE IS A JOURNEY. Complexity builds upon complexity, until the deepest values of a culture are reflected in highly complex metaphors that structure society in unexpected ways, such as the impact that the metaphor LIFE IS A JOURNEY exerts on scholastic funding.<sup>42</sup> Complex ontological metaphors are found in personification, which allow us to make sense of the inhuman world in human terms – as having similar motivations, goals, actions and characteristics as our own.<sup>43</sup> This we do by referring to an aspect of it as a discrete entity, quantifying it, identifying a particular aspect of it, and responding to it as if the metaphor actually provided a real understanding of the phenomenon.<sup>44</sup>

Complex metaphors give us the capacity to understand and reason about the many different facets of complex ideas which include both subjective and objective elements. Another example is the concept of death: the literal meaning of the word is that a living being ceases to function.

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<sup>41</sup> Ibid., 60-3.

<sup>42</sup> State funding for education is available in decreasing amounts as one ages, from the view that it is important to provide education at the *beginning* of a life so that it may be used to navigate through life, rather than at the *end* of one’s life, where it might provide context for personal experience.

<sup>43</sup> Lakoff and Johnson. *Metaphors We Live By*, 33-4.

<sup>44</sup> Ibid., 25-6.

However, death has a much greater meaning for human beings than can be captured in the literal, and this is expressed through the many conceptual metaphors for death. One such is that DEATH IS A JOURNEY (which addresses the element of absence), as the statements *he passed away* or *she's gone from us now* reveal. Another aspect of death (our helplessness in the face of it) is understood through the conceptual metaphor of personhood (DEATH IS A BEING), as in *death has taken her* or *the Grim Reaper came to him*. Yet another conceptual metaphor that allows us to think about death in a certain way is DEATH IS A FORCED REMOVAL, where someone has been *blown away* or *taken out*. A range of conceptual metaphors exist for death, and they all provide us with the means to comprehend and reason with one or more aspects of it. Of course, death is experienced directly as well, but, to date, we have only created metaphors about it from the position of observer.

### ***Working with Conceptual Metaphor***

Navigating the use and meaning of conceptual metaphors requires some clarification and elaboration of the terms involved (source domain, target domain and mappings) and their relationship. Linguists commonly take advantage of terminology developed in the field of translation (since metaphors can be understood as translating significance from one meaning domain to another), and adopt the term ‘target domain’ to refer to the concept area where the metaphor is applied and the term ‘source domain’ for the original concept area from which the metaphor is drawn.<sup>45</sup> Continuing with the conceptual metaphor introduced earlier, AFFECTION IS WARMTH, ‘affection’ is the target domain and ‘warmth’ is the source domain. The connection between the source domain and the target domain is understood in terms of ‘correspondences’ or ‘mappings,’ that is, conceptual similarities, similarities in related ideas, and similarities of properties and knowledge. These essential similarities are the core strengths of metaphor, and what allow us (a) to use metaphors to ascribe a conceptual structure to the target domain that is lacking without the metaphor, (b) to have the option of determining which aspects of the source domain are accessed (because not all aspects are usually employed), (c) to make inferences about the target domain and to evaluate it, and (d) to lead us to accept the presence of

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<sup>45</sup> Knowles and Moon, *Introducing Metaphor*, 33.

the metaphor as 'natural.'<sup>46</sup> Again, employing the metaphor AFFECTION IS WARMTH introduced above, the early childhood experience of feeling warm by being held close to another's body is usually concurrent with the experience of receiving affection; the features of the emotional feelings of affection are thought about in the same way as the physical sensations of warmth (as pleasant, safe, a property of life, etc). This conceptual metaphor can be contrasted with one a little warmer, ANGER IS HEAT, where the mappings are more intense, uncomfortable and even violent (as redness, fiery, of heated fluid or steam in a container, etc).<sup>47</sup>

How is conceptual metaphor identified in the context of regular language usage? As mentioned above, certain linguistic markers indicate its presence, the most significant being that an abstract idea or a subjective experience is the subject. However, since a metaphor at its simplest is language which is used to refer to something other than its literal application,<sup>48</sup> it can also be said that anything which is not a literal description of physical reality is a metaphor.

It is worth noting that an important aspect of the metaphorical is its flexibility and fluidity; that is, metaphors do not jealously guard their terms for exclusive use. As Lakoff and Johnson write in *More Than Cool Reason*, "to the extent that a concept is understood and structured on its own terms - without making use of structure imported from a completely different conceptual domain - we will say that it is not metaphorical."<sup>49</sup> That is, as they go on to say, a concept may be metaphorically understood or structured in some instances but not in others; for example, 'it's a case of the tail wagging the dog' is highly metaphorical, while 'the dog nipped the man's leg' is not. In both cases, a member of the canine world is present, but in the first example, its presence is understood to represent a situation where there is an inappropriate role reversal of some kind, whereas in the second, a material, living dog lightly bit a real person. Dogs are not conventionally, automatically and unconsciously understood as metaphors, and yet, can also serve as a metaphor if desired.

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<sup>46</sup> Lakoff and Turner, *More Than Cool Reason*, 63-5.

<sup>47</sup> Knowles and Moon, *Introducing Metaphor*, 38-9.

<sup>48</sup> Ibid., 3.

<sup>49</sup> Lakoff and Turner, *More Than Cool Reason*, 57.

## ***Conceptual Metaphor and Culture***

The relationship between metaphor and culture has been greatly scrutinized during the 20<sup>th</sup> century, particularly by linguistic anthropologists. The contribution of scholars from other fields has been appreciable as well; for example, the ‘root metaphor’ hypothesis was introduced in 1942 by philosopher Stephen Coburn Pepper. In his work *World Hypothesis*, he writes

A man desiring to understand the world looks about for a clue to its comprehension. He pitches upon some area of common-sense fact and tries if he cannot understand other areas in terms of this one. This original area becomes then his basic analogy or root metaphor. He describes as best he can the characteristics of this area, or, if you will, discriminates its structure. A list of its structural characteristics becomes his basic concepts of explanation and description. We call them a set of categories. In terms of these categories, he proceeds to study all other areas of fact whether uncriticized or previously criticized. He undertakes to interpret all facts in terms of these categories. As a result of the impact of these other facts upon his categories, he may qualify and readjust the categories, so that a set of categories commonly changes and develops. Since the basic analogy or root metaphor normally (and probably at least in part necessarily) arises out of common sense, a great deal of development and refinement of a set of categories is required if they are to prove adequate for a hypothesis of unlimited scope. Some root metaphors prove more fertile than others, have greater powers of expansion and of adjustment. These survive in comparison with the others and generate the relatively adequate world theories.<sup>50</sup>

The popularity of Pepper’s analysis is evident in the social sciences (anthropology and psychology, in particular), but it is also found in scholarly work about computer science, medicine, business and economics.

Recognizing that language is a primary vehicle for the apprehension, performance and transmission of culture, anthropologists have long been aware of the metaphor and integrated it into their research.<sup>51</sup> In a field where metaphor has been referred to as the ‘basic mechanism’ of the realm,<sup>52</sup> it is beyond the scope of this study to provide anything more than rudimentary indications of where to begin to look further. For example, both *Cultural Models in Language*

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<sup>50</sup> Stephen Coburn Pepper, *World Hypotheses: a study in evidence* (Berkeley: University of California Press, 1942), 91-2.

<sup>51</sup> James W. Fernandez, *Beyond Metaphor: The Theory of Tropes in Anthropology* (Palo Alto: Stanford University Press, 1991), 1-7.

<sup>52</sup> Sherry B. Ortner, “On Key Symbols,” in *A Reader in the Anthropology of Religion*, ed. Michael Lambek, Blackwell Anthologies in Social and Cultural Anthropology 2 (Hoboken: Wiley-Blackwell, 2002), 161-2.

*and Thought*<sup>53</sup> (1987) and *Beyond Metaphor: The Theory of Tropes in Anthropology*<sup>54</sup> (1991) provide useful entry points into the subject, as does *Dramas, Fields and Metaphors* by Victor Turner,<sup>55</sup> or the electronic journal *metaphorik.de*.<sup>56</sup> Lakoff's own *Moral Politics: How Liberals and Conservatives Think* examines the 'strict father' and 'nurturant parent' metaphors at work in 21<sup>st</sup> century American culture, and provides a good overview of the presence and impact of conceptual metaphors in current culture.<sup>57</sup>

The central role of metaphor in culture combines with Lakoff and Johnson's insights into the role of metaphor in human cognition to position the humble metaphor as a very powerful organizing principle for human behaviour on the individual, societal and, possibly, species level. With respect to Fischer-Kowalski and Weisz' socioeconomic metabolism model (see Figure 3), metaphors provide a link between several points in the cultural causative sphere, that is, between the human experience of nature and its representation within a culture, during the slow development of an adaptive response by culture to long-term trends in the environment, and in the construction of programs which work in the natural environment. Since this study is focussed on a particular period and place in the history of human experience of the environment, the following section describes the weather conditions of northwestern Europe before continuing on with an exploration of metaphors for nature in primary material from 13<sup>th</sup> to 15<sup>th</sup> century England.

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<sup>53</sup> Dorothy C. Holland and Naomi Quinn, ed., *Cultural Models in Language and Thought* (Cambridge: Cambridge University Press, 1987)

<sup>54</sup> Fernandez, *Beyond Metaphor*.

<sup>55</sup> Victor Turner, *Dramas, Fields and Metaphors* (Ithaca, New York: Cornell University Press, 1974).

<sup>56</sup> Hildegard Clarenz-Löhnert, Martin Döring, Klaus Gabriel, Katrin Mutz, Dietmar Osthus, Claudia Polzin-Haumann, Nikola Roßbach, Judith Visser, eds., *metaphorik.de*, Universität Duisburg-Essen, <http://www.metaphorik.de/index.htm> (accessed April 3, 2010).

<sup>57</sup> George Lakoff, *Moral Politics: How Liberals and Conservatives Think* (Chicago: University of Chicago Press, 2002).

## Late Medieval Climate in England

Weather and climate are the same phenomena, perceived at different scales: the daily atmospheric changes that are visible on a personal basis are referred to as weather, while the long-term atmospheric changes that occur are known as climate. The documentary sources that will be assessed in the latter part of the essay were written by people primarily conscious of the weather. This section briefly describes current methods of historical climatology and provides recent reconstructions of the medieval Western European climate, with specific reference to late medieval England, as well as examples of the impact of environmental conditions and extremes on English society.

The field of historical climatology is understood in Europe as a research field “situated at the interface of climatology and (environmental) history, dealing mainly with documentary evidence and using the methodology of both climatology and history.”<sup>58</sup> The goals it pursues are the palaeoclimatological reconstruction of temporal and spatial patterns of climate prior to the creation of reliable national meteorological networks (including natural disasters), the investigation of past social and economic vulnerability to climate behaviour, and the exploration of social representations and discourse about climate in the past.<sup>59</sup> There is a different concept designated by the term in United States (associated with serial temperature and precipitation data from a network of observation posts<sup>60</sup>), but since the topic of this paper and sources accessed are European, the European understanding of historical climatology will be adopted.

The palaeoclimatological reconstruction of pre-instrumental climate relies on two types of data: natural and man-made, and within these categories, there are direct and indirect observations available, including, among others, dendrochronology (the comparative study of annual growth tree rings), fossil pollen comparison, oxygen isotope emissions from coral skeletons, ice core samples (Greenland, Antarctic and high altitude/low latitude mountains), documentary data

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<sup>58</sup> Brázdil et al., “Historical Climatology in Europe,” 365.

<sup>59</sup> Ibid., 366.

<sup>60</sup> The United States Historical Climatology Network (USHCN) is a high quality, moderate-sized data set of daily and monthly records of basic meteorological variables from over 1000 observing stations across the 48 contiguous United States. United States Historical Climatology Network, <http://cdiac.ornl.gov/epubs/ndp/ushcn/ushcn.html> (accessed April 27, 2010).

(including direct human observation of the weather, the effects of weather on important aspects of crop growth and yield, etc) and early data from instrumental measurement (see Figure 4).

Archives Information	Natural		Man-made	
			observed	measured
direct observation of weather and climate or instrumental measurement of meteorological parameters			<ul style="list-style-type: none"> <li>• anomalies</li> <li>• natural hazards</li> <li>• weather situations</li> <li>• daily weather</li> </ul>	<ul style="list-style-type: none"> <li>• barometric pressure</li> <li>• temperature</li> <li>• precipitation</li> <li>• water-gauge, etc.</li> </ul>
indirect references: (Proxy data) indication of controlled or affected processes through meteorological parameters	<b>organic</b> <ul style="list-style-type: none"> <li>• tree rings</li> <li>• fossil pollen</li> <li>• animal and plant remains</li> <li>• fossil wood (trees), etc.</li> </ul>	<b>non-organic</b> <ul style="list-style-type: none"> <li>• ice-cores</li> <li>• varves</li> <li>• terrestrial sediments</li> <li>• temperature of boreholes</li> <li>• moraines, etc.</li> </ul>	<b>organic</b> <ul style="list-style-type: none"> <li>• plant phenology</li> <li>• yield of vine</li> <li>• time of grain and vine harvest</li> <li>• sugar content of wine, etc.</li> </ul>	<b>non-organic</b> <ul style="list-style-type: none"> <li>• water levels</li> <li>• snow fall</li> <li>• freezing of water bodies</li> <li>• snow cover, etc.</li> </ul>
			<ul style="list-style-type: none"> <li>• <b>cultural:</b></li> <li>• <b>pictorial</b></li> </ul>	<ul style="list-style-type: none"> <li>• rogations</li> <li>• <b>epigraphical</b></li> </ul>
			material:	• archeological remains

Figure 4: A survey of available evidence for reconstructing past weather and climate<sup>61</sup>

All data from these methods is referred to as ‘proxy data’ because it is based on measurement of something that occurred due to climatic behaviour, rather than direct measurement of the atmospheric phenomena itself. The combination of data sets is central to the substantial reconstruction of past climate, as the strengths of one method will compensate for weaknesses in another. Recent developments in working with documentary data have made important contributions to increasing the resolution of historical climate reconstructions. In particular, Christian Pfister’s method of quantifying information found in documentary evidence stands out as a major innovation in historical climatology, as it introduces a method for the vast amount of

<sup>61</sup> Christian Pfister, Rudolf Brázdil, Rüdiger Glaser, Mariano Barriendos, Dario Camuffo, Mathias Deutsch, Petr Dobrovolný et al., “Documentary Evidence on Climate in Sixteenth-Century Europe,” *Climatic Change* 43, no. 1 (September 1999): 58.

geographically and temporally local weather information to be calibrated in a meaningful manner into reconstructions of past climate.<sup>62</sup> Other recent advances in the field, as well as the general strengths and weaknesses of each method, can be found in two articles: “Historical Climatology in Europe – the State of the Art,” written by Rudolf Brázdil et al. in 2005<sup>63</sup>, and the more scientifically-oriented 2009 article by P. D. Jones et al., “High-resolution palaeoclimatology of the last millennium: a review of current status and future prospects.”<sup>64</sup>

The period currently referred to as the “Little Ice Age” is generally accepted to have begun in Central Europe at approximately 1300 CE,<sup>65</sup> although there are indications that it may have been part of the general global cooling that took place from the turn of the millennium until the mid-19<sup>th</sup> century.<sup>66</sup> The term is used as a reference to three points of maximal European glacial expansion that took place in 1350, 1650 and 1860 CE. It must be noted that the period was not one of unremitting cold weather; rather, it is characterized by a series of rapid temperature fluctuations, weather variations and extreme weather events, with the most pronounced phase from 1550-1700.<sup>67</sup> Moreover, the impact of climate cooling was different in the Mediterranean basin than in northern Europe, as befitting different (although adjacent) regional climates.<sup>68</sup> Despite this, European temperatures show an average decrease of 1° C during this period (as

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<sup>62</sup> To summarize, Pfister’s methodology includes evaluating the available documentary data (with specific critical consideration of source, author and/or institutional reliability and, where possible, with different documentary data), identifying and transforming the basic information into simple and weighted temp. and precipitation indices, compiling the data, calibrating it with measured values, and verifying it. Brázdil et al., 378.

<sup>63</sup> Ibid., 363-430.

<sup>64</sup> Jones, P.D., K.R. Briffa, T.J. Osborn, J.M. Lough, T.D. van Ommen, B.M. Vinther, J. Luterbacher et al., “High-resolution palaeoclimatology of the last millennium: a review of current status and future prospects,” *The Holocene* 19, no. 3 (2009): 3-49.

<sup>65</sup> Brázdil et al, 391.

<sup>66</sup> David A. Hodella, Mark Brennera, Jason H. Curtisa, Roger Medina-Gonzalesb, Enrique Ildefonso-Chan, Alma Albornaz-Patb, Thomas P. Guilderson, “Climate Change on the Yucatan Peninsula during the Little Ice Age,” *Quaternary Research* 63, Issue 2 (March 2005); T.C. Johnson, S. Barry, Y Chan, and P. Wilkinson, “Decadal record of climate variability spanning the past 700 yr in the Southern Tropics of East Africa,” *Geology* 29 (2001): 83-6; K.J. Kreutz, P.A. Mayewski, L.D. Meeker, M.S. Twickler, S.I. Whitlow and I.I. Pittalwala, “Bipolar changes in atmospheric circulation during the Little Ice Age,” *Science* 277 (1997): 1294-6. However, Galloway speaks against the LIA as a global phenomenon in James A. Galloway, “Storm Flooding, Coastal Defence and Land Use Around the Thames Estuary and Tidal River, c. 1250-1450,” *Journal of Medieval History* 35, no. 2 (2009): 171-88.

<sup>67</sup> Ibid., 390-1.

<sup>68</sup> Jürg Luterbacher, Elena Xoplaki, Carlo Casty, Heinz Wanner, Andreas Pauline, Marcel Kiittel, This Rutishauser et al, “Mediterranean Climate Variability over the Last Centuries: a Review,” in *Mediterranean Climate Variability*, ed. P. Lionello et al (Amsterdam: Elsevier, 2006), 27-148.

compared to late-20<sup>th</sup> century average temperatures) and, in regions of central Europe, as much as 2° C below average during the late-17<sup>th</sup> century (the ‘trough’ of the Little Ice Age).<sup>69</sup>

The British Isles experienced similar historical climate patterns as the rest of northwestern Europe, although the documentary data speaks of regional or local weather. English documentary sources, rather more prolific from southern England than elsewhere, include medieval annals and chronicles, account rolls from manors and religious institutions (a major source of data), and one of the earliest known weather journals.<sup>70</sup> Weather tends to be mentioned in these sources if it is, in some way, out of the ordinary or impedes an anticipated action.<sup>71</sup> As such, then, it is worth noting what the ideal conditions for southern English agriculture would be, in order to demonstrate the degree of variation from conditions which generally prevailed until the early 14<sup>th</sup> century.

During September planting the weather should be damp. From October to 20 December it should remain damp but temperatures should not be too mild. From 21 December through the end of February, ideal conditions include generally dry weather and minimal snow, temperatures remaining above -10°C and no strong winds. In March one climatic conditions is essential: no frost. In April regular rains are best, with extended sunny intervals. From 1 May to 15 June temperatures should be warm but not hot and rainfall should be regular. From 16 June to 10 July cool, cloudy weather with moderate precipitation is ideal, and from 10 July through August conditions are best when dry and warm, with no heat waves.<sup>72</sup>

Unfortunately, however, ideal conditions such as these were rarely in evidence in late medieval England. Overall, there is evidence of cooling in the British Isles from c. 1240-1340, followed by warming until c. 1510 and cooling thereafter until the mid/late 19<sup>th</sup> century.<sup>73</sup> The relationship between atmospheric cooling and English weather conditions expressed itself during most of the 14<sup>th</sup> century by many extreme weather events (“weather anomalies”) in the shape of

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<sup>69</sup> Intergovernmental Panel on Climate Change, “Was there a “Little Ice Age” and a “Medieval Warm Period”?” *IPCC Third Assessment Report: Climate Change 2001: Working Group 1: The Scientific Basis*, hosted by the UNEP / GRID Arendal, Norway, [http://www.grida.no/publications/other/ipcc\\_tar/](http://www.grida.no/publications/other/ipcc_tar/) (accessed April 3, 2010)

<sup>70</sup> Ogilvie and Farmer, “Documenting the Medieval Climate,” 115.

<sup>71</sup> *Ibid.*, 118.

<sup>72</sup> Robert S. Gottfried, “Climatology,” in *Dictionary of the Middle Ages* 3, ed. Joseph R. Strayer (New York: American Council of Learned Societies, 1989), 454. Note that in the UK, as opposed to agricultural practice in Canada, wheat is usually sown in the autumn and early winter.

<sup>73</sup> Ogilvie and Farmer, “Documenting the Medieval Climate,” 130.

wetter than usual summers, colder than usual winters,<sup>74</sup> temperature fluctuations, heavy rains, storm surges and flooding.<sup>75</sup> For example, direct contemporary references to the weather, indirect documentary evidence such as grain prices or wage levels, and natural evidence together confirm the role of weather (excessive rain, in this instance) in causing disastrous English harvests in 1315, 1316 and 1317:

Overall, mean net grain yields for per seed were 39 per cent below the long-term average for the period 1270-1429 in 1315, 43 per cent below that average in 1316, and at least 10 per cent below average in 1317. After a three-year respite, the harvest failed again in 1321 with a one-third reduction in net yield...<sup>76</sup>

The environmental variability also made its presence felt with in both the outbreak of the bovine plague of 1319 (which, within 18 months, had reduced the number of cattle in half<sup>77</sup>) and the appearance of the Black Death in 1348. Sadly, human mortality brought about by that epidemic coincided with another period of extreme weather events,<sup>78</sup> leading to mean net grain harvests from 1349-1352 that were 52 per cent below the long term average. Academic debate continues about the vulnerability of the population to the disease having been caused by previous famine.<sup>79</sup>

Under the impact of acute scarcity, both in the 1315-22 famine and the plague/famine combination of 1348-52, as well as raiding from Scotland and war on the continent,<sup>80</sup> the demographic profile and economy of English society was transformed as the population dropped by approximately 62.5%.<sup>81</sup> Assessed with respect to Fischer-Kowalski and Weisz' socioeconomic model, the European experience of the environment could be generalized as having changed from one of relative success (as demonstrated by rising population levels) to one of insecurity. The model asserts that there is a dynamic relationship between nature and culture, although both are autonomous systems; therefore, an exploration of the cultural representations

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<sup>74</sup> Ibid., 121, Figure 6.3.

<sup>75</sup> Galloway, "Storm Flooding, Coastal Defence," 171-8.

<sup>76</sup> Campbell, "Four Famines and a Pestilence," 33.

<sup>77</sup> Bruce M.S. Campbell, "Nature as Historical Protagonist: Environment and Society in Pre-industrial England," *The Economic History Review* 63, no. 2 (May 2010): 290.

<sup>78</sup> J. Titow, "Evidence of Weather in the Account Rolls of the Bishopric of Winchester 1209-1350," *The Economic History Review*, n.s., 12, no 3 (1960), 401-2; D. V. Stern, *A Hertfordshire demesne of Westminster Abbey: profits, productivity and weather*, ed.C. Thornton (Hatfield: University of Hertfordshire Press, 2000), 100.

<sup>79</sup> Ole Benedictow, *The Black Death, 1346-1353: The Complete History* (Woodbridge: The Boydell Press, 2004), 11-24, and Campbell, "Nature as a Historical Protagonist," 306.

<sup>80</sup> Campbell, "Nature as Historical Protagonist," 291-2.

<sup>81</sup> Benedictow, *The Black Death*, 383.

of nature during the 13<sup>th</sup>, 14<sup>th</sup>, and 15<sup>th</sup> centuries would profitably speak to the existence and nature of that relationship as conceptualized and represented within English culture during this climatically unstable period. The central role of conceptual metaphors in organizing and expressing subjective experience and abstract thought renders the following exploration of metaphors for nature found in late medieval English texts an ideal way of accessing the culture's response to the experience of an unstable environment.

### **13<sup>th</sup> Century Metaphors for the Natural World**

Although historical climatology reveals that a slow, steady cooling trend has been underway globally from approximately the beginning of the millennium, the impact of the climatological trend was not perceived as steadily deteriorating weather by medieval Europeans. Rather, on a decadal basis, the 11<sup>th</sup> to early 14<sup>th</sup> centuries were experienced as a period of warmth, leading to mostly reliable harvests. It must equally be emphasized that this does not mean that daily or even seasonal weather was consistently beneficial towards human agricultural goals; extreme weather events or volcanic eruptions, sporadically and occasionally, did have a destructive impact on growing conditions.<sup>82</sup> Nevertheless, overall, the elements were generally supportive of human well-being in England during the 11<sup>th</sup>, 12<sup>th</sup> and 13<sup>th</sup> centuries.

An overview of the English 13<sup>th</sup> century gives an impression of relative social and economic stability, studded with political and religious conflict; a lack of severe famines or disease led to a high rate of population growth and the progressive immigration of rapidly multiplying peasants to London and other urban centers. Crusades were launched and Englishmen participated; baronial gains were codified in the Magna Carta; colleges and halls were erected at the University of Oxford, while student dissension inspired the establishment of the University of Cambridge; much of the continental territory held by the English kings held in vassalage to the French monarchy was lost; Edward I approved the Statutes of Mortmain, which prevented the church from accepting land as a beneficiary of death. The social world of England dominates

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<sup>82</sup> Titow, "Evidence of Weather in the Account Rolls," 100.

historical accounts of the century, indicating that the natural world did not occasion much comment.

Although relative economic and social stability prevailed, political turmoil became particularly intense during the reign of King John, ruler of England from 1199-1216. What little survives of politically-inspired music from the Norman Conquest to John's reign is laudatory poems in Latin or funeral elegies for the great,<sup>83</sup> but political songs composed during the conflict between John and the nobles of the land grow in open partisanship. Henry III, upon assuming the throne, appears to have accepted the free expression of all points of view, as opinions expressed in song grew particularly pointed and bold.<sup>84</sup> The freedom of expression enjoyed by composers contributes to the selection of the first metaphor to be considered, by strengthening the vigour of the authorial voice.

*Incipiunt versus de Guerra Regis Johannis* ("Here begin the verses about King John's war") is a political song thought to have been composed shortly after the transition from King John (d. 1216) to Henry III; John's poor governance had stimulated not only the Magna Carta, but also an invitation from the English barons to Prince Louis of France to occupy the English throne. The young Henry's ascension to the throne dissolved much of the English baronial desire for French governance, but the remaining rebels endured until the Battle of Lincoln in 1217. The song celebrates Henry III as God's choice to relieve the nation of both the 'rage' that had seized the barons and King John's fury; that the lyrics were composed in Latin indicates that the composer was likely a member of the intellectual elite – possibly a churchman. The dynamic action of the poem focuses on the Battle of Lincoln, which took place in May; a description of England at the time of the springtime battle is given:

Tempus erat quo terra novo pubescere partu  
Cœperat, et teneras in crines solverat herbas,  
Vellera pratorum redolens infantia florum  
Pinxerat, et, renovas crispans coma primula silvas,

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<sup>83</sup> Surviving prose material is mostly religiously-oriented, such as the popular *Ancrene Wisse* or the Katherine Group.

<sup>84</sup> Thomas Wright, trans. and ed., *The Political Songs of England, From the Reign of John to that of Edward II* (London: Camden Society, 1839; London and New York: Johnson Reprint Corporation, 1968), xx-xxi. Citations are to the Johnson edition.

Innumeras avium revocavit ad organa linguas,

It was the time when the earth had begun to ripen with new birth,  
And had loosened her young grass into locks of hair;  
Smelling of flowers, she had painted the young fleeces of the fields,  
And, the first hair curling in the renewed woods,  
she recalled the uncountable tongues of birds to their organs/instruments,<sup>85</sup>

In the metaphoric construction of the passage's subject, the target domain is the earth, and the source domain is a woman pregnant with her first child. We know that the source domain is human because the properties and behaviour (having locks of hair and the capacity to recall) are human properties and behaviour. The mappings between the earth in spring and a woman pregnant with her first child are the promise of fertility: neither the earth nor the woman have delivered proof of their fertility, but knowledge and experience assure humanity that the produce and the child are unavoidably arriving. In both cases, conception has taken place, gestation is underway, and these two processes have the conclusion of producing new life. Concepts idealized in a first pregnancy (youth, health) are mapped onto the spring earth (young grass, young fleece, a fresh odour), and the first hair of a baby is corresponded to the ferns uncurling in the woods. The target domain, source domain and mappings indicate that this primary metaphor is **THE EARTH IN SPRING IS A YOUNG WOMAN WHO IS PREGNANT WITH HER FIRST CHILD**, or, perhaps more simply, **SPRING IS A YOUNG MOTHER-TO-BE**. Adopting Lakoff and Johnson's format for presenting metaphors, this primary metaphor can be presented as follows:

Subjective experience: the creation of new things and beings

Sensori-motor domain: birth

Primary experience: noticing the process of bringing forth new life shared by both  
human beings and the earth

Example: "The trees were pregnant with flowers."

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<sup>85</sup>Ibid., 23. Note: all translations for the purposes of this research have been performed by the author, except where otherwise indicated.

The primary metaphor SPRING IS A YOUNG MOTHER-TO-BE has a well-known presence in medieval poetic references to spring;<sup>86</sup> for example, the seminal works of Alain de Lille and Bernard Silvestris portray Nature as the teeming womb, the *mater generationis*, “the inexhaustible fecundity from which springs the pollulation of beings.”<sup>87</sup> Ernst Curtius construes it as part of the ‘perpetual spring’ topos, evoking the Earthly Paradise, Elysium, Garden of Eden (a place of “eternal spring without meteorological disturbances,”<sup>88</sup> wherein dwells Natura<sup>89</sup>). As such, SPRING IS A YOUNG MOTHER-TO-BE is a component of the MOTHER NATURE complex personification explored in greater detail with the following selection, and, it could be said, a necessary one if nature is to be metaphorically understood as a mother.

The metaphor SPRING IS A YOUNG MOTHER-TO-BE is also an interesting example of a reversal of regular medieval target and source domain mappings. That is, northern European medieval conceptualization and reasoning about the human life cycle drew heavily on temperate climate as the source domain for metaphors, where the target domain of four phases of human life (childhood, youth, maturity and old age) received correspondences from the four seasons (spring, summer, autumn and winter).<sup>90</sup> This metaphor was not newly developed by medieval people, but can be found throughout Scripture and the Classical world; for example, the reply to the famous riddle asked of Oedipus by the Sphinx sometimes refers old age as the ‘winter’ of man. In this instance, the conceptual metaphor would be OLD AGE IS WINTER, an element in the complex metaphor THE LIFE CYCLE IS ONE YEAR. However, in *Incipiunt versus de Guerra Regis Johannis*, the mappings are reversed; the complex metaphor employed is ONE YEAR IS A LIFE CYCLE. The battle took place in May and the earth, making its natural transition from spring to summer, is metaphorically represented as making the transition from late pregnancy to seeing the baby’s first hair.

In the absence of a French prose tradition, English works of prose continued to be influenced by the homiletic and didactic Anglo-Saxon form – that is, until the introduction of the romance, a

<sup>86</sup> George D. Economou, *The Goddess Natura in Medieval Literature* (Cambridge: Harvard University Press, 1972).

<sup>87</sup> Chris Fitter, *Poetry, space, landscape: toward a new theory* (Cambridge: Cambridge University Press, 1995), 168.

<sup>88</sup> *Topos* is the term Curtius employed to indicate the presence of a ‘stock idea’ employed to put the reader in a favourable state of mind. Ernst Robert Curtius, *European Literature and the Latin Middle Ages*, trans. Willard R. Trask, (New York: The Bollingen Foundation, Inc., 1953), 82.

<sup>89</sup> *Ibid.*, 120.

<sup>90</sup> Isabelle Cochelin, “Introduction: Pre-Thirteenth-century Definitions of the Life Cycle,” in *Medieval Life Cycles: Continuity and Change*, ed. I. Cochelin & K. Smyth (Turnhout: Brepols, (forthcoming), 1.

popular continental form of narrative verse, to England in the mid-13<sup>th</sup> century. That was the context for the emergence of Middle English as a written language; romances such as *King Horn*, *Havelock the Dane*, or *Bevis of Hampton* show a French influence, but are written in middle English (not Anglo-Norman or Anglo-Latin, popular with the literate class).<sup>91</sup> Middle English poetry also emerged as a written form; a lovely example is *The Owl and the Nightingale*, probably composed after the death of Henry III in 1272 CE.<sup>92</sup> The poem survives in two manuscripts, both copies of a lost original from the West Midlands.<sup>93</sup> It is a debate-poem, part of a popular medieval genre with antecedents in French and Latin; the eponymous main characters strive to decide which one is the better bird.

The debate is initiated by the Nightingale, who insults the Owl from her secure shelter in the thorny hedge by accusing her of foul habits. The Owl calls for independent adjudication between their respective merits, and the two birds agree on the scholar Nicholas of Guildford. Nevertheless, before the scholar can be sought, the Owl rebuts the Nightingale's insults by asserting the integrity of her predatory nature and, in turn, accuses the Nightingale of leading humans into sin through the beauty of her song. The Nightingale scoffs at the Owl's song and the two continue to wrangle over their own and each other's song, purpose and utility. The Nightingale's arguments tend towards the ones of optimism and the self-justification of beauty, while the Owl's towards those of a dour practicality and pessimism. The debate remains unresolved at the conclusion of the poem.

Modern critical attention to *The Owl and the Nightingale* has been unable to decide if the poem is a satire, a symbolic representation of medieval social forces, an allegory, a beast fable, a code or a riddle – or even if these are mutually exclusive and the poem is not a combination of two or more. The author is unknown. The very difficulty of coming to consensus has led to a general agreement to accept the poem at face value: as a self-conscious commentary upon its own substance (that is, contentious discourse).<sup>94</sup> Regardless, the birds address each other with

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<sup>91</sup> Ronald B. Herzman, Graham Drake and Eve Salisbury, *Four Romances of England*, (Kalamazoo: Medieval Institute Publication, 1999), 2.

<sup>92</sup> Neil Cartlidge, ed., *The Owl and the Nightingale: Text and Translation* (Exeter: University of Exeter Press, 2001), XV.

<sup>93</sup> London, British Library, MS Cotton Caligula A. ix (linguistically traceable to Worcester) and Jesus College, Oxford, MS 29 (II) (linguistically traceable to Herefordshire), *Ibid.*, XL.

<sup>94</sup> *Ibid.*, xvi-xxvi.

sophistication, wit and, most importantly for the purposes of this paper, metaphor. For example, at line 439, the Nightingale is boasting about the welcome she receives upon her return migration:

Þe lilie mid hire faire wlite	The lily with her lovely radiance
WolcomeÞ me – Þat Þu hit wite! –	Welcomes me – as you know it! -
Bid me mid hire faire blo	She bids me, with her fair complexion,
Þat ich shulle to hire flo.	That I should to her fly.
Þe rose also mid hire rude,	The rose also, with her ruddy face
Þat cumeÞ ut of Þe Þornewode,	That comes out of the thorny wood,
Bit me Þat ich shulle singe	Bids me that I should sing,
Vor hire luue one skenting;	For her love, one celebration; <sup>95</sup>

In these lines redolent with metaphor, the target domain is the flower and the source domain is the human face. We know that the source domain is the human face because the properties and the behaviour (having a complexion, welcoming, bidding) are those of faces. The correspondences or mappings (features common to both) between the flower and the human face come from early childhood, when the experience of being held close to another's face (for kisses, in an embrace) is usually concurrent with the experience of receiving welcome. The features of the emotional feelings of being warmly received are thought about in the same way as the physical odour of the sweet perfume when one brings one's face to a scented flower (as desirable, pleasant, enveloping, etc). Also, these same features also characterize the emotional feelings of obedience to a beloved commander and the surrender to sensuous delight commonly experienced when inhaling the odour of a beautiful flower. The target domain, source domain and mappings indicate that the operative primary metaphor of these lines is FLOWERS ARE FACES. This primary metaphor can be displayed as follows:

Subjective experience: Communication and understanding  
 Sensori-motor domain: visual and auditory communication  
 Primary experience: As a child, realizing that faces (one's own and others) are vehicles of emotional and oral communication

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<sup>95</sup> Ibid., 12. Note that the Middle English Dictionary indicates that 'blo' includes 'complexion' among its possible meanings, and 'rude' also has the connotation of 'face.' Middle English Dictionary, <http://quod.lib.umich.edu/m/med/lookup.html> (accessed April 24, 2010).

Example: “The sunflower *turned its face* to the sun.”

In this particular example of this primary metaphor, FLOWERS ARE FACES, the lily and the rose communicate affection and happiness to the Nightingale.

The primary metaphor FLOWERS ARE FACES is one of the elements in the complex metaphorical personification known as MOTHER NATURE, as was SPRING IS A YOUNG MOTHER-TO-BE. MOTHER NATURE is an extremely complex personification and a very old way of thinking about the natural world; it was coherently articulated by Aristotle but has antecedents from pre-history, possibly dating back to the Neolithic shamanic artists who carved clay and stone into female figurines. It has mappings into religions both before and after the ascension of Christianity into Europe, into economic concepts, political and, even, military thought. The metaphor was used throughout late medieval Europe, in both Latin and the vulgar languages, strengthened by the translation of Aristotle into Latin that occurred in the 13<sup>th</sup> century.<sup>96</sup> Early and late medieval Christian thinkers portrayed her to be the living spirit of nature: Natura, the handmaiden of God. Mother Nature continues to be an active metaphor today. Since MOTHER NATURE is a complex metaphor that has endured for over two thousand years, and was gestating towards full metaphoric expression for untold millennia before that, the complex metaphor itself is unlikely to change profoundly during the two-century period that is the focus of this study. However, certain primary metaphors within the complex metaphor *will* change, altering certain aspects of MOTHER NATURE, but not rendering her unrecognizable.

Although I have been unable to read all the existing documents from the 13<sup>th</sup> century in order to make a complete survey of all the metaphors for nature that were written during those hundred years, the general tenor expressed by the passages in which were found SPRING IS A YOUNG MOTHER-TO-BE and FLOWERS ARE FACES is reflected in most: they communicate a general perception of the earth as a promising, happy place to live – in contrast to 14<sup>th</sup> century images.

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<sup>96</sup> Economou, *The Goddess Natura*, 53-103.

## Metaphors for the Natural World from 1300-1350

In contrast to 13<sup>th</sup> century images, the next hundred years were not to be so sanguine: as mentioned above, the combination of disastrous harvest failures in 1315, 1316, 1317 and 1321 with the reduction of the herds by at least half in 1319 and 1320 led to a mortality rate of 10-15% over a span of seven years.<sup>97</sup> Pieces written after the Great Famine express in metaphor a different perspective from that found in the 13<sup>th</sup> century.

*The Simonie* is a complaint poem, a medieval genre that attacks the wrongs of the time and despairs of the human condition. The poem survives in three manuscripts, all copies of a lost original, and written over a century apart; this research accesses the earliest version, written on the last quire of the mostly-English Auchinleck Manuscript (dated to c.1330-1340 and likely created in London).<sup>98</sup> Triangulating from a combination of internal references and the date of the earliest copy, the poem is thought to have been composed between 1322 and 1330-1340.<sup>99</sup> Analysis of the dialectic rhymes found in the poem indicate that the author was likely a poet from the Fens, a low-lying region in the east of England of about 15,500 sq miles, west and south of the Wash.<sup>100</sup> As well, a small number of certain stylistic similarities in all three versions indicate the influence of the southwest Midlands, where, during the early 14<sup>th</sup> century, a burst of English literary activity took place on the Gloucester/Worcestershire border, near Warwickshire.<sup>101</sup> As well as describing the corruption of the political and religious estates, the author includes, starting at line 373, a description of the recent and devastating weather:

So Þat for Þat Shrewedom Þat regneþ in Þe lond,  
I drede me Þat God us haþ forlaft out of his hond,  
Þurw wederes Þat he haþ isent, cold and vnkinde,  
And yit ne haveþ no man of him Þe more minde  
Ariht.

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<sup>97</sup> Campbell, "Four Famines and a Pestilence," 43.

<sup>98</sup> Dan Embree and Elizabeth Urquhart, ed., *The Simonie – A Parallel Text Edition*, Middle English Texts 24 (Heidelberg: Carl Winter Universitätsverlag, 1991), 9-11.

<sup>99</sup> Ibid., 22-3.

<sup>100</sup> The Fens were regularly flooded by the North Sea (notably so in 1322) and were considered a remote and wild area, both naturally and socially, until systematic draining began in the 17<sup>th</sup> century. *Encyclopaedia Britannica Online*, "Fens," <http://www.britannica.com/EBchecked/topic/204313/Fens> (accessed March 6, 2010).

<sup>101</sup> Embree and Urquhart, *The Simonie*, 24-7.

YnnePe is any man aferd of Godes muchele miht.<sup>102</sup>

So that for the wickedness that reigns in the land,  
I am afraid that God has cast us out of his hand,  
Through storms that he has sent, cold and unkind,  
And yet, not has any man more mind of him  
Indeed.

Hardly is any man afraid of God's great might.

*The Simonie* goes on to complain about the weather for several more stanzas, but the complaints are literal in nature; the only metaphor used by the author is above, where the storms are 'unkind.' Note that it is not God who is unkind (the author is clear that the cold and unkind storms are a just punishment for wicked behaviour), but the storms themselves. However, since unkindness implies a degree of intentionality that storms apparently lack, the presence of a metaphor is identified. The target domain of this metaphor is stormy weather. An identification of the source domain is complicated by the difficulty of defining unkindness; in the medieval context, where kindness was one of the Seven Cardinal Virtues, the opposing Deadly Sin is envy – leaving unkindness conceptually adrift. However, it was unlikely to be a virtuous behaviour. I am unable to make a final decision on this particular question here, and will settle for an understanding of unkindness as intentionally harsh behaviour. As such then, the source domain for this metaphor is intentionally harsh human behaviour; we know this because the properties and behaviour of being loud, inspiring fear, haphazardly inflicting damage, etc, are those of people behaving in an intentionally harsh manner. The mappings between stormy weather and intentionally harsh human behaviour come from the childhood experience of having observed someone who is behaving in an intentionally harsh manner and the behaviour and the impact of a storm: both can be loud, are uncontrollable, may inflict damage, etc. The features of the emotional feelings resulting from being close to someone who is behaving in an intentionally harsh manner are thought about in the same way as the sensations of physically caught in a storm (being at the effect of the situation, being helpless to make it stop, feeling afraid, feeling distress from witnessing destruction or being hurt oneself, etc). The target domain, source

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<sup>102</sup> Ibid., 101.

domain and mappings indicate that the operative primary metaphor in this line is A STORM IS AN UNKIND PERSON. This metaphor can be presented as follows:

Subjective judgement: Unkindness

Sensori-motor domain: violence

Primary experience: Noticing the destructive impact of both unkind behaviour and storms, and being unable to prevent either

Example: "The storm *hit* the coast."

In this particular example of this primary metaphor, A STORM IS AN UNKIND PERSON, the author portrays that storm as having been directed against mankind by God, and further stanzas go on to describe the impact of the extreme rain events of the preceding years. God created a 'derthe,'<sup>103</sup> wherein many poor men died standing up right,<sup>104</sup> followed by a sorrow worse than a thousand winters: "Þe orf deiede al bidene" (the cattle all died by then).<sup>105</sup>

Unexpectedly, this metaphor is also an element of the complex MOTHER NATURE metaphor, as aspects of the medieval concept of nature positioned it/her as the handmaiden and viceroy of God (mentioned earlier). Human beings were theologically understood as working in partnership with the spirit of nature to finish the Divine Plan;<sup>106</sup> for example, it has been suggested that, upon entering England during the 12<sup>th</sup> and 13<sup>th</sup> centuries, the Cistercian order made a point of establishing monasteries and abbeys in 'waste lands' in order to render them more pleasing to God through human habitation.<sup>107</sup> With such a concept central to the worldview, it would not be conceptually irreconcilable for God, if he was displeased with humanity, to activate his viceroy as an agent of dire warning.

The next metaphor is selected not from a literary or musical source, but from the *Consideraciones temperiei pro 7 annis* (Considerations of the temperature for 7 years), a weather journal written from 1337-1342 by William Merle (since 1331 rector at Driby, a hamlet east of Lincoln). The original MS is in the Bodleian Library at Oxford University, where it was

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<sup>103</sup> Ibid., 102, line 392.

<sup>104</sup> Ibid., 103, lines 399-401. Apparently they died quickly.

<sup>105</sup> Ibid., 104, line 412.

<sup>106</sup> Ronald Edward Zupko and Robert Anthony Laures, *Straws in the Wind: Medieval Urban Environmental Law – the Case of Northern Italy* (Boulder: Westview Press, Inc, 1996), 27-33.

<sup>107</sup> Kenneth Addison, "Changing Places: The Cistercian Settlement and Rapid Climate Change in Britain," in *A Place to Believe in: Locating Medieval Landscapes*, ed. Claire A. Lees and Gillian R. Overing (University Park: Penn State Press, 2006), 220.

deposited in 1674; a single translation was published in 1891, supervised and edited by G.J. Symons.<sup>108</sup> Merle's descriptions of the weather change from the beginning of his journal to the end, becoming more detailed as time passes. In his summation of 1341, he includes the following sentence:

Item notandum quod valde magna diuersitas fuit in acre ex ipsa temperie post septembrem in hoc anno etiam magis quam solebat.

Likewise, it should be noted that there was very great diversity in sharpness from the temperature after September in this year, even more than was customary.<sup>109</sup>

In this metaphor, the target domain is the ambient autumn temperature, and the source domain is the blade. We know that the source domain is the blade because the property mentioned (sharpness) is that of blades, both on the edge and at the point. The mappings between the autumn temperature and the blade arise from the childhood experience of having skin suddenly chilled (perhaps dangerously so) from exposure to cold air and being cut from contact with the sharp edge or point of a blade. The physical experience of both is focused on one's skin, and the temperature rises and falls in and out of ranges of discomfort with the ease that a blade loses its keen edge, and regains it again (a blast of hot air can be experienced in the same way). Emotional features found in the experience of being chilled by a cold wind are the same as being cut by a sharp blade (surprise, discomfort, possibly pain, fear about short-and long-term consequences of the event, etc). The target domain, source domain and mappings indicate that the operative primary metaphor of this sentence is AIR IS A BLADE. This primary metaphor can be presented as follows:

Subjective experience: pain, discomfort  
Sensori-motor domain: sensation, touch  
Primary experience: Experiencing the shock of a sudden cut  
Example: "The wind has an *edge* to it tonight."

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<sup>108</sup> William Merle, *Merle's MS. Consideraciones temperiei pro 7 annis / per Magistrum Willelmum Merle ; the earliest known journal of the weather kept by the Rev. William Merle ... 1337-1344* ; reproduced and translated under the supervision of G. J. Symon (London: E. Stanford, 1891), 5.

<sup>109</sup> Ibid., Plate 6.

AIR IS A BLADE is conceptually associated with the metaphor INTELLECT IS AIR, as the target domain of the first is the source domain of the second. AIR IS A BLADE is also associated with the metaphor INTELLECT IS A BLADE, in that they share a source domain. The three metaphors have metaphoric coherency<sup>110</sup> with the medieval concept of the mind. That is, European conceptualization and reasoning about human physiology drew extensively on the four Classical elements as the source domain for metaphors, where the target domain of the human being (body, mind, feelings and spirit) received correspondences from the four elements (earth, air, water and fire, respectively). Although air is associated with mind, there is a complete lack of agency in Merle's 1342 entry to his weather journal (there is no blade-wielder; pronouns or people are absent), and so there is no association of the weather with the personification MOTHER NATURE (or any other personification).

## Metaphors for the Natural World After 1348

In 1348, a disease arrived in England with an extraordinarily high morbidity rate: 60-80% of the population were infected<sup>111</sup> and, of those, approximately 80% died.<sup>112</sup> Although the identification of the specific disease is contested,<sup>113</sup> the pestilence commonly referred to as the Black Death coincided with weather anomalies and severe crop failures in 1349 and 1350 to devastate the European population.<sup>114</sup> The unusual presence of the manor records, combined with local studies conducted during the last 50 years, provides the opportunity to re-calibrate and issue a new estimate of the English mortality rate during the Black Death (although there is still a great margin of uncertainty): from a pre-pestilence population of approx. 6 million, it appears

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<sup>110</sup> Metaphoric coherency is described by Lakoff and Johnson as "part of whole metaphorical systems that together serve the complex purpose of characterizing the concept ... in all its aspects, as we conceive them." Lakoff and Johnson, *Metaphors We Live By*, 105.

<sup>111</sup> Benedictow, *The Black Death*, 352.

<sup>112</sup> Ibid., 350. See also Samuel K. Cohn, Jr., *The Black Death Transformed: Disease and Culture in Early Renaissance Europe* (London: Arnold Publishers, 2003), 188-222.

<sup>113</sup> Ibid.

<sup>114</sup> Campbell, "Four Famines and a Pestilence," 34 and 43.

that as much as 62.5% of the population, or 3.5 to 4 million people, may have died in the span of 3 years.<sup>115</sup>

Social and economic turmoil followed, as the demand for workers led to a leap in wages,<sup>116</sup> royal legislation attempted to restrict both the wages to pre-plague levels<sup>117</sup> and peasants to their land while vacant farm land encouraged upwards and horizontal mobility, and taxes were increased in an attempt by Edward III to pay for the 100 Years' War. The pestilence returned in 1361 and 1371, and regional outbreaks followed. John Wyclif articulated an alternative form of Christianity emphasizing social justice and a personal relationship to God that grew into the Lollard heresy. Tensions between the elite and a newly-empowered (although depleted) peasantry grew to the point of open rebellion in 1381; the young Richard II, who suppressed the peasants proved an unpopular and autocratic king, was deposed in 1399 by his cousin Henry IV, and died in captivity with the turn of the century. Henry IV negotiated ecclesiastical approval for his behaviour by passing *De heretico comburendo*, which, combined with a potent military presence, established a stronger central authority in England than had been found since the mid-14<sup>th</sup> century. It endured until the outbreak of the War of the Roses in the latter half of the 15<sup>th</sup> century.

Whatever the degree of Richard II's contemporary unpopularity, his reign is noted for the excellence of the literature that was produced in Middle English under his patronage. Geoffrey Chaucer served Richard as a diplomat, customs official and clerk while composing, among others, his magnum opus *The Canterbury Tales*; John Gower wrote *Confessio Amantis* on direct commission from the King, the Pearl poet produced *Sir Gawain and the Green Knight*, *Patience*, *Cleanness*, and *Pearl*. The alliterative poem *Piers Plowman*, attributed to William Langland, reached its final edition (version C) during this period, as well.

Somewhat earlier than these Ricardian poets, however, an anonymous author wrote *Wynnere and Wastoure* (Winner and Waster) - possibly as early as 1352 and possibly as late as the 1370s. The only surviving text is a copy found in a manuscript held at the British Library, in one of two

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<sup>115</sup> This figure is primarily based on manorial records, which, although not absolutely reliable for statistical purposes, nevertheless agree in scale with information provided from other parts of Europe suffering the same disease. Benedictow, *The Black Death*, 380-4.

<sup>116</sup> Campbell, "Four Famines and a Pestilence," 43.

<sup>117</sup> Edward III passed the Statute of Labourers in 1351.

miscellanies known to have been compiled by Robert Thornton in the mid-15<sup>th</sup> century.<sup>118</sup> As well as being an alliterative poem, the piece is also a debate poem similar in nature to *The Owl and the Nightingale* (above). *Wynnere and Wastoure*, however, features an economic argument between two servants of a king's household, the parsimonious Wynnere and the spendthrift Wastoure; the unnamed king is the judge. The two trade arguments, with Wynnere's focused on the need to save money for a secure and responsible future; he attacks Wastoure as proud, lecherous and sinful for wasting money, food, agricultural productivity and the benefits his noble birth could bring to the nation. Wastoure, however, speaks of the benefits he brings to the community by spending his money, the pleasure God feels in his appreciation of His gifts, and criticizes Wynnere for avarice, miserliness and cowardice. The king creates a temporary resolution by sending Wynnere to Rome, where he will live until the king decides to go to war; Wastoure, meanwhile, will reside in the towns for the benefit of the merchants – until Wynnere's return. Unfortunately, the MS is incomplete and the poem breaks off at line 503 in mid-sentence; the final fate allotted to Wynnere and Wastoure by the king is unknown.<sup>119</sup> At line 276, during one of Wynnere's speeches, he accuses Wastoure of sloth during the following:

3e folowe noghte 3oure fadirs    Pat fostered 3ow all  
 A kynde herveste to cache    and cornes to wynn  
 For þe colde wyntter and þe kene    with gleterand frostes  
 Sythen dropeles drye    in the dede monethe.

You do not follow your fathers, who taught you all  
 To gather a good harvest and bring in the grain  
 Before the cold and keen winter with glittering frosts  
 And the rainless drought in the dead month.<sup>120</sup>

The metaphor explored here is in the final clause, where the target domain is the month of March<sup>121</sup> and the source domain is death; note also the presence of the previous metaphor

<sup>118</sup> Stephanie Trigg, ed., *Wynnere and Wastoure*, Early English Text Society, o.s., 297 (Oxford: Oxford University Press, 1990), xiii.

<sup>119</sup> Unexpectedly, the poem lacks a direct reference to the enormous human and social crisis immediately preceding its composition, but only refers obliquely to the problems of vagrancy and criminal gangs, and the Treasons Statute of 1352.

<sup>120</sup> Trigg, *Wynnere and Wastoure*, 10, lines 273-276.

studied, AIR IS A BLADE, in the third line. The mappings between March and death draw attention to the nature of the target domain. It is a period when, although the spring bulbs may be beginning to flower in England (oxlip, bluebell), leaves have not yet emerged on deciduous trees and the threat of frost hangs over grain planted the previous autumn. Annual precipitation measurements collected in England and Wales since 1766 indicate that, during the last century of the Little Ice Age, March had a trend towards aridity, which would delay winter grain growth;<sup>122</sup> this trend may have occurred in the medieval era, as well. Many migratory birds such as swallows, swifts or robins have not returned to England in March (they arrive in April and May); their cheerful, busy noise emphasizes the bleak stillness of the landscape into which they arrived. For the subsistence-level society of late medieval Europe, March initiated an annual period of scarcity ritually recognized with the observance of Lent. From the mid-16<sup>th</sup> to mid-19<sup>th</sup> centuries, there was a higher morbidity rate in March than in any other month of the year,<sup>123</sup> and there is no reason to believe that the 14<sup>th</sup> century had a different annual morbidity pattern (except during crisis periods). Another correspondence comes from the medieval English calendar year, where, from the mid-12<sup>th</sup> century until 1752, the celebration of the New Year occurred on Lady Day (March 25).<sup>124</sup> Most of March, then, would be the final month of the old year. Features of the emotional feelings that arise while considering March were conceptualized in the same way as the observation of death: as lonely, fearful, bleak, etc. Several correspondences, natural and cultural, combine to create the metaphor MARCH IS DEATH, which can be presented as follows:

Subjective experience: experiencing the limnality of March  
 Sensori-motor domain: observing death as following old age  
 Primary experience: recognition of the cyclicity of the temperate zone climate  
 Example: “the *dead* time of year”

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<sup>121</sup> Bella Millett, *Winner and Waster – Notes*, Wessex Parallel WebTexts, <http://www.soton.ac.uk/~wpwt/trans/winner/winnn.htm#276> (accessed March 18, 2010).

<sup>122</sup> Monthly precipitation began to be recorded in the UK in 1766, initiated during what is now recognized as the last century of the Little Ice Age. For the 100 years from 1766-1865, March was the driest month of the year 24% of the time, much more than the second and third most arid months, August (15%) and February (12%). The trend may be able to transposed to the onset of the LIA; further research is required. Met Office Hadley Centre, “Observations Datasets: Monthly England & Wales precipitation (mm),” *HadUKP Data*, [http://hadobs.metoffice.com/hadukp/data/monthly/HadEWP\\_monthly\\_qc.txt](http://hadobs.metoffice.com/hadukp/data/monthly/HadEWP_monthly_qc.txt) (accessed April 5, 2010).

<sup>123</sup> Edward Anthony Wrigley, Roger Schofield, R.S. Schofield, *The Population History of England, 1541-1871: a reconstruction* (Cambridge: Cambridge University Press, 1989), 390, Table 9.16.

<sup>124</sup> Harold Adams Innis, *The Bias of Communication*, Canadian University Paperbacks 26, 2<sup>nd</sup> ed. (Toronto: University of Toronto Press, 1991), 71.

The metaphor MARCH IS DEATH is one element in the complex metaphor ONE YEAR IS THE LIFE CYCLE, and is conceptually related to the metaphor SPRING IS A YOUNG MOTHER-TO-BE through the aforementioned metaphor where the human life cycle is mapped on to the seasons of the temperate zone. The metaphorical correspondences between the human life cycle and the temperate zone's four seasons, where spring is associated with childhood, summer with youth, autumn with maturity and winter with old age, leads inevitably to the point of death: the month of March. It is the liminal month, hanging between old age (winter) and re-birth (spring).

This next metaphor was written as part of *Piers Plowman*; the poem exists today in three versions (A, B, and C texts), all of which are generally believed to have been exclusively written by William Langland.<sup>125</sup> The A text, on which this analysis focuses, survives in seventeen MS and one fragment,<sup>126</sup> is dated with some certainty to 1362 and the B and C versions were crafted during the 1380s – after the Peasants' Rebellion of 1381. With its direct criticism of clerical, judicial and venal corruption and explicit rendition of the true Christian life, the A text is considered to be more oriented towards social justice and rectification than the more spiritually oriented B and C texts.<sup>127</sup> Some correspondence between the ideological voice of the Rebellion, John Ball, and his followers indicates that the radical priest was certainly aware of *Piers Plowman* and availed himself of the poem's popularity to assemble and inspire his followers.<sup>128</sup> Despite the theme of social justice in the poem, however, it is noteworthy that this poem, like *Wynnere and Wastoure*, fails to directly address the epidemic that occurred 14 years before its composition, but instead refers obliquely and disparagingly to the higher wage demands of the peasants in the ensuing labour shortage.<sup>129</sup>

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<sup>125</sup> The wide differences between the A, B, and C texts led some to speculate that several distinct authors contributed to the poem. However, recent scholarship now recognizes the probability that Langland himself wrote all three texts, at different times of his life. T.P. Dunning, *Piers Plowman: An Interpretation of the A Text*, 2<sup>nd</sup> ed; rev. And ed. T.P. Dolan (Oxford: Clarendon Press, 1980), v.

<sup>126</sup> William Langland, *Piers Plowman: The A Version: Will's Visions of Piers Plowman and Do-Well*, rev. ed, ed. George Kane (1960; London: The Athlone Press, 1988; Berkeley: The University of California Press, 1988), 1-18. Citations are to the University of California edition.

<sup>127</sup> William Langland, *Piers Plowman: The A-Text: an alliterative verse translation*, trans. Francis Dolores Covella (Binghamton: Medieval & Renaissance Texts & Studies, 1992), 1.

<sup>128</sup> Ibid., 35.

<sup>129</sup> Ibid., 20.

The work actually consists of distinct two poems, the *Visio* and the *Vita*;<sup>130</sup> both are allegorical constructions taking the shape of dreams, where the dreamer meets ‘people’ who are mostly allegories of human virtues and vices. The construction allows the author to criticize and praise English social behaviour in great detail. The Prologue and eight *Passus* (steps, paces) of the *Visio* also break down into two parts, the first being the King’s assessment and judgement of Lady Meed (reward/bribery) and the second featuring the titular character of Piers Plowman himself, the poem’s integral exemplar of human virtue, who demonstrates the author’s view of righteousness. According to Dunning another example of a debate poem,<sup>131</sup> the *Vita* is a smaller poem consisting of a Prologue and two *Passi*, in which we read about a quest by the Dreamer to find the good life; he does this by consulting with Thought, Wit, Study, Clergy (learning) and Scripture. From lines 26-30, while the Dreamer questions Wit about the features of the landscape, the author constructs a self-conscious metaphor for Nature, explicitly providing the source domain:

‘What calle 3e þat castel,’ quaþ I, ‘þat kynde haþ ymakid?  
 [And what [kenis] þing is kynde, conne 3e me telle]?’  
 ‘Kynde,’ quaþ he, ‘is creator of alle kenis bestis,  
 Fadir & fourmour, þe ferste of alle þing.  
 And þat is þe grete god þat gynnyng had nevere,  
 þe lord of lif & of li[3t], of lisse & of shap.’<sup>132</sup>

“What’s the name of that castle,” said I, “which Nature has made?  
 And what precisely is Nature; can you please tell me that?”  
 “Nature,” said he, “is creator of all kinds of beasts,  
 Father and former, the first cause of all,  
 Who is the great God without a beginning,  
 Lord of life and of light, of bliss and of pain.”<sup>133</sup>

<sup>130</sup> Dunning, *Piers Plowman: An Interpretation of the A Text*, 130.

<sup>131</sup> *Ibid.*, 132.

<sup>132</sup> Langland, *Piers Plowman: The A Version: Will’s Visions of Piers Plowman and Do-Well*, 378.

<sup>133</sup> Langland, *Piers Plowman: The A-Text*, 92.

Langland's assistance in rendering this metaphor explicit fails to diminish its value as a metaphor for either *Piers Plowman* or this analysis. Without a doubt, then, the target domain is Nature and the source domain is God. The mappings common to Nature and God are those of life itself: in Nature, the observation of its presence subjectively and objectively, and the apparent mastery over the state of death shown in the spring and in the births of young animals, and, by God, mastery over the same state in both the on-going creation of new life and in the resurrection of Christ. The features of the emotional feelings of observing the environment return to life after winter and in observing the birth of new creatures are the same as those evoked by considering the nature of life and how one comes to possess it (awe, mystery, joy, gratitude, etc). The target domain, source domain and correspondences between the two, as well as the author's informative support, lead to an understanding that the metaphor being employed in this section of *Piers Plowman* is NATURE IS GOD; it may be presented as follows:

Subjective experience: Subjective experience itself  
 Sensori-motor domain: sensuous experience  
 Primary experience: An awareness of one's own existence  
 Example: "the *miracle* of life"

The metaphor NATURE IS GOD is not an element of the complex metaphor MOTHER NATURE. By establishing the target domain as an independent and integral entity, there is a remote relationship, as NATURE IS A PERSON in both instances, but the source domain is markedly different. The conceptual associations between a mother and God are many and diverse (both mysteriously give life, exert authority, etc), and many theologians<sup>134</sup> argue for a renewed relationship between the two.<sup>135</sup> Nevertheless, the characteristics of divinity and justice, to mention two such, ascribed to God render Him very different from a mother, whose characteristics incorporate attributes of nurturing and caring to a much higher degree.

NATURE IS GOD can be seen as an unexpectedly bold assertion by Langland, particularly in the religious context of the 14<sup>th</sup> century, and commentators such as Edgar Knowlton recognize how Langland's 'kynde' stands apart from all other medieval Nature figures.<sup>136</sup> Putting

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<sup>134</sup> Common term used for those who study the Goddess.

<sup>135</sup> There is a wide body of academic and popular literature from the Goddess community, and I hesitate to nominate any particular authors as exemplary.

<sup>136</sup> E.C. Knowlton, "Nature in Middle English," *Journal of English and Germanic Philology* 20, no. 2 (1921), 198.

accusations of pagan inclinations aside, Knowlton finds the identification to be connected with theological powers and “the appropriate domain of the soul.”<sup>137</sup> Hugh White, however, in his 1988 book *Nature and Salvation in Piers Plowman*, posits that Langland’s identification of God as Nature arises from two kinds of thinking: juristic formulations which defined God as Nature<sup>138</sup> and the Chartrian tradition of personification allegory. Langland’s collapse of God and Nature into a single figure, suggests White, collapses the distinctions between God and the environment, and by rendering theodicy a rather urgent question, also points to the appropriate human response to the harshnesses of life: kindness.<sup>139</sup> The presence of MOTHER NATURE as a figure mediating between God and human beings is completely absent in this metaphor.

In comparison with the relative plethora of versions and manuscripts through which *Piers Plowman* comes to the attention of modern scholarship, the following metaphor exists in a sole surviving manuscript in the British Library.<sup>140</sup> It comes from the poem known as *Sir Gawain and the Green Knight*; stylistic and temperamental affinities between this poem, *Pearl*, *Purity*, and *Patience* lead to the acceptance of a common author who remains, nevertheless, anonymous. The MS is dated to 1400; the poem’s composition is thought to have been during the reign of King Richard II (1377-1399). The language, metre and landscape locate the author in the West Midlands of England.<sup>141</sup>

A classic (though inverted) Arthurian romance, the poem features the chivalry, valour and honour of King Arthur’s nephew, Sir Gawain, who is the only member of the royal court to accept a challenge offered by an otherworldly Green Knight (his skin is green, his hair and clothing are all green) on New Year’s Day. The Green Knight offers his neck to Sir Gawain’s axe, on the condition that the king’s nephew will offer his own for the same blow at the

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<sup>137</sup> Ibid.

<sup>138</sup> That is, where God is represented not simply as promulgating the law according to which the natural realm functions, but as actually being that law (White draws from the analysis of Tierney). Hugh White, *Nature and Salvation in Piers Plowman* (Woodbridge: D.S. Brewer, 1988), 64; Brian Tierney, “*Natura, id est Deus: A Case of Juristic Pantheism?*” *Journal of the History of Ideas* 24 (1963), 307-22.

<sup>139</sup> To synthesize White’s argument, he claims that Langland’s identification of Nature as God renders environmental disasters such as the Great Famine or the Black Death into opportunities sent by God for human beings to exhibit compassion to others. White, *Nature and Salvation in Piers Plowman*, 65-84.

<sup>140</sup> The MS is catalogued as MS Cotton Nero A. x.

<sup>141</sup> W.S. Merwin, trans., *Sir Gawain and the Green Knight* (Tarset: Bloodaxe Books, 2003), vii-viii; J.R.R. Tolkien, trans., *Sir Gawain and the Green Knight, Pearl and Sir Orfeo* (London: George Allen & Unwin Ltd, 1975), 13; Keith Harrison, trans., *Sir Gawain and the Green Knight*, introduced by Helen Cooper (Oxford and New York: Oxford University Press, 1998), ix-x.

following New Year; Gawain cuts off the Green Knight's head, the head is picked up by the living body and the challenge reiterated. The work of the poem is to show Sir Gawain's struggle to bring himself to fulfill his vow: the outward difficulty in finding the Green Chapel (where he is supposed to meet the Green Knight) and the inward difficulty in maintaining his knightly vows of chastity, respect and honour. The following metaphor is located shortly after the departure of the Green Knight from Arthur's court, during the stanzas when the author is describing the swift passage of the year:

Bot Þenne Þe weder of Þe worlde with winter hit Þrepe3,  
Colde clenge3 adoun, cloude3 vplyften,  
Schyre schede3 Þe rayn in schowre3 ful warme,  
Falle3 upon fayre flat, flowre3 Þere schewen...<sup>142</sup>

But then the weather of the world makes war on the winter,  
Cold creeps into the earth, clouds are uplifted,  
Shining rain is shed in showers that all warm  
Fall on the fair turf, flowers there open...<sup>143</sup>

The target domain of the metaphor found in the first line is the spring weather; the source domain is a warrior, which we know because the person who makes war is a warrior (whatever else he/she may be). The mappings between the two domains come from observing the unstoppable coercion exercised by the advent of spring on the environment (such as the sudden melting of ice and ensuing floods) and the (idealized) unstoppable military coercion of a warrior. Some features of the emotional feelings of witnessing the impact of spring are thought about in the same way as those witnessing the onslaught of a warrior (as exciting, awe-inspiring, irresistible, etc). The target and source domains, together with the mappings, reveal that the metaphor active in these lines of *Sir Gawain and the Green Knight* is SPRING IS A WARRIOR. It may be displayed as follows:

Subjective judgement: The experience of being coerced

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<sup>142</sup> Sir Israel Gollanz, ed., *Sir Gawain and the Green Knight* (Oxford, London, New York and Toronto: Oxford University Press, 1964), 19, line 504.

<sup>143</sup> Tolkien, *Sir Gawain and the Green Knight, Pearl and Sir Orfeo*, 37.

Sensori-motor domain: The exertion of force  
Primary experience: As a child, being moved involuntarily  
Example: “Winter gave way to the *onset* of spring.”

Just as MOTHER NATURE is a complex metaphorical personification, so is the metaphor SPRING IS A WARRIOR (personifications tend to be complex metaphors, as persons are complex beings with many conceptual elements available for metaphorical access). A warrior has distinctly different characteristics than a mother: for example, the former relies on aggression for success in achieving the goal, while the latter relies on nurturing; a death-dealing warrior is about as conceptually distant from a life-giving mother as it is possible to go. SPRING IS A WARRIOR, moreover, lacks the same cultural depth or longevity as MOTHER NATURE,<sup>144</sup> although the metaphor AIR IS A BLADE from William Merle’s weather journal (examined earlier) is conceptually associated with it.

Our last metaphor comes from a political poem called *The Libelle of Englyshe Polycye* (The Little Book of English Policy); it is an exhortation to the English crown to secure command of the sea (particularly the ‘narowe see,’ as the Straits of Dover were then known), as this would give the nation great political and economic advantage. Internal references to military events date its composition with relative confidence to 1436; authorship is attributed to Adam Moleyns/Molyneux, then Clerk of the Privy Council, although that identification fails to find confirmation elsewhere. The MS survives in two forms (one pre-dating the death of the Emperor Sigismund and one post-dating that event); this text is based on the earlier version, which itself is found in four manuscripts. Specifically, it is primarily based on the Laud MS. 704 in the Bodleian Library, Oxford (the other three are only partial MS).<sup>145</sup>

The persuasive argument of *The Libelle of Englyshe Polycye* takes the form of an articulation of the value of foreign trade to the English nation, all of which are only accessible by sea, and how foreign nations and pirates diminish possible profits by attacking English vessels. The author also points out how mastery of such valuable places as Ireland, Calais and Wales adds consequence and wealth to England, and the benefits of a monopoly over Icelandic deep water fishing. Towards the end of the poem, after portraying all the material and military benefits that

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<sup>144</sup> More research is needed to determine if the metaphor has any cultural presence at all prior to this period.

<sup>145</sup> Sir George Warner, ed., *The Libelle of Englyshe Polycye: A Poem on the Use of Sea-Power, 1436* (Oxford: Clarendon Press, 1926), vii-xi.

would accrue from England's control of the surrounding sea, the author self-consciously draws a metaphor portraying the water as a wall around the country( from lines 1092-1097, out of a total 1164):

Kepe than the see about in speciall,	Keep then the sea around especially
Which of England is the rounde wall,	Which, for England, is the wall around
As thoughe England were lykened to a cite	As though England were like a city
And the wall environ were the see.	And the wall round about were the sea.
Kepe than the see, that is the wall of Englund,	Keep then the sea, that is the wall of England,
And than is Englund kepte by Goddes sonde;	And then England is kept by God's grace; <sup>146</sup>

As in the explicit construction of a metaphor by William Langland in *Piers Plowman*, this author's equally explicit construction here fails to disqualify the metaphor's validity for either *The Libelle of Englyshe Polycye* or this analysis. The target domain is the sea around the island of Britain and the source domain is a fortified city wall; mappings between the surrounding sea and a wall come from an awareness of the nature of an island (that it is completely surrounded by water) and the intentionally surrounding aspects of fortified city walls. The features associated with city walls (that they serve to control access, that they are defensive, that they must be maintained, etc) are thought about in the same way as the features associated with the ocean around an island. Features of the emotional solidarity assumed of people within city walls are thought about in the same way as the economic and political solidarity of people in the English nation (as desirable, reliable, necessary, etc). The target domain, source domain and mappings (as well as the author's helpfulness) indicate that the primary metaphor of these lines is THE ENGLISH CHANNEL IS A SHIELD. The metaphor may be presented as follows:

Subjective judgement: Self-defense  
 Sensori-motor domain: Physical violence  
 Primary experience: Protecting oneself from violent attack with a shield  
 Example: "The Channel *protected* the English from the Nazi invasion."

Due to its military associations, THE ENGLISH CHANNEL IS A SHIELD is conceptually related to both AIR IS A BLADE and SPRING IS A WARRIOR, as being one of the tools of

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<sup>146</sup> Ibid., 55.

and contributes to a hitherto unknown complex personification, NATURE IS A WARRIOR. Without extensive research into late medieval and early modern English material, it is impossible to make assertions about the prevalence of the metaphor, but its presence indicates a dramatically different representation of nature from that of the early 13<sup>th</sup> century, where the trope MOTHER NATURE was common. Further consideration of these metaphors will help shape a concluding summary of what has been found in this exploration of late medieval English metaphors.

## Conclusion

This study has examined ten metaphors (primary and complex) for aspects of the natural world selected from English works written from the early 13<sup>th</sup> century to the early 15<sup>th</sup>, approximately 200 years during which climatic factors played an increasingly central role in social stability and the lack thereof. Assembling the ten metaphors in a generally chronological order according to the earliest date that they are known, they are as follows:

SPRING IS A YOUNG MOTHER-TO-BE (ONE YEAR IS A LIFE CYCLE)	(approx 1220 CE)
FLOWERS ARE FACES (MOTHER NATURE)	(after 1272 CE)
A STORM IS AN UNKIND PERSON	(1322-1340 CE)
AIR IS A BLADE	(1342 CE)
MARCH IS DEATH	(1352 – 1370s CE)
NATURE IS GOD	(1362 CE)
SPRING IS A WARRIOR	(1377-1399 CE)
THE ENGLISH CHANNEL IS A SHIELD	(1436 CE)

These are only a minute fraction of the metaphors that were written between 1216 and 1436, which renders the conclusions weaker than might be desired. However, this initial exploration does indicate some startling possibilities with respect to the relationship of culture and the environment.

The first observation, not unexpected, notes the anthropomorphic tendencies in human culture which are obvious in this sample, where the personification of some aspect of the natural world is prevalent; the other most frequent commonality found in the sample is the military nature of the source domain, an exclusively human activity. The kind of person who is accessed in the sequence of metaphors changes dramatically from Mother Nature to a gender unspecified warrior. To qualify this slightly, though, it must be noted that those who made war in medieval Europe were usually male and the metaphor NATURE IS GOD evokes the male gender (as God is generally referred to with a male pronoun). Therefore, it is possible to remake the preceding statement as “The kind of person who is accessed in the sequence of metaphors, however, changes dramatically from Mother Nature to a powerful male warrior.”

In the context of Marina Fischer-Kowalski and Helga Weisz’ theory of socioeconomic metabolism, changes in cultural representations of nature could occur in response to changes in the human biophysical experience of the natural world (see Figure 3). The direction and nature of specific changes are indeterminate, since culture is, like nature, an autonomous system. Following several centuries of relative climatic stability, the 14<sup>th</sup> century climate is characterized as unstable, with wetter than usual summers, colder than usual winters, temperature fluctuations, heavy rains, storm surges and flooding, interspersed with periods of ideal growing conditions. The human experience of that climate included the most severe famine of English history and the Black Death, possibly the single most devastating event in European history. To conclude that the collective human biophysical experience of the environment changed during the 14<sup>th</sup> century from a secure position, characterized by an average growth in population, to an insecure one, with a marked drop in population, is unavoidable.

The construction, apprehension and use of conceptual metaphors pinpoints the material, personal, physical human experience as core to the development of the primary tool used by humans for abstract reasoning and the articulation of subjective experience. Metaphors provide the organizing principles of culture, and cultures are never static, showing instead a constant but slow adaptation to changing conditions, both tangible and intangible. The steady, progressive alteration of the personification of nature from SPRING IS A YOUNG MOTHER-TO-BE to SPRING IS A WARRIOR represents, in metaphor, the late medieval English experience of an environment as increasingly hostile. It is a remarkable transformation of cultural representation,

taking place over a single century. Since metaphors allow us to conceptualize and reason about abstract concepts (such as 'nature'), would this transformation necessarily thrust humans into an adversarial relationship with the natural world? An understanding of the implications of the personification's transformation from mother to warrior for subsequent behaviour within the English culture also demands more research. Nevertheless, that the impact of climate change was integrated into the collective recursive discourse of late medieval England is indicated by the changing metaphors used for the natural world.

Fischer-Kowalski and Weisz' model demands the recognition that the natural world is a causative factor in human social and cultural systems. That this study through two centuries of late medieval English literary culture has found indications for the accuracy of the model is demonstrated by the transformation of the cultural representation of the personification of nature from nurturing to aggressive. It becomes possible, once more, to consider how the human beings are affected by the natural world, without falling into the discourse of environmental determinism.

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