Opposites and Explanations in Heraclitus

OPPOSITES AND EXPLANATIONS IN HERACLITUS

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LAY ABSTRACT:

In this dissertation I offer a new interpretation of an ancient Greek philosopher named Heraclitus who stands at the beginning of the timeline of Western philosophy (around 500BC). It has often been thought that Heraclitus had something interesting to say about opposites (e.g. hot and cold, up and down). Most scholars think that Heraclitus intended to say that opposites are connected; that is, hot is connected to cold since we cannot think of hot without its opposite, cold. I argue in this dissertation that this interpretation and other, alternative interpretations, fail to make good sense of what Heraclitus said about opposites. Rather, I argue that Heraclitus was treating opposites (e.g. hot and cold, up and down) as philosophical problems that need to be explained in order to be solved.

ABSTRACT:

My dissertation advances a solution to what I have called the problem of opposites in Heraclitus. The problem is this: Heraclitus often juxtaposes pairs of opposites, but the opposites he cites seem to be of many different kinds. How are we to explain this feature of the fragments? The default method of solution for interpreters has been to find a single thesis under which to subsume all the divergent examples of opposites. Some such theses are as follows: opposites are identical (Aristotle, Barnes), opposites are essentially connected (Kirk), opposites are transformationally equivalent (Graham), identical things can have opposite significances in different situations (Osborne). The main problem all these solutions face is that each is only able to make sense of some of the examples of opposition in Heraclitus, while ignoring or downplaying the significance of others. In order to solve this problem, I offer an interpretation on which Heraclitus was advancing multiple opposites theses, each of which contains interesting, philosophical content. The theses are as follows: The Transformation Thesis: *the world contains opposing stuffs which transform into one another in such a way that they are transformationally equivalent, and therefore unified.* The Dependence Thesis: *objects are ontologically dependent for their* existence *(i.e.* that *they exist) and their* identity *(i.e. their 'nature' or φύσις) on opposing, yet essential properties which are necessarily inherent in them*. The Value Thesis: *it is possible for one and the same object to have opposing values* (*i.e. to be both objectively good and objectively bad*). But why would Heraclitus promote multiple opposites theses? On my interpretation Heraclitus was responding to his Ionian predecessors who treated opposites as explanatory principles. Heraclitus seems to be saying that opposites are not explanatory principles since opposites themselves need to be explained. Hence the opposites are *explananda,* for Heraclitus, and the three theses are his *explanantia.*

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Introduction

I. Preface

To my knowledge, no one has yet engaged in a systematic study solely dedicated to the matter of opposition in Heraclitus. This is quite surprising for several reasons. The first reason is that it is evident from the most cursory reading of the extant fragments that Heraclitus is very interested in opposites. Consider, for example, the fact that there are around 33 pairs of opposites presented in the 130 or so extant fragments of Heraclitus.[1] The second reason is that Heraclitus was notorious in the ancient tradition for having claimed that opposites are *identical*.[2] While this extreme view has, in my opinion, been disproven as an Aristotelian misinterpretation of what we know Heraclitus to have said, the issue of what Heraclitus *really* said about opposites has remained a central problem for commentators up to the present day. In fact, it could reasonably be argued that this is one of the most discussed areas of Heraclitus' philosophy, second only to the alleged *flux thesis*. However, these discussions are generally embedded in a larger discussion concerning the overall nature of Heraclitus' philosophy. A systematic study solely dedicated to the problem of opposites in Heraclitus, such as this dissertation, would therefore fill a clear gap in the existing literature on Heraclitus.

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[1] Marcovich, M. "Table of Opposites in Heraclitus' Doctrine on the Logos," in *Heraclitus: A Greek Text with a Short Commentary.*

[2] Aristotle *Eudemian Ethics* 1235a25-8, *Topics* 159b30-2.

There has not been much consensus concerning how best to interpret Heraclitus' theory of opposites. It is, perhaps, true that the most popular interpretation is that of G. S. Kirk who claimed that Heraclitus intended to promote the *essential connection of opposites* thesis. Despite the popularity of Kirk's interpretation, several new and widely divergent interpretations have been put forth in the scholarship. These range from Daniel Graham's "*there is a Transformational Equivalence between opposing stuffs"* to Catherine Osborne's "*identical things can have opposing significances in different contexts.*" While divergent interpretations are to be expected when the philosophical work in question only remains in fragmented form, I believe that in this case the interpretations are too divergent to let the divergence go unexplained. One possible explanation is that Heraclitus was simply an obscure writer, whose writings therefore admit of many different interpretations. This seems to be the assessment of Jonathan Barnes, who states that "Heraclitus attracts exegetes as an empty jampot wasps; and each new wasp discerns traces of his own favourite flavour."[3]Among other things, the worry for Barnes seems to be that Heraclitus' ambiguity is responsible for the existence of so many interpretations. While I think that Heraclitus' ambiguity may be partially responsible for the existence of many interpretations, I believe that there is a more important reason for the diversity of the interpretations regarding Heraclitus' theory of opposites. This factor, as I fully explain in the next section, is the mistaken assumption that Heraclitus intended his readers to extract a single, formulaic thesis for making sense

[3] Barnes, J. *The Presocratic Philosophers* p. 57.

of all the various examples of pairs of opposites evident in the fragments. In this dissertation I develop and defend a new interpretation of Heraclitus' thought concerning opposites that (i) better explains *all* the fragments concerned with opposites and (ii) is capable of preserving some of the key insights of the more recent interpretations of Heraclitus' use of opposites.

Following Barnes' bleak assessment, one could object to this sort of project by saying that it is impossible to make any *real* progress in understanding Heraclitus' thought because the condition of his writings presents too many interpretive difficulties for the historian of Greek philosophy. To be sure, as historians of early Greek philosophy we tread on very thin ice. The situation is acute in the case of Heraclitus; consider the following: (i) his thought only exists in fragments preserved by later thinkers, (ii) there are widely divergent interpretations evident already in the early *testimonia*, and (iii) his style of writing is extremely dense and enigmatic. These are significant problems to overcome; however, they should not deter us from attempting to reconstruct a plausible account of the views of one of the key thinkers to whom the birth of philosophy is attributed. Rather, the existence of these problems simply means that we must, with regards to (i), engage in detailed analysis of each and every fragment, while at the same time attempting to reconstruct a plausible account of the thought pattern that appears in the fragments themselves. With regard to (ii), we must be aware, yet skeptical, of the

testimonia. Finally, with regard to (iii) we must consider his literary style as informative of the philosophical content rather than just a burden to bear.[4]

Some have claimed that we should give more attention to the context in which the fragments are preserved, and less attention to the fragments extracted from and devoid of any preservative context.[5] However, in my view, while it is important and informative to be aware of the source of the fragments, it is more important, insofar as we are studying the original philosopher and not the source of his writings, to look at the extracted fragments alongside one another when they can be discerned. When we do this we become more aware of the *resonance* between certain fragments and the *linguistic density* of meaning evident in individual fragments.[6] In the words of Daniel Graham, "some gifted archaeologists might prefer to see the potsherds in their original matrix, but most students would find it much more helpful to see them reconstructed into a pot."[7] While the analogy may not be perfect (there are many ways in which the preservation of writings and potsherds are not alike), it does, I think, illustrate the ultimate object of the

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[4] Kahn (1979), for example, has emphasized the literary nature of Heraclitus' writings. I too believe that being aware of stylistic patterns can often, in Heraclitus' case, be informative for interpreters.

[5] See Osborne, C. *Rethinking Early Greek Philosophy: Hippolytus of Rome and the Presocratics* (Ithaca: Cornell University Press, 1987).

[6] I borrow the terms *resonance* and *linguistic density* from Charles Kahn: "by *linguistic density* I mean the phenomenon by which a multiplicity of ideas are expressed in a single word or phrase. By *resonance* I mean a relationship between fragments by which a single verbal theme or image is echoed from one text to another in such a way that the meaning of each is enriched when they are understood together" (Kahn 1979, p. 89). I believe we lose sight of these two principles when we focus on the fragments in the preservative matrix. When we are safely able to extract them from the preservative context, we are more aware of these two principles.

[7] Graham, D. *The Texts of Early Greek Philosophy.* p. 7.

historian of early Greek philosophy. That is, we want to focus on Heraclitus himself, not what others have said about him (although this is a worthy subject of study in its own right).

Focusing on the fragments themselves forces us to pay close attention to the individual words of the fragments. Thus, much of the work involved in reconstructing a plausible account will be based on philological excavation of the use of certain key terms. We can learn more about Heraclitus' key terms by looking at the works of other authors whom we know to have been active around the same time as Heraclitus or earlier, especially those whom we know Heraclitus read. For example, we know he read Homer, Hesiod, Xenophanes and others; it is reasonable to regard the writing of these authors as representative of the linguistic milieu in which Heraclitus was operating. Knowing how key terms are used in the earlier authors may help to develop plausible translations of difficult-to-translate terms in the fragments of Heraclitus. The main trap to avoid, philologically, is *anachronism*; we cannot ascribe meanings to the terms of Heraclitus if the meanings are later linguistic developments.

II. The Problem of Opposites

There exists what I call the "problem of opposites" in Heraclitus. This is, of course, a problem for the interpreter of Heraclitus rather than for Heraclitus himself. As I see it the problem of opposites is this: the examples of opposites in Heraclitus' fragments are so varied that it *seems* as though each instance could contain a distinct, philosophically interesting point. The problem, then, is this: how can we best account for

the role of opposites in Heraclitus' fragments if each instance seems to convey a new and interesting philosophical point? As far as I can tell, every solution in the secondary literature has assumed that all instances of opposites in Heraclitus can be accounted for by a single thesis. More specifically, the default method for interpreting Heraclitus' use of opposites has been to attempt to find a single, general formulation under which every single instance of unity and opposition can be subsumed. The issue with the "single thesis" approach is that none of the available interpretations is able to sufficiently account for the *variety* of opposites present in the extant fragments of Heraclitus (I mention how each of the interpretations fails below). I believe that this is a methodological error; it is based on the assumption that Heraclitus intended to advance exactly one, general philosophical thesis with his multifarious examples of oppositional pairs. Whereas this may be a reasonable assumption to make when beginning to develop an interpretation, it gives rise to a method that, when applied to the writings of Heraclitus, is incapable of solving the problem of opposites. As stated above, the problem of opposites is that the instances of opposites are so varied that it *seems* as though each instance could contain a distinct, philosophically interesting point. For example, the pairs of opposites range from "the road up and down is one and the same (B60)"[8] and "sea is purest and most polluted water: for fish drinkable and healthy, for men undrinkable and harmful (B61)" to "He calls [fire] 'need and satiety'B65)." These three examples are just a taste of the variety of

[8] All fragments in this dissertation are translations by Daniel Graham from his recent edition *The Texts of Early Greek Philosophy* (2010); however, I make minor variations throughout.

examples contained in the fragments. My criticism of the single thesis approach is that any single thesis that seeks to account for this variety will be conceptually loose, banal or incapable of plausibly accounting for *all* the instances of opposites in Heraclitus.

I shall now attempt to demonstrate how some of the most prominent and influential interpreters have failed to account for this variety, and how this failure impacts their interpretations. The boldest and oldest interpretation of Heraclitus' alleged doctrine of opposites is known as the "identity of opposites" thesis. This interpretation is first found in Aristotle,[9] but has also attracted some recent supporters.[10] According to this view, Heraclitus argued that opposites are really identical ("one and the same"). The problem, of course, is that this would constitute a transgression of the law of non-contradiction. Proponents of this view tend to explain the obviously contradictory nature of Heraclitus' alleged view by claiming that he did not have the logical equipment relevant to see his error.[11] There are two problems with this view: (i) the formulation of "identity of opposites" does not seem to fit the fragments themselves and (ii) it is needlessly uncharitable to Heraclitus. In the words of Roman Dilcher, "if we look round, no blatant contradiction is readily forthcoming. In no place could Heraclitus successfully

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[9] See Aristotle *Eudemian Ethics* 1235a25-8, *Topics* 159b30-2, *Physics* 185b19-25, *Metaphysics* 1012a33ff., 1012a24-6.

[10] E.g. Jonathan Barnes (1979), Emlyn-Jones (1976), and Popper (1968).

[11] E.g. Barnes, "now [the] logical notion of contrariety was certainly not available to Heraclitus... [W]ith such resources, Heraclitus might well have failed to see the necessary falsity of his position" (Barnes, 80).

be convicted of a plain logical blunder."[12] In fact, the only fragment which seems to speak of "identity" and "opposites" is B60: "A road up and down is one (μία) and the same (ὠυτή)." Clearly there is no logical blunder evident in this fragment. The reason the identity of opposites fails as an interpretation, I think, is that it takes this clear formulation of identity and mistakenly reads the formula "μία καὶ ὠυτή" onto every other pair of opposites. When one lets the fragments say what they say, it will become clear that this formulation is not meant to be read onto every oppositional pair. In sum, as an interpretation of Heraclitus, the identity of opposites is unnecessarily uncharitable and cannot even make good sense of most of the fragments containing oppositional pairs.

The mainstream alternative to the identity of opposites thesis is the essential connection thesis. This interpretation is most closely associated with G.S. Kirk, who initiated it in his 1954 book *Heraclitus: The Cosmic Fragments.* According to this interpretation, Heraclitus cited many pairs of opposites in his fragments, which he showed to be connected because he was advancing the single thesis that *all opposites are essentially connected*.[13] This view seems to be a reaction against the identity of opposites interpretation; rather than referring to the alleged doctrine as the "identity of opposites," advocates of the essential connection interpretation tend to refer to it as the "unity of opposites," which better captures the idea of there being a "connection" between the opposites. The appeal of Kirk's work is that he emphasizes the variety of opposites while

[12] Dilcher (1995), 105

[13] Kirk states, for example, that, "all things are connected by an underlying unity" (Kirk 1954, p. 69).

also providing a single thesis to make sense of this variety. He categorizes the opposites into four groups: the *same* thing has *opposite* effects on different observers (p. 73); *opposing* attributes exist in the *same* subject (p.87); *opposites* are extreme poles on the *same* conceptual nexus and thereby cannot exist without one another (p. 123); and *opposites* are extreme poles of the *same* process (p. 134).[14] So, whereas there are these four categories, they all support the same basic claim that opposites are essentially connected.

The basic problem with this interpretation is that it spreads itself too thin. The single thesis under which every instance of opposition has to be subsumed becomes so broad in order to take everything into account that it approaches meaninglessness, and thereby does not do justice to the full meanings of the individual fragments. In particular, there are two key issues with Kirk's interpretation: (i) the thesis that opposites are connected is conceptually loose, and (ii) committing himself to this thesis forces him to offer poor interpretations of many of the particular fragments. With respect to (i), Kirk's formulation of the unity of opposites doctrine is loose precisely because "connection" is used as a catch-all term to denote any sort of relation between opposites; thus "connection" is too vague a term to be useful for any meaningful explanation of the unity of opposites doctrine. With reference to each pair of opposites, the term "connection" seems to mean something different. Furthermore, with respect to (ii), I contend that even

[14] This categorization also appears in Kirk, G.S., J.E. Raven and M.Schofield, *The Presocratic Philosophers* (2nd Ed.) (Cambridge: Cambridge University Press, 1983). pp 188-189.

Kirk's very general "essential connection of opposites" thesis is not able to make good sense of *all of* the various types of opposites evident in the fragments. For example, fragment B13 states that "asses would choose rubbish over gold." On Kirk's interpretation, Heraclitus' point here was that pleasant things and non-pleasant things are not essentially distinct, and therefore connected.[15] However, this seems to be a very forced interpretation. The subject of the fragment is asses, not the opposites. A more natural interpretation would be that Heraclitus is making a claim about the nature of perspective, observation and value, rather than about the nature of the opposites observed. This second problem is, I think, the most devastating issue Kirk's interpretation faces, since his reading reduces all of the fragments containing opposites to banal re-iterations of Kirk's thesis that "everything is connected."

While most scholars have followed Kirk's *essential connection* thesis,[16] a few alternative interpretations have been set forth. One such alternative is what I will call the *meaning-laden context* interpretation. According to this interpretation, what we take to be identities and opposites are indexed to and explained by contexts. Catharine Osborne, who is the main proponent of this view, argues that Heraclitus' alleged "unity of opposites" doctrine is the view that concepts such as "[i]dentity, similarity, difference, opposition" are "all determined by the significance acquired in context."[17] She states that

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[15] Kirk, 80.

[16] See Marcovich (1967, pp. 158-9), Stokes (1971, p. 97), Mourelatos (1973, pp. 33, 35), Kahn (1979, p. 192), and Mackenzie (1988, pp. 7-8).

[17] Osborne, 102.

according to Heraclitus, "what counts as the same and what counts as opposed is decided by a significance acquired in a social or temporal context, and is not determined absolutely by a fixed or material constitution in the entities we observe."[18] The main issue with this interpretation is the same as the second issue with Kirk's: it is unable to make good sense of some of the most important examples of opposition in the extant fragments of Heraclitus. Most importantly, it downplays the importance Heraclitus seems to ascribe to natural philosophy, especially with respect to the employment of opposites in his explanation of physical change evident in the cosmos.

Another alternative solution to the problem of opposites is the *transformational equivalence* thesis. In support of this interpretation, Daniel Graham has argued that Heraclitus' "unity of opposites" doctrine is simply that there is a formula of equivalence between opposing "stuffs," which grounds a system of transformation between the "stuffs." He says,

> [o]pposites are the same just in the sense that opposite *things* or *stuffs* turn into one another... They are, moreover, quantitatively equivalent in the sense described, by bearing a determinate ratio to one another. To say that opposites are the same is simply to say that they are transformationally equivalent.[19]

While Graham's theory works well to explain Heraclitus' natural philosophy of elemental change, he is mistaken to think that this system of transformational equivalence is the *only* thesis Heraclitus advanced concerning opposition. There are numerous examples in

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[18] Osborne, 88.

[19] Graham, D. *Explaining the Cosmos: The Ionian Tradition of Scientific Philosophy* (Princeton: Princeton University Press. 2006.)

the extant fragments of opposites which are said to be united but that have nothing to do with transformation. For example, consider the following fragments:

B60. A road up and down is one and the same

B103a. The beginning and end on a circle are common.

Both of these fragments contain opposites which are said to be "the same" or "common." Neither of these fragments contains transformation of any kind. Therefore, these fragments cannot, on Graham's interpretation, be considered part of Heraclitus' alleged "unity of opposites" thesis. Yet fragments B60 and B124 speak more directly of unity and opposition than the fragments used to support Graham's thesis (B36 and B76). Graham's error does not lie in the fact that he forces a false thesis onto the text of Heraclitus. Rather, the problem is that his thesis does not account for some of the most standard examples of opposition in Heraclitus. So, Graham's "transformational equivalence" thesis cannot exhaust what Heraclitus meant by invoking so many pairs of opposites in the extant fragments.

Roman Dilcher's interpretation seems to stand apart from those I have discussed so far in that it does not attempt to abstract one, formalized thesis: a single "unity of opposites doctrine." However, Dilcher's positive view is extremely ambiguous. As far as I can tell, he seems to understand the examples of pairs of opposites as illustrating the ambivalent structure of the *kosmos*. By analyzing the opposites into a structure of "opposites" and "unity," we inaccurately represent the way in which the world exists. Thus, according to Dilcher, Heraclitus employed the paradoxical pairs of opposites in

order to stimulate his readers' thoughts into a state of ambivalent tension and continuous movement from one oppositional pole to the other, which is a mirror of the way in which the world exists. While this is one possible way of reading of Heraclitus, it ascribes a kind of vague mysticism to Heraclitus, which I do not think is necessary in order to make sense of the fragments. One reason not to accept this type of reading is that Heraclitus clearly employed pairs of opposites in elucidating a theory of elemental transformation which does not cloud our understanding of the *kosmos,* but actually *clarifies* our understanding. Thus it seems to me that the paradoxical nature of the pairs of opposites is actually meant to stimulate a clearer conception of *how* the ambivalences in the world hang together, rather than to stimulate a thought process which merely *mimics*, but does not fully *understand,* the ambivalent tensions of the world.[20]

So there seems to be a gap in the literature: no interpretation has adequately accounted for the *variety* of oppositional pairs in the extant fragments of Heraclitus. The *identity of opposites thesis*, the *essential connection thesis*, the *meaning-laden context thesis* and the *transformational equivalence thesis* all reduce Heraclitus' use of opposites to a single thesis which is meant to be a general, formalized statement under which every example of opposition can be subsumed. The common problem with these interpretations

[20] Dilcher says "The soul is brightest when it most performs the contrary moves by its capacity of reasoning … The soul understands the structure of the world by imitating the fire which constitutes this [back-stretched] structure. Even so, the soul will never gain a comprehensive understanding of the activity of life in which it is itself engaged, just as there is no comprehensive formulation of harmony" (p. 116).

is that they can only make sense of some of the oppositional pairs, while downplaying or ignoring the significance of others.

III. The Solution

My solution to the problem of the variety of opposites in Heraclitus is to adopt a multi-thesis approach. On the view I will defend, the alleged "unity of opposites doctrine" turns out to be a *set* of theses (as opposed to a single thesis), none of which are subsumable by any other. The instances of opposites in Heraclitus' fragments can be categorized into three distinct subject matters, each of which contains a distinct philosophical thesis. I argue that Heraclitus uses the subject matter of *transformation* between opposites to demonstrate the idea that opposing elements are "one" in the sense that they transform into one another. Furthermore, he uses the subject matter of *dependence* on opposites to characterize mid-sized objects by claiming that their *nature* is a dependent on opposing properties.[21] Finally, he uses the subject matter of *value* to explain that it is permissible for one and the same object to contain opposing values (i.e. to be both good and bad).

Ultimately, I argue that there is no single thesis under which all the examples of opposites can be subsumed. However, although these distinct theses are not reducible to one thesis, I will argue that they are connected with each other. What all the instances of opposites have in common is that they seem to be *problemata* for Heraclitus. Hence the

[21] By mid-sized objects, I mean the objects that exist in our everyday experience of the world. For Heraclitus this would mean rivers, barley-drinks, sea-water etc. On my view, mid-sized objects are distinct from the more basic constituents of the cosmos such as the elements.

opposites are *explananda* requiring *explanantia.* Heraclitus was writing at a time when his fellow Ionians (e.g. Anaximander and Anaximenes) treated opposites as *explanantia*, or so I will argue in this dissertation. On my account, Heraclitus saw the need to explain the opposites before using them as the explanatory principles for the cosmos.

One of the advantages of my approach is that I believe I can preserve some of the salient points from some of the recent interpretations. While Graham's transformational equivalence interpretation is a good interpretation of *some* instances of opposites in Heraclitus, it cannot account for all or even most. But this means that Graham's transformational equivalence thesis is just one opposites thesis among several. Likewise, while Osborne's "meaning-laden context" interpretation is incapable of accounting for the role of opposites in Heraclitus' elemental philosophy, I believe that her interpretation comes close to the one I offer of the opposites concerned with value in Chapter 4. Hence we can preserve, from Osborne, the idea that what counts as "good" is dependent on a certain type of respondent and we can preserve from Graham the idea that opposing stuffs are caught up in a system of transformational equivalence.

As far as I know, no one else has proposed a multi-thesis approach to the problem of opposites in Heraclitus. As such, my interpretation offers a new and interesting solution to an important problem in the work of a thinker who was extremely influential in the birth of philosophy.

IV. Overview

In Chapter 1, I argue for the first opposites thesis: the transformation of opposites. In this chapter, I discuss the various characteristics of Heraclitus' theory of elemental transformation that can reasonably be gleaned from the extant fragments. I argue that fragment B126 ("Cold things warm up, warm things cool off; wet things dry up and dry things moisten") is an *explanandum* for Heraclitus. It is meant to invoke certain questions in his readers' minds: How is it that cold things come to hold an opposing property (i.e. "hot")? What type of change occurs such that a wet thing can become dry? How is it that things hold these properties in the first place? I argue that Heraclitus' theory of elemental transformation (B31, B36 and B76) is the *explanans* for B126 and is capable of answering these questions. That is, the observable change evident in B126 is *explained by* a set of transformations between elemental stuffs. Because of this connection between B126 and his theory of elements, Heraclitus' theory of elemental transformation is rightly understood as a 'unity of opposites' thesis. However, I argue that the transformation of opposites can only be *one* opposites thesis among *several* opposites theses.

In Chapter 2, I argue for a second opposites thesis: the dependence on opposites. Here I attribute an ontological dependence thesis to Heraclitus. This thesis states that *objects are ontologically dependent for their* existence *and their* identity (i.e. their 'nature' or φύσις) *on opposing, yet essential properties which are necessarily inherent in them*. Given this association between objects and opposites, I submit that this dependence thesis is best understood as an opposites thesis distinct from the transformation thesis. I

argue that this dependence thesis explains Heraclitus' novel use of φύσις. I also argue that this understanding of φύσις is at work in Heraclitus' descriptions of worldly objects (i.e. bows, lyres, rivers, barley drinks etc.), which we can read in a new light. These objects need not be understood as metaphorical symbols for cosmic principles, but can be read as instances of a metaphysics of objects.

In Chapter 3 I discuss Heraclitus' theology, since his discussion of the divine is relevant for understanding his use of opposites. Furthermore, Heraclitus associates God with a series of opposites in B67. However, understanding Heraclitus' theology proves difficult. As I see it, there are four main interpretative issues that any account of Heraclitus' theology must overcome: What exactly *is* God for Heraclitus? What does Heraclitus mean when he claims that "all things are one"? How can Heraclitus identify a wise God with all things while also claiming that what is wise is separate from all things? And what does God have to do with the opposites? While these issues have been discussed by scholars, the currently available solutions are inadequate (or so I will argue). In this chapter I present an interpretation of Heraclitus' theology that I think can adequately account for these interpretive issues. For Heraclitus, *God is a principle of order for the cosmos which permeates all things and makes them united and intelligible*. God is identified with all things, not in a logical sense, but in the sense that God can be identified *in* all things. All things are one in the sense that the entire cosmos is ordered by a single plan; hence, on my interpretation, order *produces* unity. Heraclitus' theology makes it possible for humans to understand the cosmos from an analytic view (whereby

we distinguish differences in a unity), but it also enables humans to view the cosmos from a synthetic view (whereby we see unity despite difference).

In Chapter 4 I attribute a third and final opposites thesis to Heraclitus: the opposing values thesis. In this chapter I argue that Heraclitus was interested in questions of value and had his own views concerning the nature of value and goodness. On my view, the fragments of Heraclitus support the following claims. First, i) the same object can have opposing values. This is evident in the world (e.g. sea-water is both pure and polluted), and is a philosophical problem in need of explanation. His explanation is that ii) the things we normally take as good or bad are only good *for* (or bad *for*) certain respondents, which means that iii) the things we normally think of as good are not good *simpliciter*. The important point for the purposes of this dissertation is that Heraclitus' views on value include an opposites thesis: *it is possible for one and the same object to have opposing values* (*i.e. to be both objectively good and objectively bad*). This is so since what is good is always good *for* a kind of respondent, and what is good for one kind of respondent is possibly not good *for* another kind of respondent. The only exceptions to this are the orderliness of the cosmos as a whole and our apprehension of it.

In Chapter 5 I seek to answer several questions raised by the preceding chapters: What precisely was Heraclitus' interest in opposites, such that his fragments can be said to convey three distinct opposites theses? What do the opposites theses have to do with one another? I will argue that Heraclitus' use of opposites is best understood as a response to what he saw as the shortcomings in his predecessors' accounts. While the

earlier Ionians (Anaximander and Anaximenes) treated opposites as fundamental principles of explanation, Heraclitus was the first to treat opposites, not as explanatory principles, but as *problemata* in need of explanation. Opposites are primarily *explananda* for Heraclitus. These *explananda* require different *explanantia* and Heraclitus' several opposites theses contain the appropriate *explanantia.* The three theses, while distinct and irreducible to one another, work together to promote some common end: the philosophical explanation of the cosmos. I also explain some interesting features of Heraclitus' scheme of explanation. These features are the complimentary principles of Non-Well-Foundedness (whereby for all *x*, *x* is neither explained by some fundamental entity or entities, nor is itself a fundamental entity) and Reciprocal Explanation (whereby *x* partially explains *y* and *y* partially explains *x*). Heraclitus denies explanatory fundamentality, but promotes the idea of a cosmos whose various parts explain its other parts.

Chapter 1: Transformation of Opposites[22]

I. Introduction

In this chapter, I argue that Heraclitus held the thesis that certain opposites are transformationally equivalent. Specifically, this thesis states that *certain opposing stuffs transform into one another in such a way that they are transformationally equivalent and therefore unified.* The basic tenets of this interpretation have already been worked out in some relatively recent works by Daniel W. Graham.[23] Rather than summarize Graham's interpretation, I will offer a close reading of the fragments which I argue exhibit the transformation of opposites thesis, citing Graham's insights along the way when it is helpful to do so. I will also take the chance to critique aspects of Graham's account. Ultimately, this chapter serves to argue that certain Heraclitean fragments containing opposition exhibit a transformation thesis. The idea is *not* that the transformation thesis can be extracted in full from each of the fragments individually. Rather, it is that they all contain a) the subject theme of transformation and b) pairs of opposites. When viewed as a collection, these fragments exhibit the transformation thesis. This transformation thesis is one, among several, of Heraclitus' opposites theses.

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[22] A version of this Chapter has been published as "Elements and Opposites in Heraclitus" in *Apeiron* 51.4 (2018), pp. 427–452.

[23] See, Graham, D. W. "Heraclitus' Criticism of Ionian Philosophy," ["Criticism"] *Oxford Studies in Ancient Philosophy* 15 (1997), 1-50, Graham, D. W. *Explaining the Cosmos: The Ionian Tradition of Scientific Philosophy,* [*Cosmos*] (Princeton: Princeton University Press. 2006.), and Graham, D. W. "Heraclitus as a Process Philosopher" ["Process"] *Philosophy Study* 2.1 (2012), 1-8.

The first section of this chapter will establish that Heraclitus subscribed to a transformation thesis. I provide evidence that supports the idea that Heraclitus was interested in what we may call *transformation* as opposed to, say, mere *alteration*.[24] In the second section, I explain how Heraclitus may have thought that elemental transformation can account for observable change in the world. In the third section, I argue that the scope of the transformation thesis is limited to basic, elemental stuffs. In the fourth section, I argue that this transformation thesis is indeed a unity of opposites thesis, since the elemental transformations are able to account for the fact that change occurs between opposites, and since there is an equivalence ratio preserved throughout the system of transformation. Finally, in the fifth section of this chapter, I argue that Graham over-applies this thesis in two ways. First, I argue that he is wrong to *equate* the alleged unity of opposites thesis with the transformational equivalence of opposites, since this thesis can only account for *some* of the instances of opposition in the fragments.[25] Thus the transformation thesis is only one of several opposites theses put forth by Heraclitus. Second, I argue that he is wrong to extend the transformation thesis to include Heraclitus' alleged Flux Thesis.

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[24] An object, for example, can change its colour yet remain what it is; that is the kind of change I will call 'alteration'. By contrast, when an object is transformed it does not remain what it is, but becomes a new entity.

[25] The label "unity of opposites" has been traditionally used by interpreters to capture Heraclitus' interest in pairs of opposites. I ultimately argue for the rejection of this label; however, I must still use the label when critiquing these interpretations. Thus, to avoid confusion, I will always prefix the label with "alleged" to indicate my dissatisfaction with the phrase.

II. Transformation

Without much difficulty a reader of the extant Heraclitean fragments will recognize that Heraclitus is interested in a process that we might call transformation. However, it must be established that the term "transformation" is a more apt label for what Heraclitus had in mind than other possible terms (e.g. "change" or "alteration"). Aristotle, for example, famously describes the early presocratics, including Heraclitus, as material monists.[26] On his view, true reality, as opposed to apparent reality, is one substance. Apparent differences are mere *alterations* of this one substance. So, according to Aristotle's interpretation of Heraclitus, all things are really fire in the sense that fire is the material cause of all things. If Aristotle were correct, then it would turn out that Heraclitus was not interested in transformation so much as mere *alteration.*[27] In this section I will (i) show that Heraclitus is interested in "change" in general and (ii) argue that he is specifically concerned with transformation, contra Aristotle.

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[26] See Aristotle *Metaphysics A*. He identifies the early presocratics as material monists at 983b6-18. He claims at 984a7-8 that Heraclitus' *archê* is fire. The label 'material monist' is not used by Aristotle himself. In *Metaphysics A,* Aristotle argues that the early philosophers restricted their discourse to the inquiry of *material causes,* and he argues that many, including Heraclitus, believed the world to be made up of exactly *one* material stuff. Hence, the label 'material monist' represents Aristotle's characterization of many early philosophers. Aristotle's interpretation of the early presocratics as material monists has been contested by many scholars of the last century, most notably by Harold Cherniss, *Aristotle's Criticism of Presocratic Philosophy.* Baltimore: Johns Hopkins University Press 1935, and, more recently, by Daniel Graham. See Graham, D. W. *Cosmos.* esp. pp. 85-112. On Graham's view, the early presocratics were concerned with explaining how one thing becomes another thing. Thus Thales, for example, did not believe that all things *are* actually water, but rather that all things *come from* water. Water, for Thales, was primal in the sense that it was the original substance from which the other substances are born.

[27] Aristotle's technical term for alteration is ἀλλοίωσις which he uses to describe qualitative change in *Physics V.* 226a26

According to Aristotle, there are four types of change: change of quality or alteration (ἀλλοίωσις), change of quantity, change of place, and substantial change.[28] While Aristotle does talk of change of quantity and of place, the two important types of change for present purposes are qualitative change and substantial change. Qualitative change occurs when a subject or *substratum* (ὑποκείμενον), which remains the same, has a change of quality. For example, a man, being a subject, may become musical. The subject, man, persists through the qualitative change from non-musical to musical. The man *alters* from non-musical to its contrary: musical. As noted above, Aristotle characterizes Heraclitus and the other Ionians as concerned with this sort of change. Aristotle reserves substantial change for unqualified coming to be (i.e. the generation of substances).[29] In *De Generatione et Corruptione,* Aristotle argues that since something cannot come from nothing, substantial change requires that "the corruption of one thing is the generation of another, and vice versa" (318a24-25). So when a human changes substantially, she either comes into existence or goes out of existence. We can use Aristotle's distinction between qualitative and substantial change to determine what kind of change Heraclitus is interested in.

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[28] See Aristotle, *Physics* V.

[29] Aristotle says "Things are said to come to be in many ways, and some things are said, not to come to be, but to come to be something, while only substances are said to come to be without qualification" (*Physics I* 190a31-33). The generation of substances turns out to be quite complicated for Aristotle. He spends much ink dealing with these problems in *De Generatione et Corruptione.* For a good discussion of the difficulties surrounding substantial and qualitative change see Cohen, S. Marc "Alteration and Persistence: Form and Matter in the *Physics* and *De Generatione et Corruptione*" in (ed. Christopher Shields) *Oxford Handbook of Aristotle.* (2012: Oxford).

We can get a sense of Heraclitus' interest in change from fragment 126:

> B126: τὰ ψυχρὰ θέρεται, θερμὸν ψύχεται, ὑγρὸν αὐαίνεται, καρφαλέον νοτίζεται.[30]
>
> Cold things warm up, hot things cool off, wet things become dry, dry things become moist.[31]

On the surface, it *seems* as though Heraclitus may be interested in what Aristotle calls alteration (i.e. a subject can change from having the quality "cold" to having the quality "warm"). The fragment contains a simple example of the reality of change derived from sensory experience. It also contains Heraclitus' observation that certain changes are changes into opposites, an idea that we will come back to.[32] As I see it, Heraclitus is here providing his reader with an empirical observation which stands in need of an explanation; it is a sort of *explanandum,* for him. How is it that cold things come to hold an opposing property (i.e. "hot")? What type of change occurs such that a wet thing can become dry? How is it that things hold these properties in the first place? The problem is that this fragment on its own does not provide any answers to these questions. To find the answers to these questions, it is necessary to examine Heraclitus' discussion of elemental

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[30] This fragment is preserved for us by Tzetzes (1110-1180 A.D.). Even though our source for this fragment is only 1000 years old (i.e. 1500 years removed from Heraclitus), we can be certain of the authenticity since it contains the word αὐαίνεται (a word not seen after Theophrastus) (see Kirk, p. 149.)

[31] I translate τά ψυχρά as "cold things" as opposed to "The Cold". It seems anachronistic to interpret Heraclitus in such an abstract way. See Snell, B. "Die Sprache Heraklits," *Hermes* 61 1926 356ff.

[32] Graham. *Cosmos,* 120. Graham claims that Heraclitus is making the point that all change is change into opposites. I believe this is an over-interpretation of B126. Heraclitus merely seems to be stating that *some* changes are changes into opposites.

transformation. For reasons I hope will become apparent, I believe it makes good sense to suppose that Heraclitus developed his theory of elemental transformation as the *explanans* to account for the sort of oppositional change we see in B126.

A good place to begin examining Heraclitus' elemental theory is fragment 76:

> B76b/c: πυρὸς θάνατος ἀέρι γένεσις, καὶ ἀέρος θάνατος ὕδατι γένεσις. γῆς θάνατος ὕδωρ γενέσθαι καὶ ὕδατος θάνατος ἀέρα γενέσθαι καὶ ἀέρος πῦρ καὶ ἔμπαλιν.[33]
>
> The death of fire is the birth of air, and the death of air the birth of water. It is death for earth to become water, and death for water to become air, and death for air to become fire and contrariwise.

There are two interesting ideas we can extract from this fragment. The first is the idea that one elemental mass can become some other elemental mass. It is possible for earth to become water and it is possible for air to become fire. The second is the idea that in order for one thing to become another thing, the initial thing must *die* as the secondary thing is *born*. This language of being born and dying implies that there is a radical discontinuity of existence between the pre-transformation object and the post-transformation object. Recall that Aristotle also characterized what he calls substantial change as the generation of one thing being the destruction of another thing. Rather than simple alteration, we see

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[33] Diels provides three variants of this fragment labeled 76a-c. I have provided a combination of 76b (Plutarch) and 76c (Marcus Aurelius). While it is difficult to know if these are two different fragments or if they are misquotations of a single fragment, they both contain the idea that an elemental stuff must cease to be when it transforms into another stuff. The main difficulty posed by this fragment is that it contains the only mention of ἀέρ as an elemental stuff. Those, like Kirk, who support a three-element ontological interpretation of Heraclitus detect a Stoic taint in this fragment. I am inclined to think that this fragment is authentic. The only argument against its authenticity assumes that Heraclitus would mention *all* of his elements every time he mentions elemental transformations. On the ground that this fragment is authentic, it is my opinion that Heraclitus held a four-element theory.

a clear example of what we can call transformation (i.e. substantial change) between entities. Fire is not the material cause of all things in the sense that water and earth are *really* fire under an altered guise; rather, fire goes out of existence when it gives birth to water. Aristotle's material monist interpretation cannot make sense of the radical change Heraclitus has in mind here. Thus Heraclitus is interested in what we might call *transformation,* not alteration. Elemental transformation, for Heraclitus, occurs when some elemental mass becomes a different entity; this "becoming" is brought about by the dying of the initial entity, which is the coming to life of the second entity. More formally, Heraclitus' idea of transformation is: *the event in which the death of one elemental stuff is the birth of a different elemental stuff, in which case the former object "becomes" the latter object.* As such, one could well categorize Heraclitus' transformation as a type of substantial change in the Aristotelian sense.

III. Elemental Transformation

My suggestion is that this idea of elemental transformation is the *explanans* for the observation of B126. If this is right, then B76 contains the kernel of an answer to the questions raised by B126 (i.e. How do cold things warm up? How are things cold in the first place?). It seems quite likely that the answer to the first question would be that cold things warm up because there is a set of elemental transformations taking place which account for this observable change. More difficult to answer is how things have the properties of "hot" and "cold" in the first place. While it may be somewhat speculative, it doesn't seem unreasonable to suppose that Heraclitus believed that objects are wet

because of the presence of water in them. If this is true, then it would be the case that wet things become dry because water, which is present in the wet things, transforms into something else. It is in this way that I believe Heraclitus thought elemental transformations account for observable changes in quality.

We have seen that for Heraclitus the mechanism of elemental change (and, by implication, observable change) seems to be *transformation.* Empedocles, on the other hand, is well known for proposing that everything is composed of four, *eternal* elements (or, *roots*) and that every observable object is a composition by μίξις of the four elements.[34] Observable change, for Empedocles, would be explained by a *rearrangement* of the elemental mixture of an object (Empedocles B8 and B9). So we must note that Heraclitus' theory differs from Empedocles' on three points. First, Heraclitus' elements are masses/stuffs, while Empedocles' elements seem to be something like particles.[35] Second, Heraclitus' elements are caught in a system of birth and death, while Empedocles' elements are eternal. And third, the mechanism of material change seems to be the transformation of elements for Heraclitus, while it is the re-arrangement of the mixture of elements for Empedocles. This is not to say that Heraclitus did not believe it is

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[34] Empedocles speaks of the "four roots of all things (τέσσαρα πάντων ῥιζώματα) in B6. In B8 he says that there is no such thing as birth and death, but only mixture (μὶξις) and separation (διάλλαξις) of things. For an account of Empedocles' elemental theory, see Inwood, B. *The Poem of Empedocles: A Text and Translation with an Introduction.* (Toronto, 2001) pp. 34-42.

[35] By particle, I mean something like a basic, elemental unit. The word "particle" could be contested, since Empedocles never refers to particles, but to roots (ῥιζώματα). This vegetal metaphor does not seem to support the idea of particles. The idea that Empedocles *did* conceive of the elements as particles seems to come from the interpretation that Empedocles is responding to Parmenides. If Empedocles' elements are, in fact, a solution to the problem of Parmenides, then they do seem to be particles.

possible for elements to mix; I do not believe Heraclitus could have thought objects are completely composed of a single element (e.g. humans aren't entirely water, entirely earth, entirely air or entirely fire), unless he was a material monist of the sort that Aristotle describes in *Metaphysics* A. Heraclitus is not, however, a material monist, for the reasons I have explained. So Heraclitus *must* in some sense recognise elemental composition like the μίξις we see in Empedocles. It is my view that Heraclitus *did* believe in elemental composition, but that an important mechanism for *change* in composition is in fact transformation. However, this raises the following difficulties: How many and what are the elements for Heraclitus? And how many and what are the *properties* of these elements, on his view?

There is an old debate concerning the number of Heraclitean elements. The most popular view among 20th century scholars was that Heraclitus held a three-element system. On this view, Heraclitus treated fire, water and earth as elements, while not accepting air. The main argument in support of this position is that, of the three alleged fragments concerned with the elements, two do not contain air (B31 and B36) while only one does (B76). Since B76 is preserved by a Stoic source, and since it is the only fragment mentioning air, it has been deemed dubious by many scholars (e.g. Zeller, Burnet, Kirk, and Marcovich). However, this type of reasoning is unwarranted; it only works if we assume that Heraclitus would cite every element whenever he mentions a chain of elemental transformations. Since we cannot put such a strict requirement on a thinker who preceded the rigorously systematic style of philosophical writing

characteristic of Aristotle, I do not think it is a good argument against the authenticity of B76. As such, I believe we have no good reason to reject B76, which tells us that Heraclitus considered air to be one of his elements.[36] If this is right, then Heraclitus held a four-element system: air, fire, earth and water.

More difficult to answer is the question of how the elements relate to the properties that objects have. It may be useful to explain how Aristotle, who also held a four-element system, conceived of the relation between the elements and their properties.[37] Aristotle is quite famous for the idea that the elements each have two basic powers: Air has the powers *hot* and *wet*; water has the powers *wet* and *cold*; earth has the powers *cold* and *dry*; fire has the powers *dry* and *hot.*[38] While it may be tempting to read this two-power elemental theory into the fragments of Heraclitus, there is no textual evidence to support this, and to do so would be anachronistic.[39] Furthermore, if Heraclitus *did* hold that the elements each had two powers, he would have been the first

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[36] Furthermore, I agree with Kahn (p. 140) and Betegh (p. 16) that it seems unlikely that Heraclitus would have ignored atmospheric air in his explanation of the natural world, especially after Anaximenes' interest in air.

[37] Aristotle is a four-element theorist with respect to terrestrial bodies, but he did posit a fifth, celestial element (*aether*), also known as the "first element," found in the heavenly bodies. *Aether* has none of the qualities of the terrestrial elements (Aristotle, *On the Heavens* Book 1).

[38] See Aristotle, *De Generatione et Corruptione* book 2, especially chapter 3.

[39] Interestingly, Graham seems to assume that Heraclitus, like Aristotle, conceived of his elements as each having two properties (see pp. 122-3 and 128). In fact, his whole argument seems to rest on this, since he wants to claim that the elemental transformations are instances of a unity of opposites. Each elemental transformation would be a change among opposites only if each element has at least one property that is the opposite property of another element. This is only possible if the elements have two powers. If they didn't, and if, say, water only had the property of wetness, and fire had the property of hotness, then the transformation from water to fire would not be a transformation between stuffs with opposing properties.

philosopher to propose such a theory; yet the "two-power" theory is a conclusion that Aristotle arrives at after pages of argumentation.[40] So, it seems unlikely that Heraclitus held this view of the relation between elements and material properties. The problem, however, is that Heraclitus nowhere identifies set properties for the individual elements.

Another possible solution, put forth by Gábor Betegh, is to claim that Heraclitus' elements did not have a fixed set of properties.[41] In a sense I suppose this is true; in B65 Heraclitus claims that fire is need and satiety and in B61 he claims that sea-water is both healthy and harmful (depending on who is drinking it). However, there are a few problems if we think of Heraclitus' elements in this manner. First, if Heraclitus did think that the elements had no fixed properties, then it would be meaningless to speak of earth, air, fire and water as *distinct* elements. In order to speak of them as distinct stuffs, they must have *some* set properties, even if they have many, or even overlapping, properties. Second, I find it hard to account for the presence of B126 on this view. I do not think it is mere coincidence that Heraclitus mentions the cardinal opposites (B126) *and* has a reasonably developed system of elemental transformation (B31, B36 and B76). I find it very unlikely that he would have held these two thoughts as unrelated. Furthermore, Heraclitus seems to have thought that all events are products of some sort of strife:

B53a: Πόλεμος πάντων μὲν πατήρ ἐστι, πάντων δὲ βασιλεύς...

War is father of all things and king of all things...

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40 Aristotle, *De Generatione et Corruptione* II.3.

41 Betegh, Gabor, "On the Physical Aspect of Heraclitus' Psychology" *Phronesis* 52.1. 2007 (pp. 3-32).

> B80: εἰδέναι δὲ χρὴ τὸν πόλεμον ἐόντα ξυνόν, καὶ δίκην ἔριν, καὶ γινόμενα πάντα κατ᾽ ἔριν καὶ χρεών.
>
> It is necessary to see that war is common, and strife is justice, and all things come to be in accordance with strife and necessity.[42]

Certainly the elements fall under the class of "all things," so the elemental transformations are the products of some sort of war-like strife. Now strife only occurs between opponents (i.e. opposing parties).[43] So it seems reasonable to suppose that Heraclitus thought of the elements as opponents (i.e. opposites) at war with one another. If this is right, then it also seems right to relate the elements to the cardinal opposites given in B126. My suggestion is that, while the elements might hold a variety of properties, Heraclitus thought they each held one of the cardinal opposites in a *primary* way. That is, water is *primarily* a wet substance (even though it displays some derivative qualities). Water *qua* element is wet. Fire *qua* element is hot. Air *qua* element is dry. Earth *qua* element is cold.

While there is no direct textual evidence for this interpretation, it fills a gap in the text, and it seems at least plausible that someone living in the 5th century would take "wetness" and "hotness" to be the most basic qualities of water and fire respectively. Perhaps it seems less intuitive to us to associate air with dryness and earth with

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42 I reserve a full explanation of these fragments for chapter 3: Heraclitus' Theology.

43 Kahn says that, "the metaphor which gave rise to the name τὰ ἐναντια is that of hostile warriors facing each other in battle: οἱ δ᾽ἐλελίχθησαν καὶ ἐναντίοι ἔσταν Ἀχαιῶν 'the Trojans whirled about, and stood to face the Achaeans' (*E* 497). From such uses as this, τὰ ἐναντια comes to mean 'the opponents,' 'the enemy.'" [*Anaximander*], p. 130.

coldness.[44] However, strange as this single-property thesis may sound, it seems this would not be the only instance of such a theory. First, if Diogenes Laertius can be believed, the Stoics associated each of their four elements with the hot, cold, wet and dry in a similar manner.[45] While we cannot read a Stoic view back onto Heraclitus, it is well-known that Heraclitus was a source of inspiration for the Stoics. Second, this view is also ascribed to Philistion of Locri, a 4th century physician, by *Anonymous Londinensis.*[46] Unfortunately, Heraclitus does not provide enough textual evidence to support or deny this interpretation.[47] However, it is less anachronistic than attributing to him a full-blooded Aristotelian theory of the elements, and allows us to make good sense of the relationship between fragments B76 and B126.

So, on my interpretation, Heraclitus offers his reader an *explanandum* in B126 and gives the *explanans* in B76 (and in B31 and B36, as we will see in the next section). If this is correct, and if the elements relate to their respective properties in the way I outlined above, then the warming up of cold things is explained by the transformation of

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[44] My single-property interpretation differs from the later Stoics and Philistion of Locri in that they ascribe coldness to air and dryness to earth. If I am right that Heraclitus also thought in this way, then I think it makes better sense to suppose that he thought dryness was associated with air and coldness with earth. This is because, as I will explain in the next section, Heraclitus seems to claim that soul is an exhalation (a composite of water, air and fire) *and* claims that a soul can be dry or wet. Thus, the dryness seems to be associated with air for Heraclitus.

[45] DL VII 136.

[46] *Anon. Lond.* XX.25

[47] Betegh tries to answer this question in the opposite manner: the elements do not have a fixed set of properties (p. 23). However, he does not support this claim with any argument or textual evidence.

air into fire, and the drying up of wet things is explained by the elemental transformation of water into earth.

While it is difficult to determine with certainty *how* Heraclitus believed his elements aligned with the hot, the cold, the wet and the dry, the main point for the purposes of this chapter is *that* Heraclitus associated his theory of elemental exchange with an exchange of opposites.[48] Fragments B53a and B80 make it clear that Heraclitus thought all things (πάντα), which would include the elements, were caught up in some sort of strife. Since a striving only occurs between opponents (i.e. opposing parties), it seems quite likely that Heraclitus would have conceived of his four elements as being caught up in a system of strife between opposites. The single-property interpretation explained above is a potential explanation for *how* Heraclitus might have thought the opposites related to the individual elements.

IV. The Scope of Transformation

So far, I have argued that Heraclitus advanced a theory of elemental transformation in order to account for the observable fact that things in the physical world undergo qualitative changes. However, I have restricted my analysis to fragments B126

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48 I find it very unlikely that Heraclitus' system of elements would not be associated with opposites. In the words of Charles Kahn, "As Diels pointed out, the Greek theory of the elements is founded upon the notion of opposites, from the earliest extant fragments until late antiquity." Kahn, C. *Anaximander and the Origins of Greek Mythology.* [*Anaximander*] (Columbia, 1960), p. 133. He quotes Diels: "Beachtenswert ist, daß Heralkit die Gegensatzpaare Kalt-Warm, Naß-Trocken bereits typisch zusammengestellt hat (fr. 126). Das ist die reale Grundlage der Elementarphysik im ganzen Altertum geblieben." (Diels, *Elementum,* p. 15, n.3.). The intellectual milieu seems to have been rife with the association of elements and opposites. See also Lloyd, G. E. R., "The Hot and the Cold, the Dry and the Wet in Greek Philosophy," *The Journal of Hellenic Studies,* 84 (1964), pp. 92-106.

and B76. In this section, I will provide more textual evidence for Heraclitus' transformation thesis. I will argue that his transformation thesis is best understood as having to do only with *elemental* transformations, despite the fact that this may not initially seem to be the case. The reason for limiting the scope of this thesis is that other interpreters (e.g. Graham) have wrongly claimed that the transformation thesis extends beyond just the transformation of elements.

One of the many interpretive problems we face when offering a reconstruction of Heraclitus' philosophical thought is that it is often difficult to determine with certainty what he takes to be the real-world referents of his elaborate sayings. For example, if we take a look at fragment 88, it is extremely difficult to determine what Heraclitus takes to be the subject of the change he describes:

> B88: ταὐτό τ᾽ἔνι ζῶν καὶ τεχθνηκὸς καὶ [τὸ] ἐγρηγορὸς καὶ καθεῦδον καὶ νέον καὶ γηραιόν τάδε γὰρ μεταπεσόντα ἐκεῖνά ἐστι κἀκεῖνα πάλιν μεταπεσόντα ταῦτα.[49]

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[49] This fragment is preserved for us by Plutarch (AD 46- AD 120). There are many difficulties with this fragment. For example, scholars have attempted to explain τ᾽ἔνι by claiming that it is a corruption of γένει (Wilamowitz, 1927) or that it is a corruption of γ᾽δή (Reinhardt, 1942). I follow Kirk's argument for retaining the text as transmitted: "unless τ᾽ἔνι can be discredited it should perhaps be given preference..." (Kirk, 137). Sextus Empiricus offers a paraphrase and interpretation of this fragment in *Outlines of Scepticism* III.230: Heraclitus says that both living and dying are in all living and in all dying: while we live our souls are dead and buried in us, and when we die our souls revive" (Annas and Barnes, pg. 203). We might follow Sextus and think that this fragment is referring to the human soul. However, there are several issues with Sextus' interpretation. First, there is no obvious resonances between this fragment and other fragments concerned with the soul. Second, there is no evidence in the fragments that obviously corroborates with the idea that our souls are dead when we are alive, but that our souls are alive when we are dead. To the contrary, Heraclitus says a dry soul is wisest and best, but that a wet soul is dead. Presumably Heraclitus believes that a soul can become dry and wise in this life and that a soul can become wet in this life (i.e. when it is drunk).

> The same thing in [something?] is living and dead, waking and sleeping, new and old; for these things having changed around are those, and those again having changed around are these.

Heraclitus was notorious in antiquity for his ambiguity and this fragment seems to illustrate why. The demonstrative, ταὐτό, seems to have a plethora of possible referents. Before we discuss ταὐτό, perhaps it will be easier to look at the demonstratives τάδε and ἐκεῖνα. These demonstratives generally signify “the former" and “the latter.” As such, the τάδε most likely refers to the former words in the oppositional sets (i.e. ζῶν, ἐγρήγορος and νέον) while the ἐκεῖνα refers to the latter words in the oppositional sets (i.e. τεθνηκός, καθεῦδον and γηραιόν). If this is correct, then the second half of the fragment would be saying that living, waking and new have changed around and are dead, sleeping and old; and dead, sleeping and old have changed around again are living, waking and new. This, I submit, is the sense of the second half of the fragment. But what of the first half? I think there are two potential ways to understand the first half. As I have translated it, the fragment states there is some thing that remains the same but has three sets of opposing properties. But there is an alternative we should consider: we could translate the first half of the fragment like this: “Living and dead, waking and sleeping, new and old are the same thing in [something?].” ταὐτό then becomes the predicate rather than the subject of the sentence. But saying that opposites are the same because they change into one another is less sensible than saying that the same thing (ταὐτό) has opposing predicates since at one time it is alive and at another time it is dead. As such, I think we should interpret B88 as saying that there is some identical thing of which we can

predicate opposite properties; the way in which it works is that this identical thing undergoes a change in its properties from one polar property to the other polar property.[50] I believe this is the idea Heraclitus is attempting to convey in this fragment. However, we still do not know the referent for ταὐτό (i.e. the identical something that undergoes the transformations). In order to do this, we can look for resonances of the theme of transformation in other fragments. One clue, which turns out to introduce a complication, is that there is one qualification in fragment B88 itself restricting the domain of possible referents: this ταὐτό is ἔνι. Frustratingly, Heraclitus provides his reader with a preposition without bothering to supply the indirect object. All we can know for certain is that this self-same thing is *in* [something] and that it somehow transforms between opposing properties. We will have to turn our attention to other fragments to complete our search for the subjects of transformation.

Thankfully, there are several resonances of the theme of transformation in the fragments themselves. Consider again fragment 126:

> Cold things warm up, hot things cool off, wet things become dry, dry things become moist.

As argued above, I believe it makes good sense to suppose that Heraclitus offers his reader an *explanandum* in B126 and an *explanans* in B76. We can notice a few more things regarding elemental transformation if we again consider B126 with fragment 76:

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50 One might object here that Heraclitus was not aware of the distinction between a thing and its properties. While it is true that there is no explicit mention of this distinction in Heraclitus, I believe that some fragments demonstrate Heraclitus' awareness of this distinction. In Chapter 2 I discuss my reasons for thinking Heraclitus was aware of the thing-property distinction. See pp. 62-67 below for a discussion of B54, B123 and B51.

> B76: The death of fire is the birth of air, and the death of air the birth of water. It is death for earth to become water, and death for water to become air, and death for air to become fire and contrariwise.

In these fragments, Heraclitus has provided his reader with some vague subjects of transformation. There are two things to notice. First, this fragment helps to make sense of whether it is a thing or its properties that is the subject of transformation; here, it seems to be a combination of both. Heraclitus seems to be treating the things as "stuffs" where *stuffs* denotes a material mass that isn't thought of as distinct from its manifest properties.[51] For example, *water* as a stuff is the concrete, physical matter along with its essential property of "wetness."[52] Second, at least in these fragments, Heraclitus has limited the domain of transformation to such objects (what we may want to call material *stuffs*). In other words, since we see transformation in this fragment, and since what transforms are material *stuffs,* we can reasonably infer that Heraclitus intended the transformation thesis to refer, *at least*, to material stuffs. Also, as explained above, there is an existential discontinuity between the two subjects of a transformation. Fire dies when it is transformed and gives birth to air. This complicates matters to an extent: we saw from B88 that Heraclitus wanted to maintain that the self-same thing changed

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51 See Graham, *Cosmos* p 128. The terms *material stuff* or just *stuffs* are used by Graham to denote the class of existents to which earth, fire, air and water belong. Others have used different terms. Gábor Betegh (2007) uses *elemental masses, physical stuffs, stuffs,* Kirk (1954) uses the term *world-masses.* Kahn (1979) uses *elements* and *cosmic masses.*

52 Graham seems to assume that Heraclitus, like Aristotle, conceived of his elements as each having two properties (see pp. 122-3 and128). I don't believe we have enough evidence from the text to suppose that Heraclitus held such a view.

between opposing properties, yet B76 seems to say the opposite of this.[53] B76 seems to indicate that material stuffs transform into stuffs with opposing properties and that this event is both the death of the initial stuff (fire) and the birth of the new stuff (water). Now, clearly there is a system of transformation at play here; not only does fire turn into air which turns into earth which turns into air, but the final product (air) turns back into the original stuff (fire). So the ταὐτό from B88 is not so difficult if we understand that fire, being the self-same stuff, changes into the other elements but then changes back into fire. The prior and latter fire are the ταὐτό. However, we still need to make sense of the ταὐτό with respect to the properties that are predicated of it in B88 (i.e. waking-sleeping, young-old, living-dying). Before doing so, it will be beneficial to examine a few more fragments which will shed more light on Heraclitus' idea of transformation.

So far, we have looked at three fragments concerned with transformation. B88, while informative, did not help us determine a clear subject of transformation. Fragments 126 and 76, if taken together, explain that at least some of the objects of transformation are elemental stuffs: the basic material constituents of the world.[54] At this stage, I propose that we take it as a working hypothesis that Heraclitus intended to limit the domain of transformation to the elemental world (i.e. the transformations between fire, air water and

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[53] We might worry that B88 mentions items quite distinct from B76 and, as such, we should not be treat them as informing one another. However, they both belong to a small category of fragments which contain the subject matters of "opposites" and "transformation." As such, I think we ought to see them as resonating with one another and therefore informing one another.

[54] The phrase "elemental stuffs" refers to Heraclitus' use of the terms *earth, fire,* and *water.* Heraclitus does not have a fully worked out system of elements (as say Empedocles or Aristotle do); however, he does seem to have *a* system of elemental stuffs. See below for a further discussion of elemental stuffs.

earth). I will introduce some additional fragments, which I will argue provide further evidence in support of this working hypothesis. I will then respond to some possible objections to this hypothesis.

I begin with fragment 36, which resonates extremely well with fragments 76 and 126:

> B36: ψυχῇσιν θάνατος ὕδωρ γενέσθαι, ὕδατι δὲ θάνατος γῆν γενέσθαι, ἐκ γῆς δὲ ὕδωρ γίνεται, ἐξ ὕδατος δὲ ψυχή.
>
> For souls it is death to become water, for water death to become earth, but from earth water is born, and from water soul.[55]

Again, we see a transformation between elemental stuffs. However, Heraclitus here includes "souls" in a series of elemental transformations. I believe it makes most sense to read "soul" as a place-holder for the elemental composition of souls. Many scholars have thought that the soul must be fire for Heraclitus, others have thought that it is air. The issue is that Heraclitus claims that a dry soul is good while a wet soul is bad. So whatever the material composition of soul, it must be capable of being both wet and dry (B117 and B118). I believe the best solution is to suppose that the soul for Heraclitus is an exhalation (Gábor Betegh has made an extremely convincing case for this, and it seems

[55] This fragment is preserved for us by Clement (*Stromateis* 4.17.1).

well supported by the testimonia).[56] That is, a soul is a composite of several possible elements (an exhalation, at least on Aristotle's understanding, can be either a composite of fire and air or air and water). A soul becomes dryer or wetter by means of a set of elemental *transformations* between air, water and fire. A soul, according to Heraclitus, *dies* when the entire soul composition has transformed into water. In this way, we can see how the idea of composition works well with the idea of elemental transformation. A soul could in fact be a μίξις (of, say, fire, air and water) while the mechanism of change would not be a re-arrangement of its "particles" but rather a *transformation* of its material makeup. In any case, the important point for our purposes is that B36 limits transformation to the elements.

Fragment 31 also confirms the hypothesis that Heraclitus wished to restrict transformation to elemental change:

> B31b: θάλασσα διαχέεται, καὶ μετρέεται εἰς τὸν αὐτὸν λόγον ὁκοῖος πρόσθεν ἦν ἢ γενέσθαι γῆ.
>
> <Earth> is liquefied as sea and measured into the same proportion it had before it became earth.

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[56] The problem with Betegh's interpretation is that he believes soul-matter is an element on par with the other elements. His main evidence for thinking that soul-stuff (i.e. exhalation) is an elemental mass on its own is that B31 begins with souls in the plural but ends with soul in the singular (i.e. a mass term). The reason I do not think this is correct is that he argues that soul-stuff is exhalation. However, he also argues that an exhalation is composed of fire and air. But an exhalation cannot be elemental if it is composed of more primary elements. Thus I believe it makes more sense to think of the soul-matter as exhalation, but to think that an exhalation is composed of some more basic elemental stuffs (i.e. fire and air). The issue of ending the fragment with ψυχή in the singular might mean that exhalation is a mass term, but that doesn't mean that exhalations/souls are elements themselves. I believe Heraclitus is highlighting the difference between particular souls (ψυχῇσιν) and soul-stuff in general (ψυχή).

I will reserve a full analysis of this fragment for the next section of this chapter. For now, we can notice that Heraclitus held, presumably as part of his theory of elemental transformation, that earth and sea (i.e. water) relate to one another in system of transformation.[57] So, to take stock, we have seen that fragment 88, while containing the theme of transformation, does not help us to determine the objects of the transformation. However, fragments 31, 36, 76 and 126 are all restricted to the domain of elemental stuffs. I take this as good evidence that Heraclitus intended to limit his entire discussion of transformation to the basic stuffs of which the world is comprised.

At this point, we can use some of these conclusions to clear up some vague aspects of fragment B88.

> The same thing in [something?] is living and dead, waking and sleeping, new and old; for these things having changed around are those, and those again having changed around are these.

On its surface, this fragment seems to be speaking of people: the three pairs of opposites cited (ζῶν-τεθνηκὸς, ἐγρηγορὸς-καθεῦδον, νέον-γηραιόν) are generally used to describe people. However, this doesn't fit with the initial clause of the sentence: how could people be *in* something?[58] Whatever it is that the predicates refer to *must* reside *in* something.

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[57] I take it that Heraclitus used *sea* and *water* as interchangeable mass terms referring to "wet stuff." The sea to a Greek, especially to a resident of the port city of Ephesus, would be a significant, visible manifestation of the delineation between a massive amount of water and a large amount of earth. Also note: Xenophanes B30: "Sea is the source of water".

[58] Unless we assume that "something" = "cosmos" but this seems unlikely. If it were true, the clause would serve no purpose since Heraclitus has no known reason for distinguishing the people in the cosmos from people outside the cosmos.

The ἔνι need not mean "inside us," as some have proposed.[59] Rather, the ἔνι could mean something more basic like: *inside x,* where x is composed of the thing which is ἔνι. If this is right, then the three pairs of opposing properties could actually be predicated of the elements in general. We would then have to interpret them metaphorically. We have already seen Heraclitus characterizing the elements in a metaphoric fashion: in B76 he claims that the elements can "die" and "be born."[60] So, the sense, with reference to B88, would be that the same thing is both living and dead because even though, say, water is living, water is the death of air. Water, or any given element, is both living and dead since it is caught up in a reciprocal cycle of existence (life) and non-existence (death). It is relatively easy to see how this can also be the case for the third pair of opposites (νέον-γηραιόν). Each element will be both new and old because of the eternal, reciprocal rotation between life and death: when an element is newly transformed it is young, but it eventually becomes old; yet when it transforms and is eventually reborn, it becomes young once more.

The most difficult pair of opposites to square with this interpretation is the second set: ἐγρηγορὸς-καθεῦδον. One helpful hint comes from another fragment, in which Heraclitus claims that there is some sort of affinity between death and sleeping and between life and waking. My suggestion, with regard to B88, is that the elements are in a waking state when they are alive, but are merely sleeping when they are dead, since they

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59 Graham, Kirk etc.

60 We have also seen in B53 that he uses an anthropologic metaphor of "war" being the "father" and "king" of all things.

have the potential to be reborn and awaken at a later time. So each element while "awake" contains the other three elements in a sleeping/dead state – that is, in a *potential* state.[61]

One possible objection to my claim that the process of transformation is restricted to the elements is that Heraclitus could not have limited the domain of transformation to the elemental world because his fragments contain examples of cosmic transformation (e.g. night and day are transformationally equivalent because they transform into one another).[62] The relevant fragment here is fragment 57:

> B57: διδάσκαλος δὲ πλείστων Ἡσίοδος τοῦτον ἐπίστανται πλεῖστα εἰδέναι, ὅστις ἡμέρην καὶ εὐφρόνην οὐκ ἐγίνωσκεν ἔστιν γὰρ ἕν.
>
> The teacher of the multitude is Hesiod; they believe he has the greatest knowledge - who did not comprehend day and night: for they are one [or, 'for there is one'].

I here use Graham's translation of the fragment, with a corrective alternative in brackets, to demonstrate a strong version of the objection. If we use Graham's translation, it seems clear that Heraclitus thought that day and night are one in some sense. Since Heraclitus seems to have been concerned with transformation, it would also seem that this fragment would be a prime candidate for the transformation of opposites thesis: how else would day and night be thought of as one if they didn't transform into one another?

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61 Aristotle explains that actuality is to potentiality as "someone waking is to someone sleeping" *Metaphysics* IX.6 - 1048b1.

62 Thanks to Daniel Graham for bringing this objection to my attention.

The problem with this interpretation begins with a slight error in the translation: the last clause should read "for there is [the?] one."[63] What this suggests is that Heraclitus is criticizing Hesiod, *not* for claiming that day and night are two separate entities, but for not recognizing the ultimate one-ness of all things, a subject matter I take up in Chapter 3.[64] In fact, day and night in B57 is quite reminiscent of B67:

> B67: ὁ θεὸς ἡμέρη εὐφρόνη, χειμὼν θέρος, πόλεμος εἰρήνη, κόρος λιμός, ἀλλοιοῦται δὲ ὅκωσπερ <...> ὁκόταν συμμιγῆι θυώμασιν, ὀνομάζεται καθ' ἡδονὴν ἑκάστου.[65]
>
> God is day night, winter summer, war peace, satiety hunger, and he alters just as <oil> when it is mixed with spices, is named according to the aroma of each of them.

The first thing to notice is that day and night are 'one' only in the sense that god *alters* between them. ἀλλοιοῦται is the term Aristotle uses to characterize *qualitative change,* as opposed to *substantial change.* But, as we saw above in the first section, Heraclitus seems to make it pretty clear that his elements are caught up in a system of substantial change. So, however day and night are one, they do not seem to participate in the same kind of *transformation* Heraclitus reserves for elemental transformation.[66]

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63 This correction comes from Dilcher, R. *Studies in Heraclitus*. (Hildesheim: Georg Olms, 1995). Dilcher states "The last phrase [of B57] does not assert that day and night are in fact 'one', as it was often understood. As both words are of feminine gender in Greek, we would have to read: ἔστι γὰρ μία. As it stands, it means: 'for there is (the) ἕν'..." (p. 109).

64 In fact, Heraclitus too seems to think of day and night as separate entities: "if there were no sun, despite the rest of the heavenly bodies it would still be night" (B99).

65 Hippolytus inserts, after the list of opposites, the claim that God = all the contraries. It is uncertain if this is Heraclitus' opinion or Hippolytus' interpretation of Heraclitus.

66 Furthermore, the exchange of day and night (a cosmological event) seems much different from the transformation of physical masses. On my reading of the fragment, Heraclitus' purpose seems to be to notify his reader of one-ness of the *kosmos* rather than the one-ness of day and night.

So far, I have argued that i) Heraclitus is interested in transformational change and ii) this transformational change has a limited scope: it is restricted to the realm of "material constituents" or "elemental stuffs." At this stage, we are lacking two things: i) a precise formulation of the transformation thesis and ii) a description of the relation between the transformation thesis and Heraclitus' use of opposites more generally.

V. Transformation and Opposition

Up to now I have left out a key component of Heraclitus' treatment of transformation, which is evident in the following fragment:

> B31a/b: πυρός τροπαὶ πρῶτον θάλασσα, θαλάσσης δὲ τὸ μὲν ἥμισυ γῆ, τὸ δὲ ἥμισυ πρηστήρ ... θάλασσα διαχέεται, καὶ μετρέεται εἰς τὸν αὐτὸν λόγον ὁκοῖος πρόσθεν ἦν ἢ γενέσθαι γῆ.
>
> The turnings of fire: first sea, of sea half is earth, half fire-wind ... <Earth> is liquefied as sea and measured into the same proportion it had before it became earth.[67]

While it is difficult to be certain, it seems as though the τροπαὶ are the transformations that make up the elemental cycle.[68] One might well question why Heraclitus casts the τροπαὶ as the τροπαὶ "of fire." Most likely, this is a reference to fragment 30, which states

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[67] These fragments are preserved for us by Clement of Alexandria (*Miscellanies* 5.104.3-5) who cites them in two parts. Notoriously difficult to translate is the term πρηστήρ. Numerous solutions have been offered ranging from "Fiery water-spout" (Burnet) to "exhalation" (Gigon) and "lightning-bolt" (Kirk). It is used by Aristotle (*Meteorology* 371a15-17) and Pliny (*Natural History* 2.133) with reference to a meteorological event including fire, wind and storms. On my reading, it is simply a substitute for *fire*. Heraclitus may have been simply giving his reader a stark, visual representation of elemental fire.

[68] τροπαὶ, used before the 4th century, always referred to "sudden" and "complete" changes. See Snell, "Die Sprache Heraklits," *Hermes* 61 (1926) 359 n.1, and Kirk, 329.

that the "kosmos ... is everliving fire."[69] Fire seems to have held a privileged position in Heraclitus' elemental ontology. I believe the best way to understand this is to conceive the element of fire as a symbol for the *kosmos*, since the nature of the element is most like the change and transformation he sees occurring in the *kosmos.*[70]

This fragment contains two closely related ideas that are important for our purposes: i) there is a proportional ratio between the elements, and ii) this proportional ratio is preserved through the entire transformation cycle. So a certain portion of earth can transform into a certain portion of water, but if that same portion of water transforms back into earth it will be "measured into the same proportion" (τὸν αὐτὸν λόγον). Thus there is an *equivalence* ratio that is preserved throughout the many series of transformations. For example, a certain quantity of water can transform into earth. The earth may not retain the same quantity as the water; however, when the earth transforms back into water, it will recover the same quantity (measure) it originally had. However, there is no set unit of measurement that is preserved throughout the transformations. We

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[69] I reserve a full discussion of this fragment for Chapter 3: Heraclitus' Theology.

[70] In taking fire as a symbol for organized, cosmic change, I follow Graham who says that fire is "fundamental just by being symbolic of the constant change that the elements undergo" (2006, p. 127). There are three more competing solutions to understanding the privileged status of fire in Heraclitus' philosophy: 1) the *material monist* view which states everything is fire under an altered guise (for a good representation of this view, see Barnes 1982, pp. 60-64), 2) the *cosmogonical* view which states that everything *comes from* fire, and 3) the *ekpyrosis* view which states that there are periods of cosmic conflagration (for a good representation of this view see Reeve 1982). Against 1), I have already argued that Heraclitus is not a material monist. Against the *cosmogonical* view, it is hard to see how everything can *come from* fire if Heraclitus states that the "*kosmos* ... is *everliving* fire." The *ekpyrosis* view, at least the most recently defended version, commits itself to a form of material monism (see Reeve 1982).

cannot, for example, assume that this is a preservation of mass. Heraclitus explains that this works similarly to how we use gold as currency:

> B90: πυρός ἀνταμοιβὴ τὰ πάντα καὶ πῦρ ἁπάντων ὅκωσπερ χρυσοῦ χρήματα καὶ χρημάτων χρυσός.
>
> All things are an exchange for fire and fire for all things just as goods for gold and gold for goods.[71]

When gold is exchanged for goods, there is no common unit of measurement. What is important is that the value of the gold you use to buy goods is retained despite the purchase. So what is retained throughout the system of elemental transformations is the set value of the individual elements. Not only are the elemental stuffs transformable into one another, we can say that they are transformationally *equivalent.* It is for this reason that Graham calls Heraclitus' thesis "transformational equivalence."[72]

How does the transformation thesis relate to the alleged unity of opposites thesis? I believe that the transformation thesis is a unity of opposites thesis (it is one of several such theses). In support of this view, I offer the following reasons. First, the elements, as we have seen, bear *opposing* properties, and yet these elements "turn into" one another. One could object that while the elements themselves are transformationally equivalent, this does not mean that the opposing properties which they bear are transformationally equivalent. I agree with Graham's response to this objection, which is that Heraclitus was

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[71] This fragment is preserved for us in Plutarch *On the E at Delphi* 338d-e. For the privileged status of fire, see footnote 33 above.

[72] Graham, *Cosmos.* 123-129.

not engaging in "high-level metaphysics."[73] So we cannot expect Heraclitus to be concerned with Hotness itself; his metaphysics treats the substances and the properties they bear together. So, for Heraclitus, when water turns into air, wet *stuff* transforms into dry *stuff* and there is a transformational equivalence between wet and dry (i.e. opposing) *stuffs.* Graham represents the formal definition of TE as follows:

> *X is transformationally equivalent to Y just in case X can turn into Y and Y can turn into X.*[74]

As Graham recognizes, transformational equivalence is a symmetrical relation (water can turn into fire and fire can turn into water), a transitive relation (fire can turn into water which can turn into earth) and a reflexive relation (water can turn *back* into itself after it has turned into something else). So "transformational equivalence" does seem to contain sufficient conceptual connectedness to allow it to be called a sort of *unity.* Given that water and earth can transform into each other, *and* given the fact that they preserve their proportionality during the transformation, it does seem reasonable to consider the transformational equivalence thesis a unity of opposites thesis. Ultimately, the thesis expressed in this class of fragments is this: *certain opposing stuffs transform into one another in such a way that they are transformationally equivalent and therefore unified.*

It is important to note that since Graham believes that each of the elements for Heraclitus has two properties, on his view every elemental transformation will be an instance of a transformation between opposites. However, I have suggested that ascribing

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[73] Graham, *Cosmos.* 128.

[74] Graham, *Cosmos.* 123.

the two-property element view to Heraclitus is anachronistic. As such, on my suggested interpretation, not *every* elemental transformation will be an instance of transformational equivalence of opposites. For example, when fire is transformed into air, "hot" is transformed into "dry". This elemental transformation is not an instance of the transformation of opposites. But, when fire is transformed into earth, "hot" is transformed into "cold". This *would* be an instance of the transformation of opposites. While this may seem to weaken the claim that Heraclitus held the view that some opposites are transformationally equivalent, it actually does not, for the following two reasons. First, the real transformation of opposites claim comes from fragment B126:

> Cold things warm up, hot things cool off, wet things become dry, dry things become moist.

So even on the single-property element view, we have an account of how these four occurrences of oppositional transformation can occur. Second, these transformations occur in a *system,* so while fire transforming into earth may not itself be a transformation of opposites, the earth may at some time transform into air. In this case, fire (i.e. hot) has transformed into air (cold) via a two-stage transformation. So, every element will transform into its opposite (and back again) in the course of time. Hence, Heraclitus' thesis of the cyclical transformation of the elements into each other can fairly be counted as a unity of opposites thesis.

VI. One Thesis Among Several

So far, I have argued that there is good reason in the fragments of Heraclitus to attribute the transformation thesis to him, and to suppose he thought that some kinds of opposites are transformationally equivalent. In taking this view, I am largely in agreement with the work of Daniel Graham. However, there are some aspects of Graham's interpretation that I believe we should not accept. The main problem is that he over-applies this thesis. This is evident in two ways. First, for Graham, the transformational equivalence thesis is supposed to account for *all* of the Heraclitean fragments involving opposites. Second, Graham believes the transformational equivalence thesis can account for Heraclitus' alleged flux doctrine. However, the transformation thesis can neither accommodate all of the fragments in which Heraclitus invokes opposites, nor account for the alleged flux thesis as Graham maintains. Thus, if the transformation thesis is indeed an opposites thesis (as I have already argued), it can only be one thesis among several opposites theses.

Graham states "[t]o say that opposites are the same is simply to say that they are transformationally equivalent."[75] In this quote, Graham identifies the alleged unity of opposites thesis in its entirety with the transformational equivalence thesis. However, there are numerous examples in the extant fragments of pairs of opposites which are said

[75] Graham, D. *Explaining the Cosmos: The Ionian Tradition of Scientific Philosophy* (Princeton: Princeton University Press. 2006.)

to be united, yet which have nothing to do with transformation. For example, consider the following fragments:

B60. ὁδὸς ἄνω κάτω μία καὶ ὠυτή.

A road up and down is one and the same

B103a. ξυνὸν γὰρ ἀρχὴ καὶ πέρας ἐπὶ κύκλου.

The beginning and end on a circle are common.

Both of these fragments contain opposites, and in both the opposites are said to be identical, the same, or common. However, neither of these fragments contains transformation of any kind. Therefore, these fragments cannot, on Graham's interpretation, be considered part of Heraclitus' alleged "unity of opposites" thesis. Yet fragments B60 and B124 speak more directly of unity and opposition than the fragments used to support Graham's thesis (See B36, B31 and B76 above). Graham's error does not lie in the fact that he forces a false thesis onto the text of Heraclitus. Rather, the problem is that his thesis does not account for some of the most standard examples of opposition in Heraclitus. Thus the notion of transformational equivalence cannot accommodate all the examples of opposites that Heraclitus cites.

Graham's attempt to explain the unity of opposites in Heraclitus in terms of the notion of transformational equivalence also faces another problem: he conflates the transformational equivalence thesis with Heraclitus' flux thesis. Graham attributes to Heraclitus a thesis he calls *Lawlike Material Flux,* which he formulates as:

> *The basic substances of the world are constantly undergoing reciprocal transformation in a lawlike way.*[76]

However, the traditional flux thesis seems to originate from fragment 12:[77]

> B12. ποταμοῖσι τοῖσιν αὐτοῖσιν ἐμβαίνουσιν ἕτερα καὶ ἕτερα ὕδατα ἐπιρρεῖ.
>
> On those stepping into rivers staying the same other and other waters flow.[78]

Graham, without argument, associates his unique interpretation of the flux thesis with this traditional source of the flux thesis. This is a problematic move, since he wants to argue that the flux thesis is concerned with *transformation.* Yet B12 contains not even a hint of transformation. Even if we read the idea of transformation into the fragment, Graham's idea is that the transformation occurs between opposites. In that case, the river fragment would be expressing a transformation of opposing terms; in this case it would have to be between αὐτοῖσιν and ἕτερα.[79] However, it seems very unlikely that the point of the river fragment is that there is a *transformation* between sameness and difference. In fact, this is far from the point that Graham himself wishes to derive from the fragment. The point he

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[76] Graham, *Cosmos.* 137.

[77] It is also perhaps problematic for Graham to claim that the elements are "constantly" transforming in a "law-like" manner. There is no evidence from the fragments themselves that these transformations are constant. Furthermore, there seems to be an element of randomness to the elemental transformations. For example, if one considers the progression of elemental change in fragments B76, B31 and B36, they will see that there is a different order of progression in each system of transformation.

[78] There is much debate about this fragment and other similar pseudo-fragments. I save a full discussion of this fragment and its difficulties for chapter 2.

[79] This is further evidence for my argument that the transformational equivalence thesis cannot explain all the instances of opposites in the fragments.

wishes to make is that for Heraclitus change *grounds* the higher-level structures.[80] I think he is close to the mark on that point. However, we cannot equate a vague sense of *change* with his very precise notion of *transformation* between opposites.[81]

So, in sum, Graham is correct to attribute a thesis of transformational equivalence to Heraclitus, and also right that this thesis belongs to what scholars have traditionally called the unity of opposites. However, as I have argued, in contrast to Graham, it makes most sense to limit the scope of this thesis to the material world of elemental *stuffs*. Hence, I have argued, it does not make good sense to associate the transformation thesis with the river fragment, as Graham tries to do. Furthermore, he is wrong to think that the transformation of opposites thesis can be applied to all the Heraclitean fragments involving opposites. These problems suggest the following conclusion: if Heraclitus did indeed hold a transformation of opposites thesis, as I (like Graham) argue, and if this thesis cannot account for all the instances of opposition in Heraclitus, then the transformation of opposites thesis must be one among several "unity of opposites" theses.

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[80] Graham, *Cosmos.* 132. Also, "The changing waters are a necessary condition for the existence of the rivers. If that is so, the changing waters actually constitute the rivers and maintain them as the same rivers." ("Heraclitus as a Process Philosopher," p. 3).

[81] I believe he is close to the mark because there does seem to be a grounding thesis here. However, I believe this is an opposite thesis which is distinct from the transformational thesis. In the next chapter I will develop this thesis. A further problem appears in Graham's argument when he attempts to ground these higher-order structures in Heraclitus' notion of *logos,* which he interprets as the "eternal structure of the world as it manifests itself in discourse." There are two problems with invoking the *logos* in this manner. First, there is considerable debate over what Heraclitus meant by the term *logos.* And second, even if the *logos* were some kind of metaphysical meta-structure for the world, we do not anywhere see Heraclitus grounding the unity of particular objects in such a meta-structure.

VII. Conclusion

In this chapter, I have argued that Heraclitus is interested in a particular kind of change, which we can call *transformation.* Transformation occurs between elemental *stuffs* (i.e. the four elements), which bear opposing properties. Specifically, this thesis states that *certain opposing stuffs transform into one another in such a way that they are transformationally equivalent, and therefore unified.* For example, air, which is dry, can transform into water, which is wet. These *stuffs* are transformationally equivalent, since they transform into one another and back again, in an endless cycle, in which the "value" of the whole is preserved. Since the objects of the transformational exchange are elemental *stuffs* bearing opposing properties, we can call this transformation thesis a "unity of opposites" thesis. However, as we will see Chapters 2 and 4, this is just one opposites thesis among several.

Chapter 2: Dependence on Opposites[82]

I. Introduction

In this chapter, I argue that Heraclitus held an opposites thesis distinct from the transformation of opposites thesis. I call this the *dependence on opposites* thesis. While the transformation thesis was concerned with *transformations* between elements having opposing properties, the dependence on opposites thesis is concerned with the *nature* or the *identity* of particular objects. I argue that Heraclitus believed that there are inherent in objects, opposing, yet essential, properties upon which objects depend for their existence and identity. In the first section, I argue for a specific way of understanding Heraclitus' use of φύσις (nature). In the second section, I use this specific understanding of φύσις to explain the set of fragments which I believe exhibit the *dependence on opposites* thesis. In the third section, I discuss the river fragment and argue that it, as well as some similar fragments, also exhibit Heraclitus' notion of φύσις. In the final section, I argue that this opposites thesis is best understood as exhibiting a kind of *dependency relation*. I end by attributing to Heraclitus the *dependence on opposites* thesis, which states that *objects are ontologically dependent for their* existence *(i.e.* that *they exist) and their* identity *(i.e. their 'nature' or φύσις) on opposing, yet essential properties which are necessarily inherent in them*.

II. Φύσις

[82] A variant of this chapter has been published as "*Phusis,* Opposites and Ontological Dependence in Heraclitus," in *History of Philosophy Quarterly* 35.3 (2018), pp. 199-217.

Fragment B1 is taken by most to have been the opening of Heraclitus' book.[83] It provides us with good evidence that Heraclitus was interested in the "nature" of things:

> B1: τοῦ δὲ λόγου τοῦδε ἐόντος αἰεὶ ἀξύνετοι γίνονται ἄνθρωποι, καὶ πρόσθεν ἢ ἀκοῦσαι, καὶ ἀκούσαντες τὸ πρῶτον· γινομένων γὰρ πάντων κατὰ τὸν λόγον τόνδε ἀπείροισιν ἐοίκασι, πειρώμενοι ἐπέων καὶ ἔργων τοιούτων, ὁκοῖα ἐγὼ διηγεῦμαι κατὰ φύσιν διαιρέων ἕκαστον καὶ φράζων ὅκως ἔχει. τοὺς δὲ ἄλλους ἀνθρώπους λανθάνει ὁκόσα ἐγερθέντες ποιοῦσιν, ὅκωσπερ ὁκόσα εὕδοντες ἐπιλανθάνονται.[84]
>
> Of this *logos* which is forever, humans prove to be uncomprehending, both before they hear it and after hearing it for the first time. For although all things come to be in accordance with this *logos,* they are like the unexperienced experiencing words and deeds such as I explain *when I distinguish each thing according to its nature and show how it is*. Other men are unaware of what they do when they are awake just as they are forgetful of what they do when they are asleep.[85]

Despite the warnings that his readers will have considerable difficulty understanding what he has to say, Heraclitus, right at the beginning of his little book, promises them a demonstration of the nature of things. Since he promises to distinguish (διαιρέων) *each* thing (ἕκαστον) according to its nature (κατὰ φύσιν), I take this as strong evidence that

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[83] Aristotle and Sextus both claim that B1 is the opening to Heraclitus' book.

[84] This fragment is preserved for us by both Sextus Empiricus (160-210 AD) *Against the Professors* 7.132-133 and Hippolytus (170-235 AD) *Refutation* 9.9.3. It raises a number of interpretive issues, most notably concerning the term λόγος. Most interpreters have supposed that the term refers to some cosmic principle. This has been doubted/challenged by some, who claim that it simply refers to Heraclitus' account (i.e. his book). I am in agreement with Johnstone, who argues for a middle position. See Johnstone, M. "On '*Logos'* in Heraclitus," *Oxford Studies in Ancient Philosophy* 47 (2014), 1-29.

[85] Italics mine.

Heraclitus is here referring to the nature of *things*, as opposed to Nature in general.[86] One important problem to be solved, of course, is what exactly Heraclitus means by φύσις.

Several solutions concerning Heraclitus' use of φύσις have been put forward in the literature. The most popular solution, originally advanced by G.S. Kirk (1954) and followed by Marcovich (1967/2001), Kahn (1979) and Robinson (1984), is the claim that Heraclitus' use of φύσις denotes the "real constitution" of something.[87] Unfortunately, not one of these scholars provides a sufficient definition for "real constitution" and, as a result, this solution isn't particularly helpful for understanding Heraclitus' use of φύσις.[88] Naddaf (2005) agrees that φύσις denotes the "real constitution" of an object, but he also offers a precise definition for φύσις. He argues that even in Homer's time φύσις refers to "the nature of a thing as it is realized with all of its properties from beginning to end, or

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[86] Diels famously translates φύσις as "die Natur" which implies that Heraclitus is interested in the Nature of the universe as a whole. Most scholars have abandoned this idea. See Kirk, pp. 228-229 who argues that this cosmic use of φύσις post-dates Heraclitus. The term φύσις in the 5th century was most commonly used to denote something that belonged to particular things. See See Beardslee, J. *The use of ΦΗΥΣΙΣ in 5th Century Greek Literature* (Chicago, 1918) especially pp. 6-8.

[87] See Kirk (1954, pp. 42-3 and p. 229). Robinson (1987, p. 11) and Marcovich (2001, p. 10 and p. 33) simply claim that φύσις means "real constitution" without explaining what they think this entails. Kahn (1979, p. 99) seems to agree but alters the terminology by calling it the "genuine nature or structure of a thing." Kahn also seems to think it refers to a kind of philosophical "truth" (p. 105). Elsewhere Kahn also claims that it indicates "essential character" (Kahn 1960, p. 201).

[88] Kirk claims that "[i]n the word "constitution" is implicit the idea of arrangement or organization of parts ...To "distinguish each thing according to its real constitution" involves an analysis of a complex object ... which is carried out by means of the separation and classification of its component parts" (p. 42.). However, he also claims that "the φύσις of a thing ... [is] that which governs its behaviour" (p. 43). Elsewhere he even claims that "the broad general sense of φύσις, from which all specialized senses are derived, is 'essence' or 'nature', the way a thing is made and, what is at times connected with this, the way it normally behaves" (p. 228). While this last description of φύσις isn't meant to describe Heraclitus' use itself, he seems to think that Heraclitus' use of φύσις is contained in this description. However, as I will show, Heraclitus' use of φύσις does not denote "essences" of things. At any rate, Kirk's explanation of Heraclitus' use of φύσις clearly lacks specificity.

the whole process of growth of a thing from birth to maturity."[89] However, as I will show below, this is an over-estimation of Homer's use of φύσις. Furthermore, Naddaf, without argument, makes a bold claim concerning Heraclitus B1: "In this fragment, the fundamental meaning of *phusis,* - the nature of a thing as it is realized with all of its properties from beginning to end, or the whole process of growth of a thing from birth to maturity -- is not in doubt."[90] But Heraclitus claims that "a nature (φύσις) is hidden" (B123) so it seems that φύσις cannot refer to *all* of a thing's properties; instead it seems to refer to properties which are in some way hidden. So, while Naddaf's solution does not lack specificity, it seems to overestimate Heraclitus' use of φύσις.[91]

Another possible solution, proposed by Gigon (1935) and Dilcher (1995), is that φύσις refers to the "growth" or "becoming" of a thing.[92] This solution is based on the speculation that the meaning of φύσις is derived from the meaning of φύομαι (to grow).[93] However, as I will show below, the earliest uses of φύσις (including Heraclitus') contain no obvious connotations of growth or becoming.

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[89] See Naddaf, G. *The Greek Concept of Nature* (Albany: State University of New York Press, 2005), p. 14 - 15.

[90] Ibid.

[91] Naddaf's analysis fails to investigate the non-philosophical use of φύσις in the 5th century where it seems to denote the external character of a thing or person.

[92] Naddaf too sees connotations of growth in the term. Dilcher adds that the φύσις refers to the "life-process" and "life-force" of an organism (p. 95).

[93] One might well wonder how the meaning of a noun ending in -σις does not resemble its verbal root. Kirk claims that "the root φυ- simply implies existence." Elsewhere he claims, "no one denies that φύομαι means 'grow' - but *this* may be a derivative meaning. Rather the truth is that at the 'primitive' stage of language there is no firm distinction between 'become' and 'be'" (Kirk 228).

One final solution for understanding Heraclitus' use of φύσις, put forth by Hülsz Piccone (2013), is that it refers the *essence* of things.[94] However, Heraclitus promises to explain and distinguish each thing (ἕκαστον) according to its nature. But when we look at all the possible referents for ἕκαστον, nowhere do we see Heraclitus providing a characterization of things sufficiently precise to justify the claim that it states an *essence.* Rather than essences of things, Heraclitus seems to provide his readers with strange and sketchy characterizations of objects, usually identifying them in some way with some sort of oppositional pair. Despite this, as I hope to show, we can still understand Heraclitus' use of φύσις in a way that does not lack specificity and is supported by the extant fragments.

Before looking more closely at Heraclitus' use of φύσις, it may be helpful to take a look at the historical progression of the term up to the time of Heraclitus. Unfortunately, there are relatively few early examples with which to compare Heraclitus' use of φύσις. More popular before the time of Heraclitus was the verbal form of the root φυ-: (to grow). As stated above, this has led some scholars to believe that φύσις has connotations of growth and becoming. However, when we look at the various examples

[94] See Hülsz Piccone, E. "Heraclitus on *Phusis*," *Epoché* 17.2 (2013). He argues that "the meaning of the word 'physis' in Plato and Heraclitus isn't natural or physical reality, but reality *tout court*, or the nature of things (their essential being: the what, how and why of things that are)." Kirk also hints that φύσις might refer to essences (p. 228). Kahn too seems to think that φύσις refers to the "essential character" of things (Kahn 1960, p. 201).

of φύσις up to the 5th century, it is difficult to actually see the connotations of growth.[95] For example, if we examine the sole use of φύσις in Homer, we will find that the term has no obvious connotation of growth:

> *Odyssey* Book 10: 302-6.
> ὣς ἄρα φωνήσας πόρε φάρμακον Ἀργεϊφόντης
> ἐκ γαίης ἐρύσας καί μοι φύσιν αὐτοῦ ἔδειξε.
> ῥίζῃ μὲν μέλαν ἔσκε, γάλακτι δὲ εἴκελον ἄνθος·
> μῶλυ δέ μιν καλέουσι θεοί, χαλεπὸν δέ τ᾽ ὀρύσσειν
> ἀνδράσι γε θνητοῖσι· θεοὶ δέ τε πάντα δύνανται.
>
> So saying, Giant-killer gave me the herb,
> drawing it from the ground, and showed me its nature.
> At the root it was black, but its flower was like milk.
> Moly the gods call it, and it is hard to dig
> for mortal men; but with the gods all things are possible.

Even though the Moly plant must be "dug up" in order to reveal its nature (φύσις), the nature of the plant is something *external* and *visible* once it has been dug up: the root is black and the flower is milky. Some scholars think that the Moly plant's power as a drug is also intended as part of its φύσις, since Hermes is giving this information to Odysseus so that he can use the drug to escape the power of Circe.[96] But silence is not louder than words and Homer does not actually include its potency in the descriptive list, which is presumably the φύσις of the Moly. The only reference to a non-physical aspect of the

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[95] Kirk strongly contests the idea that meaning φύσις is derived from the meaning of φύομαι. He says that "No one denies that φύομαι means to 'grow' - but *this* maybe a derivative meaning." He goes on to say "Rather the truth is that at the 'primitive' stage of language there is no firm distinction between 'become' and 'be'. The root φυ- simply implies existence, and the broad general sense of φύσις, from which all specialized senses are derived, is 'essence' or 'nature', the way a thing is made and, what is at times connected with this, the way it normally behaves" (228).

[96] See Naddaf, G. *The Greek Concept of Nature* (2005), p. 14.

plant included in the description is the reference to its divine name. The idea here is perhaps that there are proper names belonging to objects, the knowledge of which belongs to the gods. In any case, the important point is that Homer's use of φύσις does not connote growth; rather, it refers to some basic characteristics of the object in question (i.e. its colours, name and maybe the fact that it is dug-up with difficulty), all of which are *shown* (ἔδειξε) by the god Hermes.[97]

We can now look at some uses of φύσις around the time of Heraclitus, particularly in Pindar and Aeschylus.[98] Much research has been done on the earliest uses of φύσις (i.e. Homer to Aeschylus); the general position seems to be this: the term φύσις refers to the external quality of a thing or person.[99] To give a sense of the use, I include here a discussion of some passages from Pindar and Aeschylus.

In Pindar's *4th Isthmian Ode to Melissus of Thebes*, at line 50, he says:

οὐ γὰρ φύσιν Ὠαριωνείαν ἔλαχεν·
ἀλλ' ὀνοτὸς μὲν ἰδέσθαι,
συμπεσεῖν δ' ἀκμᾷ βαρύς

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97 Contra Naddaf who argues that Homer's use of φύσις connotes growth and all the properties of the moly plant (see above p.5).

98 Heraclitus' birth is generally dated at 535 BC, Pindar and Aeschylus's are both dated at 525 BC.

99 See Beardslee, J. *The use of ΦΗΥΣΙΣ in 5th Century Greek Literature* (Chicago, 1918). Of Pindar he says: *"*In Pindar φύσις is used only twice, but φύη is frequently found, and there is apparently no difference between the meanings of the two words. φύη is Homeric and is in Homer always used for the outward physical character, generally as an accusative of specification" (pp. 6-7). Of Aeschylus he says: "In Aeschylus φύσις is used only for the "outward, visible character" of a person or thing. He uses the word five times" (p. 8). Beardslee summarizes his discussion of Homer, Pindar and Aeschylus: "With regard to these nine instances, the only ones found in literary Greek before the middle of the fifth century ... [a]ll ... refer to the outward, visible characteristics of the object or person under consideration — to its " appearance." This should be expected in early, non-philosophical Greek..." (p. 8).

> For [Melissus] was not granted the nature of Orion;
> But he is negligible to look at,
> though heavy to grapple with in his strength.

Pindar contrasts the φύσις of Melissus with that of Orion. Orion, the mythical, giant huntsman, was considered to be handsome, while Melissus is so ugly it is a shame (ὀνοτὸς) for him to be seen. Yet, contrary to his looks (i.e. φύσις), Melissus is strong and apparently an excellent athlete, considering his victory at the Isthmian games. So it appears that Pindar is using φύσις to refer to the *apparent, external* appearance of Melissus. But the apparent qualities (presumably his ugliness) are deceptive, since he is in fact quite strong.

We see a similar use of φύσις in Aeschylus' *Suppliant Women* at line 496:

> μορφῆς δ' οὐχ ὁμόστολος φύσις·
> Νεῖλος γὰρ οὐχ ὁμοῖον Ἰνάχωι γένος
>
> The nature of my shape is unlike yours,
> for the Nile race is not similar to that of Inachus.

Again we see φύσις used to describe the apparent, visible qualities of an object. In this passage, Danaus has just asked the King of Argos for Argive attendants, so that he and his daughters may pass through the streets of Argos unnoticed. He is worried because, as he explains, the nature of his (and presumably his daughters') form (φύσις) is of the Nile

race and he wants escorts of the race of Inachus (i.e. Argives), so he can try to hide his and his daughters' outward appearances from unwanted attention.[100]

What we can conclude from this brief analysis of the earliest uses of φύσις is that the standard usage seems to denote a characterization of the outward, visible appearance of objects and persons. The term φύσις does not seem to refer to, or even connote, the "growth" or "becoming" of an object (contra Gigon and Dilcher) nor does it refer to the sum total of an object's properties (contra Naddaf), but rather simply to its external and visible qualities.

Heraclitus, as it turns out, seems to use the term in a completely different manner. Consider fragments B123 and B54:

B123. φύσις κρύπτεσθαι φιλεῖ.[101]

A nature tends to be hidden.[102]

B54. ἁρμονίη ἀφανὴς φανερῆς κρείσσων.[103]

The invisible joining is greater than the visible.

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[100] C. E. Hajistephanou comments on Aeschylus "that both the word φύσις, in all five instances of its occurrence in Aeschylus, and a considerable number of its various cognates to be found in the same dramatist, present no special interest for the purpose of character description" (p. 2). By "character" Hajistephanou means something like "personality traits." In other words, Aeschylus does not use the term to explain anything deeper than external qualities.

[101] This fragment is preserved for us by Themistius (317-387 AD) *Orations* 5.69b.

[102] Not, "nature loves to hide" as it is often translated. See Graham, D. "Does Nature Love to Hide? Heraclitus B123 DK," Classical Philology, 98.2 (2003),175-179. He demonstrates that φιλέω + an infinitive always marks a "tendency" in early Greek.

[103] This fragment is preserved for us by Hippolytus *Refutations* IX.9.5

Taken together, these two fragments suggest that the nature of something, for Heraclitus, is often *hidden* and *invisible.* The term "joining" translates the Greek word ἁρμονίη*,* the root for the English word "harmony."[104] In the days of Heraclitus, this word was quite often used for the joint between two planks of wood on a ship.[105] Perhaps more importantly, it was also used to refer to agreements uniting hostile (i.e. opposing) military forces.[106] Immediately, we see a large difference between Heraclitus' use of φύσις and that of his contemporaries and predecessors. While the standard usage of φύσις seems to have referred to the characteristic aspects of an object that are visible and apparent, Heraclitus says that the φύσις of things is *hidden*. These two fragments also imply that the hidden nature is a joining of something and that this joining is "greater" than the apparent joining of an object. Heraclitus seems to be directing his reader's attention away from the visible, apparent nature of things, to what he thinks is the *real* and hidden nature of things. How are we to make sense of these invisible/hidden joints that are said to be greater than the visible joints? Fragment 51 suggests an answer to this question:

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[104] Ultimately, the term ἁρμονίη seems to means something like "structure" as Graham ([*Texts*], p. 161) and Kahn (p. 197) recognize.

[105] See Powell, J. E. *A Lexicon to Herodotus* (Cambridge, 1938; reprint Hildesheim, 1966).

[106] See *Illiad* XXII.255. Also see Kahn p. 196 for a description of the use of ἁρμονίη in the time of Heraclitus.

> B51. οὐ ξυνιᾶσιν ὅκως διαφερόμενον ἑωυτῶι ὁμολογέει. παλίντροπος ἁρμονίη ὅκωσπερ τόξου καὶ λύρης.[107]
>
> They do not understand how being at variance with itself it agrees with itself: back-turning structure as of a bow or a lyre.

This fragment contains the same word as B54, ἁρμονίη, but adds that this joining is "back-turning," just like the structure we see in a bow or a lyre, and that something "agrees" with itself while "being at variance" with itself. We must determine what this "something" is. It might be tempting to think that what agrees with itself in B51 is the entire *kosmos.*[108] However, I do not think this is correct. We have seen from B1 that Heraclitus is concerned with the φύσις of "things." We have also seen from B123 that this φύσις (which I take it still means the φύσις of things) is *hidden.* Furthermore, we have seen from B54 that a hidden (or invisible) ἁρμονίη is greater than the visible joining. So, since ἁρμονίη recurs in B51, I believe it makes good sense to suppose that the common

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[107] This fragment is preserved for us by Hippolytus in *Refutations* IX.9.2. There is some disagreement over the word παλίντροπος; some scholars prefer παλίντονος (i.e. back-stretched) since the term was known in ancient times as a Homeric epithet for "bow" (τόξον). Furthermore, Plutarch, who cites the fragment three times, once renders it παλίντονος. Marcovich and Kirk support παλίντονος, while Kahn and Graham support παλίντροπος. For my part, I am happy to leave the text as it has been handed down to us as παλίντροπος.

[108] This is how Hippolytus, who is our source for this fragment, interpreted it. Dilcher (pp. 54-55) and Kahn (p. 197) seem to agree with Hippolytus (although Dilcher argues that the structure of the *kosmos* mirrors the structure of the human (see Dilcher p. 93)). Kirk (pp. 205-207), and Marcovich (p. 126) argue that it refers to anything that is at variance with itself while agreeing with itself. Yet Kirk (p. 207) seems to suggest that this refers to the *kosmos.* I agree with Kirk and Marcovich that B51 refers to anything that is at variance with itself while agreeing with itself; however, my interpretation seeks to give a more concrete determination of the application of this fragment.

thread running through B1, B123, B54 and B51 is the idea of the *nature of a thing.*[109] If so, then it makes good sense to suppose that what agrees with itself while being at variance with itself in B51 is the nature of a thing. If this is right, then the latter portion of B51 helps us to understand what the nature of a thing might be. The joining of the string to wood is the visible connection (or "joining") of the bow, which requires this connection. However, the *invisible* joining is greater: the joining of opposing *forces* (i.e. the opposing *forces* which the string and the wood exert on each other) is what constitutes the *true* nature of the bow or the lyre.[110]

I think we can learn a lot about Heraclitus' idea of φύσις from the preceding three fragments. First, for Heraclitus, the term φύσις refers to essential properties characteristically present in it. Second, these properties are pairs of *opposites,* which are joined together in the object like opposing military forces who have become an allied unit. And third, these opposing properties are invisible and hidden, yet tell us more about

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[109] I don't deny the fact that Heraclitus thought the entire *kosmos* is caught up in this ἁρμονίη; however, to claim, as most commentators do, that the bow and lyre are *simply* symbols for the structure of the entire *kosmos* is to miss the very interesting point that I think Heraclitus is making here.

[110] Marcovich wishes to read the fragment like this: the bow provides the tension while the string provides the harmony. The two sides of the bow are pulling in opposite directions while the string harmonizes the tension. See Marcovich pp. 128 -9 for an interesting diagram. The problem is that we have seen that the ἁρμονίη is *hidden* for Heraclitus. As such, I don't believe Marcovich's interpretation holds much weight. Kirk seems to support a reading similar to mine. He states, "the connection is one which simultaneously operates in contrary ways, and it is only maintained so long as each tension exactly balances the other. If the outward pull of the arms is too strong the string breaks; if the inward pull of the string is too strong the arm breaks" (Kirk, 217).

the object in question than the visible joining of an object's material parts.[111] In a way, φύσις in Heraclitus means something quite similar to φύσις as it was used in Homer, Aeschylus and Pindar: φύσις refers to the basic characteristics of an object or thing by which we can identify what sort of thing it is. However, while Heraclitus' literary contemporaries and predecessor looked to some basic, visible qualities of an object to characterize and identify it, Heraclitus seems to be giving a deeper characterization of objects. For him, the internal and essential properties tell us more about the object in question than its external, material qualities. We could represent Heraclitus' specific use of φύσις more formally in the following way: *the nature of a thing is the set of opposites necessarily inherent in it upon which all objects of that kind depend for their existence*. The nature is *not* the essence of the object in an Aristotelian sense (contra Hülsz Piccone). It is not the set of *defining* features of a thing, nor is it the sum total of all a thing's properties (contra Naddaf). Rather, nature, for Heraclitus, is simply the set of opposing properties residing in an object, which are necessary for that object's existence. This explanation of the meaning of φύσις in Heraclitus avoids the problems associated with the solutions discussed above: it does not lack specificity and it does not attribute a

[111] We have good reason to believe that Heraclitus thought of objects as metaphysical composites of opposing forces. One such reason comes from fragment B80: εἰδέναι δὲ χρὴ τὸν πὸλεμον ἐόντα ξυνόν, καὶ δίκην ἔριν, καὶ γινόμενα πάντα κατ᾽ ἔριν καὶ χρεὼν. "We must recognize that war is common, strife is justice, and all things are brought into existence according to strife and necessity." In other words, the striving of opposites is somehow the way in which things are brought into existence. Another bit of evidence comes from Pseudo-Aristotle who claims that Heraclitus believed that "the composition of all things -- I mean of heaven, earth, and the whole world -- was structured by a single harmony through the blending of the most contrary sources" (*On the World* 396b22-25).

meaning that is not evident in the fragments. Furthermore, we can actually see this notion of φύσις at work in multiple fragments of Heraclitus – or so I will contend.

III. Φύσις and Opposites

In this section, I argue that there is a set of Heraclitean fragments which exhibit this particular notion of φύσις. The fragments discussed in this section are usually taken by scholars to be real-life instantiations of the alleged "essential connection of opposites" (i.e. Kirk's definition of the unity of opposites). On this reading, the philosophical importance of these fragments has to do with the conceptual relation between opposites in general. However, I believe this is wrong. If I am right to think that these fragments ought to be associated with Heraclitus' notion of φύσις as discussed above, then it would seem that Heraclitus is more interested in the nature of the thing in which the opposites inhere than in the conceptual relations of the opposing terms. I will explain how the fragment illustrates Heraclitus' notion of φύσις. I will also point out that there seems to be some sort of dependency relation between the object in question and the set of opposing properties inherent in it. I will fully develop the idea of this dependency relation in the final section of this chapter.

Consider first fragment 65:

B65. καλεῖ δὲ αὐτὸ [sc.τὸ πῦρ] **χρησμοσύνην καὶ κόρον.**[112]

[112] This fragment is preserved by the early Christian theologian Hippolytus in his *Refutation of all Heresies* 9.10.7. Only what is in the bold is considered "authentic." We have to trust Hippolytus that "need and satiety" do indeed refer to fire. Hippolytus embeds this quotation in a Stoic interpretation of Heraclitean fire (namely that there is repeated stage of the cosmos in which the entire world is burned up). There is no evidence from the fragments themselves that Heraclitus held this view.

He calls [fire] **need and satiety**.

Need and satiety are two characteristic properties manifested by fire.[113] When a fire begins, it "needs" to spread. Yet, by spreading, it becomes spent and is satisfied. Often, this need and satiety are simultaneous, occurring in different parts of the fire. The point, I think, is that wherever there is a fire, there also exists a state of both need and satiety. As such, it is reasonable to think that Heraclitus, by calling fire "need and satiety," is drawing our attention to some of fire's characteristic and essential properties.[114] These characteristics of fire are a) essential *properties* inherent in fire, b) *opposing* properties, and c) *hidden* characteristics of fire. They are "hidden" in the sense that it isn't immediately obvious that a flame demonstrates the opposing powers of "need" and "satiety." It requires an understanding of what fire *is,* not simply what it looks like. As such, B65 seems to be a clear instance of Heraclitus examining something and explaining it in accordance with its φύσις (by which I mean his particular sense of the term, as explain above).

Heraclitus gives a similar kind of statement in fragment 61:

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[113] It must be noted here that this is not the only reference to fire in Heraclitus. I believe there are at least three senses of fire for Heraclitus: the *elemental* sense of fire, the *symbolic* sense of fire, and the *everyday* sense of fire. We have already discussed the first two sense of Heraclitean fire in Chapter 1. I believe that B65 is representative of the third use of fire. This fragments seems to characterize a portion of fire that one might chance upon in the everyday world. I do not mean to suggest that the three uses of fire have nothing to do with one another (e.g. the characterization of fire in B65 may also apply to *elemental* fire and fire that is *symbolic* of the *kosmos*).

[114] Perhaps we could go as far as saying that fire, for Heraclitus, contains a principle of rest and motion. At least, this seems to be what he is attempting to say in this fragment.

> B61. θάλασσα ὕδωρ καθαρώτατον καὶ μιαρώτατον - ἰσχθύσι μὲν πότιμον καὶ σωτήριον, ἀνθρώποις δὲ ἄποτον καιὶ ὀλέθριον.[115]
>
> Sea is the purest and most polluted water: for fish drinkable and healthy, for men undrinkable and harmful.

Hippolytus, our source for this fragment, claims that Heraclitus "says that the polluted and the pure are one and the same thing, and that the drinkable and the undrinkable are one and the same thing."[116] This, in fact, does not seem to be Heraclitus' intent in this fragment; rather, he seems to be characterizing one object (sea-water) as containing a pair of opposing properties (purity and pollution). The second part of the fragment explains how this apparent paradox can be: since water is life-sustaining for fish and deadly for humans, we can, in that sense, call sea-water "pure and foul." Whereas the main point made by this fragment has to do with the importance of differing perspectives,[117] I maintain that Heraclitus also intended this fragment to say something crucial about the nature of sea-water. It is in the nature of sea-water to manifest these two opposing properties because "life-sustaining purity" and "deadly impurity" inhere in sea-water itself. If this is right, then, again, we see that Heraclitus has characterized an object by

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[115] This fragment is also preserved by Hippolytus (*Refutatio* IX.10.5).

[116] A view shared by Kirk: "In this fragment Heraclitus' theory that opposites are the same because they can inhere simultaneously in the same subject, in the judgment of observers of a different type, is expressed in its clearest form" (Kirk, 74). I agree with Kirk that these opposites are inhering simultaneously in the same object; the point of disagreement is that Kirk thinks the philosophical significance is *merely* that this is an instance where opposites are connected while I argue that Heraclitus' intent here is the extrapolation of what I am calling the *dependence thesis.*

[117] Differing perspectives will be the topic of Chapter 4. There I argue that the value of objects is dependent on a kind of respondent. Ultimately, I will argue that B61 belongs to *both* the dependence and value categories. The first half of the fragment is captured by the dependence thesis, while the second half is captured by the value thesis.

referring to *opposing properties* that are *hidden/unapparent.* These properties are "unapparent" in the case of sea-water because they again require an understanding of what sea-water *is,* rather than a simple observation of what it looks like.

The next two fragments have been notoriously difficult to interpret. Consider first fragment B59:

B59: γραφέων ὁδὸς εὐθεῖα καὶ σκολιή.[118]

The way of writing is straight and curved.

This fragment appears, on its surface, to be illustrating nothing but a banal, even childish, observation concerning letters. Yet if we read this fragment in the way we have read the previous fragments cited in this section, it appears at least less banal, perhaps even profound. I believe the significance of this fragment is that Heraclitus is attempting to explain a hidden φύσις of the way of writing. The typical interpretation of this fragment is that it demonstrates the connection between straightness and curvedness; but it actually seems to fit quite well with Heraclitus' unique notion of φύσις. The term γραφή in its most general form denotes any sort of representation with lines (this is why it can capture both "writing" and "drawing"). Every letter of the Greek alphabet is composed of lines; each line is either straight or curved. When one is writing letters, the individual's writing

[118] This fragment is preserved for us by Hippolytus (*Refutation* IX.10.4). It has presented considerable difficulties for interpreters, since it is imbedded in some of Hippolytus' clearly incorrect interpretations of Heraclitus (see Kirk pp. 97ff for a lengthy discussion of the difficulties). What is written here is agreed upon by most scholars to be authentic (especially since σκολιὴ is uniquely Ionic). Some have argued that the word γραφή should be replaced with γνάφων (carding roller) (see e.g. Marcovich p.163ff). If this is correct, the fragment can still be easily analyzed as exhibiting Heraclitus' notion of φύσις.

utensil will follow either a straight path or a curved path. For example, the letter Φ is composed of one straight line and one curved line.[119] Thus it is in the nature of letters or writing to be both curved and straight. One might object that this is quite plain, while the argument has been that the φύσις of something is *hidden.* Yet the *fact* Heraclitus seems to be pointing out is that writing is composed of a connection between curved and straight lines. Certainly the idea that we can characterize writing as a harmony of straightness and curvedness is not entirely obvious or apparent. The idea expressed by this fragment is that curvedness and straightness, although opposing properties, are both *essential* properties of letters, at least as they appear in the Greek alphabet.

Now consider fragment B48:

B48: τῶι οὖν τόξωι ὄνομα βίος, ἔργον δὲ θάνατος.[120]

The name of the bow is life, but its work is death

Recall from the first section of this chapter that Homer, in the *Odyssey,* writes of the god Hermes showing the φύσις of the Moly plant to Odysseus. One part of the description of the φύσις was the *name* of the plant. We derived the idea that perhaps the names of objects were thought to be intrinsically characteristic of those objects. Fragment B48

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[119] Alternatively, we could read Heraclitus as saying that, according to the way we write, the letters are in a straight line across the page while the letters themselves are composed of curved lines. In this way writing is straight and curved. I think both interpretations are possible, but I prefer the idea that the all letters are composed of straight and curved lines. The reason for this is that the term γραφή most basically refers to drawn, individual lines.

[120] This fragment is preserved for us in the *Etymologicum Magnum,* a Greek lexical encyclopedia written by an unknown scholar in Constantinople (circa 1150 AD). The fragment occurs under the title heading: βίος.

seems to suggest that this is also true for Heraclitus.[121] Looking at B48, we see that Heraclitus claims that a bow (τόξωι) has a name (ὄνομα) and a work (ἔργον); but a bow's name is *life* (βίος), while its work is *death* (θάνατος). The Greek word βίος means "life," while the subtly different word βιός is an alternative word for "bow." Both words would have been written identically as BIOΣ, although they would probably have been pronounced with a slight difference in emphasis.[122] Heraclitus seems to have thought this subtle relation between the two words was significant to the φύσις of the bow; as such, he seems to have thought the bow to have the opposing properties of life and death. In fact it is quite easy to see how a bow would have these two properties. A bow is used for one of two main purposes: hunting or war. In both activities the bow produces life and death. In hunting, the death of the hunted animal sustains life for the hunter. Likewise in war, the death of an enemy implies life for the soldier. Death-inducing and life-giving, in this sense, seem to be properties of the bow in an essential way. Again, this seems to be a characterization of a bow in accordance with a hidden, even subtle set of opposites.

This same interpretation can be given of fragment B60 and B103a.

B60: A road up and down is one and the same.

ὁδὸς ἄνω κάτω μία καὶ ὠυτή.[123]

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[121] Kirk (p. 118-120) and Snell (*Hermes* 61 (1926), p. 367) also recognize the idea that names of things pertain to their nature for Heraclitus.

[122] See Kirk p. 120, footnote 2.

[123] This fragment is preserved for us by Hippolytus, *Refutations* 9.10.4. Of interest is the Ionic use of ὠυτή which signals that this is indeed a verbatim quotation of Heraclitus. Many have taken this fragment to refer to some sort of cosmic cycle between the transformations of the elements (see Gigon). Reinhardt (1942) argues that the ground for this sort of interpretation is lacking.

B103a. The beginning and end on a [circumference of a] circle are common.

ξυνὸν γὰρ ἀρχὴ καὶ πέρας ἐπὶ κύκλου [περιφερείας].[124]

B60 refers to a road, which, despite having the opposing properties of "up" and "down" is "one and the same." Some have taken this fragment to refer to differing perspectives. Imagine a hill with a road to the top. From the bottom of the hill, the road is up. From the top of the hill, the road is down. This may have been Heraclitus' intention. And if so, the properties "up" and "down" would be extrinsic properties, relative to different perceivers. But I think a better interpretation might be to think that Heraclitus is referencing a road which inevitably has higher and lower sections. At least, on this reading, the properties "up" and "down" would be intrinsic to the road and not relative to different perceivers. If so, it would resonate better with some of the other fragments cited in this chapter.[125]

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[124] This fragment is preserved for us by Porphyry in *Homeric Questions,* on *Illiad* 24.200. There is some debate whether the last word of the fragment is verbatim. It does not seem to matter much for issues of interpretation. Kirk seems to treat this fragment as the template for interpreting all the other fragments: "This is the essence of the other fragments assigned to this group, and there seems to be no reason to doubt that this fragment, too, is a statement that apparent opposites are, in certain cases and from certain aspects, the same" (Kirk, p. 115).

[125] It is true that the sea-water fragment cites extrinsic opposing properties and so it would be fine to read the road fragment in like manner. However, Heraclitus lived in Ephesus, a notoriously hilly city. It wouldn't be odd for Heraclitus to think that a road is something that is composed of upward and downward sections (recall that writing is composed of straight and curved lines). Furthermore, there is a road in Ephesus, now called the sacred way, which had a long downward section followed by a long upward section reaching up to the temple of Artemis. In antiquity the downward section was referred to as "*Kathodos*" and, perhaps later, the upward section became known as the "*Anodos*" (see Murphy-O'Connor (2008), p. 191). Today, these names survive on various street maps of Ephesus. Perhaps the Sacred Way did not bear these appellations in the time of Heraclitus, but it is quite fascinating that a geographical feature of this town gave way to these two names which bear a striking resemblance to Heraclitus' fragment B60. What does this amount to? Perhaps Heraclitus was citing the two sections of the Sacred Way (*ano kai kato*) when he claimed that the road is one and the same. In this case, B60 should be interpreted with the opposites as intrinsic properties of the object. If this is mere coincidence, the same interpretation could stand. It would then, I think, be equally likely that the fragment is referring to extrinsic properties relative to different perceivers. Either interpretation, I think, fits the overall interpretation of what I am calling the *phusis* fragments.

B103a claims that a circle is the sort of thing whose beginning and end are common points. It is essential to a circle that it have its beginning and end point in common. Here again Heraclitus seems to be characterizing a type of object by means of identifying its essential, yet opposing properties.

What all these examples of opposites (i.e. B51, B65, B61a, B59, B48, B60 and B103a) have in common is a descriptive explanation of the nature of certain objects. Heraclitus seems to be demonstrating that there inhere in these objects certain pairs of opposites which are, in some way, constitutive of their nature. This nature, as I have argued, is what makes objects what they are. In addition, I want to suggest that the idea that two opposing properties are united in an object seems to provide the objects in question with a principle of unity; that is, the objects are *units*, rather than blobs of matter, *because* of the oppositional relations inherent in, and particular to, the objects mentioned (this idea will be explained more fully in the next section). We have seen from fragment B1 that Heraclitus' goal is to distinguish things according to their nature. These fragments all seem to exhibit Heraclitus' notion of φύσις: that talk of a thing's "nature" refers to the properties characteristically present in it. These properties are pairs of *opposites* which are joined together in the object like opposing military forces which have become united as allies. They are invisible and hidden, yet they tell us more about the object in question than the visible joining of an object's material parts.

For Kirk, these fragments (i.e. B51, B65, B61a, B59, B48, B60 and B103a) are concerned with the nature of opposition, rather than the natures of the things in which

they inhere. For him, they imply that all opposites are essentially connected. On this interpretation, Heraclitus wrote them down to demonstrate all the various instances in which opposites are connected. In other words, according to Kirk, whenever we come across any fragment containing a pair of opposites (say "need and satiety"), what really matters for Heraclitus is the conceptual connection between the two opposites. Fire, which is allegedly the unifying term for this oppositional pair, is accidental to, and even dispensable for, the idea that these opposing forces are connected.

Now, to be clear I do not disagree with Kirk that the conceptual connection between these opposites is important. However, I argue that the *deeper* point Heraclitus makes is that the connection of opposites is essential to the natures of the things in which they inhere. One important consideration in favour of this view, I argue, is the fact that Heraclitus explicitly states, at the beginning of his treatise, that one of his goals is to explain the φύσις of things. I have argued that the meaning of "nature" for Heraclitus is not something like "essence" or the "definition" of things; rather, the word φύσις refers to the *character* of a particular thing. The character turns out to be a relation of opposing properties inherent in that object. This discussion of nature is the true significance of the fragments in which Heraclitus discusses opposites as inhering in things. It represents a distinct thesis among several concerned with opposition.

IV. Objects and Change

In this section, I will argue that the notion of *phusis* that appears in Heraclitus includes a kind of dependence relation of the object on the opposing, essential properties.

In order to arrive at this analysis, I need to first discuss the river fragment and some related fragments. In this section, I argue that these fragments (i.e. B12, B91, B125 and B84a) also exhibit Heraclitus' interesting idea of φύσις, albeit in a slightly different form. This different form, as I will demonstrate, is very suggestive of the dependence relations I believe are at work in these fragments. However, some scholars have taken these fragments to contain a thesis similar to Aristotle's theory of substance. I argue that this interpretation is inadequate, but that it is suggestive of the dependence thesis. I will develop this dependence thesis in the final section of this chapter.

Much has been said about Heraclitus and rivers. Many scholars take the river fragment(s)[126] to contain a flux thesis about the world (i.e. everything is moving like a river).[127] I provide here what I take to be the authentic river fragment, along with what seems to be an authentic follow-up explanation of its meaning:

> B12. ποταμοῖσι τοῖσιν αὐτοῖσιν ἐμβαίνουσιν ἕτερα καὶ ἕτερα ὕδατα ἐπιρρεῖ.[128]

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[126] There are several river fragments in the Diels-Kranz edition of the fragments. More recently, scholars have argued that only one of them (usually B12) is authentic while the others are paraphrases. McKenzie offers an alternative reading, in which she takes all three to be authentic. I follow the majority view in accepting only B12 as the authentic river fragment.

[127] There has been much debate concerning the alleged flux thesis. The first interpreter to officially ascribe this thesis to Heraclitus is Plato (Plato *Cratylus* 401d, 402a, *Theaetetus* 152d-e, 160d, 179d-e). More recently, a flux thesis of some sort has been supported by Gregory Vlastos (1954), David Wiggins (1982), Leonardo Taran (1999), and Daniel Graham (2006), as well as others.

[128] Our source for this fragment is Eusebius (*Preparation for the Gospel* 15.20). The mode of transmittance is complex. The fragment seems to have originally been preserved by Cleanthes, which in turn was preserved by Arius Didymus, which in turn was preserved by Eusebius (see Kirk p. 375 for a chart of B12's transmittance and variants). We have good evidence from the fragment itself that this is an authentic fragment of Heraclitus: the multiple Ionic endings (e.g. -οῖσι) and, as Kirk points out (p. 368), the "archaic repetition of ἕτερα."

On those stepping into rivers staying the same other and other waters flow.

B91. ... σκίδνησι καῖ [πάλιν?] συνάγει ... συνίσταται καὶ ἀπολείπει καὶ πρόσεισι καὶ ἄπεισι.[129]

...it [i.e. the river] scatters things and in turn gathers them ... it comes together and separates, approaches and departs.

[129] This fragment is preserved by Plutarch (*On the E at Delphi* 392b-c) who situates these pairs of opposites as pertaining to the river. Some scholars (e.g. Kirk p. 382-384,) think, with Plutarch, that this fragment pertains to rivers, and, as such, that it makes good sense to suppose that B91 and B12 ought to be read with each other in mind. Marcovich, however, argues that this fragment is not authentic (pp. 206-211) and that the pairs of opposites don't refer to rivers, even for Plutarch. His argument is that a) Plutarch's reference to Heraclitus ends before these pairs of opposites ensue, b) Plutarch cites the river as pertaining to mortal beings, and then characterizes mortal beings by this set of opposites (i.e. the subject of the opposites is *rivers*), c) the opposites, if characterizing rivers, mean a river would have to flow in both directions (which would be absurd), d) the first pair of opposites are transitive, yet if they pertain to rivers they should be intransitive, e) Plutarch uses these words elsewhere. I believe that Marcovich's evidence does not at all rule out B91 as a fragment. My counter-argument runs as follows. Concerning a), it is impossible to determine with certainty where the reference to Heraclitus begins and ends. At any rate, our determination of the termination of the reference should be based on an analysis of the opposites; yet Marcovich *begins* his critique of the fragment with this point. Concerning b), Plutarch seems to think, with Plato, that rivers pertain to "mortal beings." If so, he would have undoubtedly related a set of opposites which Heraclitus related to rivers as also pertaining to "mortal beings." Thus, even though Plutarch did think these opposites pertain to "mortal beings," it does not rule out the possibility that Heraclitus originally thought of these opposites as pertaining to rivers. Concerning c), the idea that a river would have to flow in both directions in order for these verbs to predicated of them is itself absurd: Heraclitus is not talking of a mathematical river of a perfectly linear flow of water molecules. Consider the eddies and pools that are formed by a large river and all these pairs of opposites make perfect sense. Concerning d), the first pair of verbs may very well be transitive, but this does not mean that they do not pertain to rivers (as one can see in our translation). Finally, concerning e), Plutarch does use these verbs elsewhere; yet he never cites them in pairs as they are done here. As we have shown in this chapter, it is characteristic of Heraclitus to characterize objects with pairs of opposites. As such, I believe we have no good argument to reject B91 as inauthentic.

I believe that this fragment is primarily concerned with the nature of rivers and not primarily concerned with the nature of the cosmos.[130] This set of fragments actually fits well with the notion of φύσις which I have been arguing belongs to Heraclitus. In B12, we see Heraclitus offering a characterization of rivers. He does not simply observe that a river is a constant movement of watery stuff (a manifest characterization); instead, he offers a *hidden* characterization: the river is the same (αὐτοῖσιν) *and* different (ἕτερα) at the same time. That is, the river remains the same while its material parts are always different. It is in the nature of a river to demonstrate this relation of opposing properties. Furthermore, if we take B91 as an authentic follow-up to B12, it is characteristic for a river to be structured by a harmonization of opposing properties: gathering/scattering, coming-together/separating.

Fragments B125 and B84a seem to contain a similar type of oppositional relation:

B125. ὁ κυκεὼν ἵσταται κινούμενος.[131]

The barley drink stands still while moving.

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[130] I am not suggesting that Heraclitus does not have a flux thesis of some sort; I am arguing that the river fragment ought not to be over-applied to the entire cosmos. The safest restriction, I think, is to claim that the applicability of the flux in the river fragment is to a *class* of objects. This class of objects remains undetermined simply because we do not have all the fragments from Heraclitus. We have good evidence to suppose that the structure of opposition in this fragment is akin to that of fragments 84 and 125. So, it is safe to say that the applicability extends beyond *just* the river fragment. There is, however, no evidence to suppose that this flux thesis applies to the whole cosmos. As such, the safest claim would be to say that it refers to some undetermined *class* of objects.

[131] This fragment is preserved for us by Theophrastus *De vertigine* 9.

B84a. μεταβάλλον ἀναπαύεται.[132]

Changing it rests.

In ancient Greece, the barley drink, or *kukeon*, was a mixed concoction containing shredded cheese, wine, honey and barley. When the *kukeon* was left to stand, the ingredients would settle; so, prior to drinking, one would have to shake or stir the concoction.[133] Heraclitus' point regarding the *kukeon* is that in a sense, the *kukeon* is not a *kukeon* unless it is in motion. If the ingredients of the *kukeon* are at rest, we only have a potential *kukeon.* So the *kukeon* is actualized by the movement. In this way, we could say that the *kukeon* stands still (i.e. remains what it is) by moving. The similarity between this fragment and the preceding fragment is that they can both be viewed as flagging essential properties in a way that *explains* the nature of certain objects.[134]

Concerning B84a, it is difficult to know the exact significance of this fragment, but it does seem to highlight an idea similar to that of the previous two fragments. That is, without the necessary condition of movement, the *kukeon* cannot "rest" or "remain" (i.e. remain what it is). Fragments B125 and B84a seem to contain a similar

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[132] This fragment is preserved for us by Plotinus *Enneads* 4.8.1

[133] In the 21st century, we could substitute a vinaigrette dressing for the *kukeon.* When a vinaigrette is left to sit, it separates into layers and is not, in that state, intended to be consumed.

[134] For more discussion on this fragment see Mackenzie (1986). Mackenzie actually offers a similar kind of interpretation to the one I am offering in this section in Mackenzie (1988). She states, "the unity of opposites suggests that there are individuals underlying properties (not just bundles of properties); and it does so by showing how the relation between the predicate and its qualifiers needs the primary term, the subject, for its effective expression (Mackenzie 1988, 16)."

thesis to B12; that is, some objects remain what they are (i.e. stay the same), because of some sort of change.

One might object that fragments B12, B125 and B84a do not seem to follow the same φύσις schema as the objects discussed in the last section. Fire, for example, is an object in which there are two inherent, yet opposing properties. These opposing properties are thoroughly *distinct* from the object in question. However, the river and the *kukeon* seem to follow a slightly different pattern: one of the opposites seems to be identical with the object in question. With respect to the river fragment, we might object that "staying the same" (αὐτοῖσιν) isn't itself a property distinct from the river; rather, the term is simply substitutable for the term "river" (i.e. αὐτοῖσιν is intended to be identical to ποταμοῖσι). Similarly with respect to the *kukeon,* we have claimed that ἰσταται ("stands still") means something like "remains what it is." If so, it seems as though the *kukeon* is identical to ἰσταται and there are really only two terms in the φύσις schema. Thus one *might* conclude that the river and *kukeon* don't belong to the φύσις fragments as explained in the previous section. However, this doesn't *actually* preclude them from being analyzed into a three-term φύσις schema. We could easily say that a river is the kind of thing that stays the *same* while its material parts are always *different* (i.e. "staying the same" can reasonably be construed as a property of the river). I believe that what we see here is an example of linguistic density: not only is Heraclitus casting the river in the three-term φύσις schema, he also seems to be pushing his reader to see that there is

something fundamental about the dependency of a river's *identity* (αὐτοῖσιν) on the different waters.[135]

I will fully explain my view regarding this dependency relation, but first it will be useful to examine how some scholars have construed the relation between the river's identity and its changing material parts. Some, for example, have suggested that B12, B125 and B84a contain a thesis similar to Aristotle's theory of substance.[136] On this reading, the river itself is the thing that does not change *despite* the fact that its material constituents are in a state of flux. In other words, the river is a higher order structure that remains while the particles of water flow on. While this *might* be something Heraclitus thought, I think this interpretation misses the deeper point that a river exists *because* there is constant change. So the river actually owes its identity to the flux of particles, rather than to some higher-order structure inherent in the river.[137] In other words, I believe that Heraclitus' point is that there is no river where there does not also exist a state of "other and other waters flowing." If the portions of water which make up the river are not moving, the river ceases to be and becomes a pond (compare this to the *kukeon*).[138] So,

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[135] Charles Kahn has argued that "linguistic density" is a rhetorical device utilized by Heraclitus. He defines it as "the phenomenon of meaningful ambiguity: the use of lexical and syntactic indeterminacy as a device for saying several things at once" (Kahn, 91).

[136] That Heraclitus is espousing a proto-Aristotelian view of substance is a common view. I discuss this view in the next section and point out several issues with it.

[137] By "identity" i do not mean a river's *persistence* over time, nor do I mean its identity at a time. I mean something like its identity (i.e. what it is) *including* its temporal parts. The temporal parts of the river are essential properties of the river.

[138] The essential difference between the river and the *kukeon,* is that motion is the only necessary condition for the existence of the *kukeon* while the river requires motion *and* in-flux/out-flux of particles.

characteristic to a river is this oppositional connection of "sameness" and "difference." This thesis is also a dependence thesis. Not only do characteristic opposites inhere in objects, the objects in question are ontologically dependent on these opposites to ground their unity as distinct entities in the world. I will develop this idea of ontological dependence more fully, after a more thorough discussion of the "proto-substance" interpretation. I will then argue for the dependency thesis as a more plausible alternative to the "proto-substance" interpretation.

The proto-Aristotelian substance interpretation, so far as I can trace it, seems to begin with G.S. Kirk. Kirk argued that Heraclitus did not pen the river fragment to illustrate that everything is changing like a river. Rather, "... what he did say was that natural changes occur in the way that rivers change, i.e. in measures, and thereby maintain in spite of change the unity of the whole κόσμος and the balance of its essential constituents."[139] He goes on to claim, in reference to Aristotle's *Meteorology* (II.3, 357b27),[140] that "[t]here is no mention of Heraclitus here, but the mention of the example of the river, which maintains its 'form' only because its flux is regulated, may well be due to a reminiscence of the real import of the river-statement."[141] The suggestion here seems

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[139] Kirk, p. 379.
Also see Kirk and Raven: "The preservation of the river's identity and name, in spite of the constant change of its parts, is due to the regularity and balance of that change, just as the preservation of a κόσμος is due to the μέτρα..." (198).

[140] "Does the sea always remain numerically one and consisting of the same parts, or is it one in form and volume while its parts are in continual change, like air and sweet water and fire? All of these are in a constant state of change, but the form of the quantity of each of them is fixed, just as in the case of a flowing river or a burning flame. The answer is clear, and it is plausible that the same account must hold good of all these things alike" (Aristotle, *Meteorology* II.3 - 357b27).

[141] Kirk, p. 379.

to be that the philosophical importance of Heraclitus' river fragment is that it is says something very similar to Aristotle's theory of substance: i.e. that there exists some underlying substance that persists in spite of its various qualitative changes. That is, the river changes with such regularity that it achieves a state of constancy despite the fact that its waters are continually changing.

More recently, Daniel Graham has committed himself more explicitly to the view that Heraclitus' claims about rivers anticipate, and resemble, Aristotle's metaphysics of matter and form. Concerning the river fragment, he says that "[t]he point turns out to be surprisingly Aristotelian: there are high-level realities that persevere through changes in their matter. For the high-level realities - the *ousiai* or substances - are not identical with the matter, but are the result of structures supervening on matter, ordering it into permanent patterns."[142] Kirk and Graham both cite the *regularity* of the flow of the river as evidence for the idea that Heraclitus thought of rivers as being higher-order substance-like entities. Yet Graham goes further in explaining how Heraclitus might have thought that these structures could organize matter. According to Graham, "Heraclitus says nothing in B12 about structures and supervenience directly. The general point, however, is reflected in his concept of Logos, the unseen but ever-present structure of nature."[143] Graham here goes further than simply explaining the similarity between Heraclitus and

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[142] *Cosmos,* p. 132. Graham also claims (p. 132, n.46) that this is 'a point congenial to Aristotle, e.g. *Metaphysics* VII.17'.

[143] *Cosmos,* pp.132-133.
Graham cites fragments B1, B2 and B50 as evidence for this eternal structure of nature. He also quotes Kahn's description: "The *logos* of Heraclitus is not merely his statement: it is the eternal structure of the world as it manifests itself in discourse" (Kahn, p. 94).

Aristotle; he claims that the supervenience of river-structures on the ever-flowing matter is grounded by Heraclitus' (alleged) concept of an eternal *logos*.

Both Kirk and Graham merely gesture at the idea that we should read Heraclitus' river fragment as a containing a proto-substance theory, without working out the details of what this would entail. In order to do so, it would be helpful to briefly take a look at Aristotle's theory of substance and form.

For Aristotle, a substance (οὐσία) is a particular entity (τόδε τι), paradigmatically a *living* being (e.g. 'this particular horse' or 'this particular person').[144] As we saw in the first section of Chapter 1 (p. 23), a substance is the concrete entity which persists throughout the various qualitative changes that a thing undergoes. Substances, for Aristotle, are composites of matter (*hulê*) and form (*morphê*), hence his metaphysical position is often referred to as *hylomorphism.*[145] Simply put, the matter of an entity refers to the material from which it is made (e.g. the flesh and bones of a human). The form, on the other hand, refers to the principle of individuation whereby the matter is organized into a single unit or entity. The form is also the essence of the thing: what it is to be what it is. What Kirk and Graham seem to be suggesting is that Heraclitus' river fragment works in an analogous way to Aristotle's hylomorphism: the river's matter (i.e. the flowing water) is structured by the river's form (i.e. the *regularity* of the directional flow

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[144] Aristotle further clarifies that a "substance means that which is not predicable of a subject" (*Met.* VII.13, 1038b15-16). In other words, a substance is the underlying thing (*hupokeimenon*) which receives the predicates.

[145] *Metaphysics* VII.10, 1035a1-5.

of the river). Graham adds that Heraclitus' eternal *logos* is able to supply the "regularity" for the river structure.

However, there are several problems with thinking that Heraclitus intended his river fragment to entail something similar to Aristotle's hylomorphism. First, it isn't entirely clear from Kirk or Graham exactly how far the similarity goes. Aristotle's hylomorphism is an example of a well worked out, high-metaphysical system. It seems grossly anachronistic to claim that Heraclitus was doing something *quite* similar to this. Heraclitus' intent in composing the river fragment, whatever that might turn out to be, was probably far less complicated than that of advancing something like Aristotle's high-metaphysical hylomorphism. Without a clear demarcation of the extent to which Graham and Kirk think Heraclitus' point is related to Aristotle's point, the suggestion that there is a similarity between their projects is unhelpful. Second, there is a problem for Graham's suggestion in particular: he attempts to ground these higher-order "form-like" structures in Heraclitus' notion of *logos,* which he interprets as the "eternal structure of the world as it manifests itself in discourse."[146] There is more than one problem with invoking the *logos* in this manner, but the main issue is that interpreting the term *logos* as the "structure" of the world seems to be anachronistic. If Heraclitus used the term *logos* to refer to some eternal structure of the world, then Heraclitus' use of *logos* would have no connection with the known usage of the term in his time.[147]

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[146] This is a quote from Kahn (1973, p. 194).

[147] See Johnstone, M. "On '*Logos'* in Heraclitus," *Oxford Studies in Ancient Philosophy* 47 (2014), 1-29.

Rather than attributing to Heraclitus a thesis similar to Aristotle's theory of substance, I think it makes more sense to think that B12 (and by extension all the fragments exhibiting Heraclitus' notion of φύσις) contain an ontological dependence thesis. Heraclitus' point was not that a river's identity is grounded in the *regularity* of the flowing water. Rather, I believe it was that a river is simply ontologically dependent on the fact that there is a mass of water that is flowing (whether it flows with regularity or not). Flowing water is a necessary condition for the existence of the river. On this view, the river exists *because of* the constant displacement of his parts rather than, as on Kirk and Grahams' view, existing *despite* the constant displacement of its material parts.[148]

V. Ontological Dependence

In this section, I argue that some objects depend ontologically on the opposites that inhere in them. This ontological dependence relation can be analyzed in two ways. First, there is what we can call an *existential* dependence of the object on the opposing properties. An object requires the opposing properties for its very existence (for example, fire requires that there be "need" and "satiety" in order to exist). Second, there is what we can call an *identity* dependency of the object on the opposing properties. The object in question requires the opposing, essential properties as part of what it means to be a thing of its kind. The existential dependency is sufficient to determine *that* the object in

[148] Interestingly, Graham seems to want this interpretation as well: "paradoxically, the changing waters preserve the river" (*Cosmos,* 132).

question exists, whereas the identity dependency helps to determine *what* kind of object exists.

In order to proceed, I should be clear about what I mean by "ontological dependence" and what particular kind of ontological dependence seems to be at work in these fragments. The notion of ontological dependence has been used to invoke a certain type of non-causal relation between existing things. When I say that *a*'s existence is ontologically dependent on the existence of *b*, I mean that *a* cannot exist if *b* did not exist. I do not mean that to be an *a* just is to be a *b*. That is, *a* is not "reducible" to *b*. Furthermore, I do not suppose that the existence of object *b* "entails" the existence of object *a*. I simply mean that object *a* cannot exist without the existence of object *b* and object *a* and *b* are not causally related. Let "river" be object *a* and "flowing waters" be object *b*. In order for a river to exist, there must exist a state of flowing waters. A river is not reducible to flowing waters, for there is more to rivers than this property. Furthermore, the existence of flowing water doesn't *entail* the existence of a river, since flowing water isn't peculiar to rivers (imagine pouring water out of a jar). We can call this type of relation between the river and its waters *existential dependency*, since the river is dependent for its very existence on the flowing of waters.[149]

It seems that this sort of existential dependency is at work in most of the opposites fragments discussed in this chapter. Fire, for example, is ontologically dependent on the

[149] In contemporary metaphysics there are several sub-classes of existential dependency. I do not believe it is important to spell out these sub-classes and explain which one is most relevant to Heraclitus in what is called a "fine-grained" (Lowe and Tahko) analysis. Heraclitus' fragments do not seem to answer to any sort of fine-grained analysis of metaphysical relations. Let it be sufficient that we can analyze the dependence of the river on the flowing waters in what is called a "rough-grained" (Lowe and Tahko) analysis.

existence of its properties "need and satiety." That is, a fire cannot exist without there existing some sort of manifestation of need and satiety. In other words, "need and satiety" are a necessary condition for the *existence* of fire. Similarly, sea-water, at least as we know it, is dependent for its existence on the properties "pure and foul." If the property "pure" or the property "foul" did not exist, then sea-water *as we know it* would not exist.[150]

There seems to be something more than simple, existential dependence at work here; more importantly, there seems to be what I call an *identity dependence* relation between the object and its opposing, essential properties. As we have seen in the first and second sections of this chapter, the opposites seem to *characterize* the objects in which they inhere in a profound way. The properties of "need" and "satiety" seem to be *essential* to what a fire *is*. As a result, there seems to be a particular type of ontological dependence at work here. I believe these fragments exemplify what contemporary scholars in metaphysics are calling "identity-dependence."[151] The relation of identity-dependence is a particular sub-class of ontological-dependence relations, where what it is to be an *x* is dependent on an essential property (*y*). So if *x* is dependent on *y* for its identity, then *y* will be some sort of property of *x* that is essential to what sort of thing *x*

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[150] Of course, by the property "foul" Heraclitus must mean the "brininess" of sea water which is foul to humans (and deadly if consumed in large portions). In contemporary metaphysics this fragment could be said to contain "generic existential dependence" (Lowe and Tahko) since we could imagine a possible world where sea-water is not dependent on the existence of these two properties. The idea is that sea-water, as we know it, is dependent for its existence on the properties "pure and foul." Fire seems to instantiate what is called a "rigid existential dependence" (Lowe and Tahko) since it is impossible to imagine a possible world where fire did not demonstrate the properties of "need and satiety".

[151] See Lowe, E. and Tahko, T. "Ontological Dependence" in the *Stanford Encyclopedia of Philosophy* (2005 (revised 2015)).

is.[152] It is important to note that *x* can be ontologically dependent on *y* for its identity even though *y* might only be *part* of *x*'s essence. While Heraclitus does not appear to be doing such complicated metaphysics, his examples of opposites inhering in objects certainly seem to fit this schema. A fire is ontologically dependent for its identity on the properties of "need" and "satiety." A fire wouldn't be a fire if it did not display these two, opposing properties. Still, "need" and "satiety" aren't themselves the *essence* of fire; but they are at least *part* of the essence of fire, in that they are essential properties.[153]

These dependency relations seem to be at work in all the fragments exhibiting Heraclitus' notion of φύσις. I have already demonstrated that all the fragments exhibiting this notion contain objects which are characterized as having opposing yet essential properties. As such, all the fragments analyzed as exhibiting some object's φύσις (namely, B51, B65, B61a, B59, B48, B60, B103a, B12, B91, B88a, and B125) are analyzable in terms of these dependency relations.

The goal of this chapter has been to attribute to Heraclitus a second opposites thesis, distinct from the transformation thesis. While I have given a sense of this thesis

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[152] Lowe and Tahko define identity dependence as "(ID) *x* depends for its identity upon *y* =df There is a two-place predicate "*F*" such that it is part of the essence of *x* that *x* is *related by F* to *y*."

[153] I use the terms "identity" and "essence" interchangeably. However, I do not mean to suggest Heraclitus is aware of such a rigorous definition of "essence" as Aristotle's. I take it that Heraclitus saw the essential properties of a thing as being constitutive of its identity. We might say, on this account, that a thing's identity is the sum total of its essential properties. Of course, this notion of "identity" or "essence" could be contested. We should note that for Aristotle, *x* could be an essential property of *y* and *x* might *not* be part of the essence of *y.* For example, the human ability to learn to read and write is an essential property of humans, but it is not part of the essence of "human" in the sense of what makes a human what it is. But I take Heraclitus to be saying that the essence of a thing is simply the sum total of its essential properties. Aristotle, may have a more robust notion of essence, but the important point is that Heraclitus seems to have made advances in the area of objects and their identities.

throughout this chapter, I have not yet given a clear and explicit statement of the whole thesis. I am now at the stage where I can offer such a statement. The *dependence on opposites* thesis states that *objects are ontologically dependent for their* existence *and their* identity *on opposing properties which necessarily inhere in them*.

VI. Conclusion

In this chapter I have defended several interconnected claims about Heraclitus and his views. First, I argued that Heraclitus held a particular view regarding the φύσις of things. For him, the nature of a thing is the set of opposites necessarily inherent in it upon which all objects of that kind depend for their existence. Second, I argued that there is a certain set of Heraclitean fragments that seem to exhibit this notion of φύσις: B1, B123, B54 and B51. Third, I argued that the river fragment and some similar fragments also exhibit this notion of φύσις. I argued that it does not make good sense to read the river fragment as containing a proto-Aristotelian theory of substance. Finally, I argued that the fragments concerned with the nature of things are best analyzed in terms of dependency relations (existential dependency and identity dependency). It is important to stress that the fragments explored in this chapter contain an opposites thesis that is radically distinct from the transformation of opposites thesis as argued for in Chapter 1. There, we saw that some opposites (i.e. elemental stuffs bearing opposing properties) transform into one another. In this chapter, the opposites explored seem to have been employed by Heraclitus for a much different purpose: namely, to characterize objects and to ground them by these opposites. The transformation of opposites and the dependence on

opposites cannot be subsumed under a single thesis. Hence, it makes better sense to suppose that Heraclitus did not hold a single "unity of opposites" thesis; rather, it appears that the alleged unity of opposites is a *set* of distinct theses.

Chapter 3: God and the Opposites

I. Introduction

The main goal of this chapter is to gain a better understanding of Heraclitus' theology.[154] This is important for our purposes since Heraclitus seemingly identifies God with a list of opposites in B67. However understanding Heraclitus' theology proves difficult. As I see it, there are four main interpretative issues that any account of Heraclitus' theology must overcome: What exactly *is* God for Heraclitus? How can Heraclitus equate a wise God with all things while also claiming that what is wise is separate from all things? What does Heraclitus mean when he claims that "all things are one"? And what does God have to do with the opposites? While these issues have been discussed in the scholarship, the currently available solutions are inadequate, or so I will argue. In this chapter I present an interpretation of Heraclitus' theology that I think can adequately resolve these interpretive issues. On my interpretation of Heraclitus, *God is merely a principle of order for the cosmos which permeates all things and makes all things united and intelligible*. Heraclitus 'identifies' God with all things, not in a logical sense, but in the sense that God can be identified in all things. All things are one in the

[154] The term "theology" is, strictly speaking, anachronistic since it is first used by Plato in *Republic* 2. However it seems to me permissible to say that Heraclitus had a theology insofar as he spoke of the divine and seemed interested in explaining something of this divinity. Heraclitus seems to critique popular religion, but he was not an atheist and seems to have been interested in what we might call "theology," or the study of the divine nature (see Most, "Heraclitus on Religion" *Rhizomata* 1.2 (2013) 153-167). In this paper I will not be discussing Heraclitus' views on the religious practices of his day; rather, I will be examining his views on the nature of divinity (i.e. his theology). For an interpretation of Heraclitus' views on religion see Osborne, C. "Heraclitus" in C.C.W. Taylor (ed.), *From the Beginning to Plato* (Routledge, London and New York, 1997), 88-127 and Adomenas, M. "Heraclitus on Religion," *Phronesis* 44.2 (1999), 87-113.

sense that the entire cosmos is ordered by a single plan; hence, on my interpretation, order *produces* unity. Heraclitus' theology makes it possible for humans to understand the cosmos from an analytic view (whereby we distinguish differences in a unity), but it also enables humans to view the cosmos from a synthetic view (whereby we see unity despite difference).

In the first section of this chapter, I introduce a set of fragments which bear on Heraclitus' conception of the divine nature. I argue that God is merely a principle, or metaphysical source, of the order of the cosmos. In the second section I argue that all things are one since all things are governed by a single plan which orders all things. Thus the unity of all things is produced by the divine ordering of all things. In the third section I argue that Heraclitus' God permeates all things. Heraclitus *seems* to identify God with all things in a logical sense. But he does not. Rather, he seems to think that since God permeates all things he can be seen in all things and therefore can be identified in all things. God is related to the opposites in the same way he is related to all things: he permeates them and orders them. This divine ordering is sufficient to "unify" the opposites, but in a way that, to my understanding, has not yet been explored. In the final section I show how Heraclitus' God makes it possible for humans to understand the cosmos. I argue that Heraclitus' God makes it possible for humans to understand the cosmos from an analytic view (whereby we distinguish differences in a unity), but also enables humans to understand the cosmos from a synthetic view (whereby we see unity despite difference).

II. The Source of Order

In this section I argue that God, for Heraclitus, is merely a *principle* or *metaphysical source* for the order of the cosmos. In order to do this I will have to present a sketch of the divine fragments, since no one fragment alone can convey this understanding of the divine. First, we can see that God, for Heraclitus, is a unitary being; that is, God is "One" (ἕν). This is evident from fragment 32:

> B32: ἕν τὸ σοφὸν, μοῦνον λέγεσθαι οὐκ ἐθέλει καὶ ἐθέλει Ζηνὸς ὄνομα.[155]
>
> The wise is one, it alone wishes and does not wish to be called by the name of Zeus.

Here Heraclitus is clearly referring to God: a singular being, who wants to be called Zeus, but also does not want to be called Zeus. The first thing to notice is that God is indicated by the Greek neuter "one" (ἕν), rather than the masculine "one" (εἷς). We might think that Heraclitus' God was gender-neutral, but Heraclitus also refers to God in B67 as ὁ θέος (masculine article and noun). It isn't certain why Heraclitus slid between referring to God in the neuter and masculine, but it may imply that Heraclitus' God is trans-

[155] This fragment is preserved for us by Clement in *Stromateis* V. 115.1. Ζηνός is an "old" genitive form of Ζεύς (common in Homer); evidence for this fragment's authenticity (see Kahn, p. 268). It is difficult to know how to construe μοῦνον with the rest of the sentence and I have punctuated it in a slightly different manner since I believe it makes better philosophical sense. Kirk (pp. 393-5) and Marcovich (p.445) favour the following construal: "one being, the only wise one." This would suggest that God is the only wise being and that humans cannot have wisdom (or perhaps *true* wisdom). Another possibility has been put forth by Stokes (1971) and has been recently followed by Long (2007): "One thing, the wise only, …". But, this forces a strange interpretation: On this reading, God isn't the only wise being, but is "wise only;" that is, God has a single attribute: wisdom. As I hope will become evident, Heraclitus' God seems to have more than one attribute. Long attempts to avoid this by adding the qualification (without evidence from the fragments) that wisdom is "god's only *epistemic* property" (p. 7).

personal.[156] At any rate, Heraclitus seems to be distinguishing God from the anthropomorphic deities of his day by means of the paradox "is willing and is not willing." Traditional religion is correct *that* there is a God, but incorrect in its conception of God. God is willing to be called Zeus insofar as he is a being identified as God (and *king* of the Gods), but is unwilling to be called Zeus if the person naming him is thinking of him as having the properties of the classical Olympian Zeus.[157] We can glean two important points from this fragment for our purposes: For Heraclitus, God is "one" (ἕν), and God alone is wise (τό σοφόν).

Fragment B50 seems to resonate with B32 in that ἕν and σοφόν recur in it:

> B50: οὐκ ἐμοῦ, ἀλλὰ τοῦ λόγου ἀκούσαντας ὁμολογεῖν σοφόν ἐστιν ἓν πάντα εἶναι.[158]
>
> Having listened not to me, but to the *logos,* it is wise to agree that all things are one.

Here, Heraclitus claims that the formula ἓν πάντα εἶναι is a proper object of wisdom. Since Heraclitus refers to God as ἓν in B32 and claims that this God is the wise one (τό

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[156] See Kahn (1979): "Heraclitus suggests an even more radical break from the anthropomorphic conception of deity, a precedent for the impersonal (or transpersonal) One of Plotinus" (p. 269).

[157] This seems to be the standard resolution to this paradox. See Kirk (pp. 392-397), Marcovich (pp. 446), Kahn (pp. 269-270), Robinson (p. 492). One might reasonably wonder why Heraclitus picks out Zeus from the traditional Greek pantheon. I believe Hack (1931) provides a possible solution: "The personal and anthropomorphic Zeus who laments the death of Sarpedon is vastly different from the impersonal or depersonalized Zeus whose will is identical with destiny ... the two divine powers bear the same name, but have little else in common ... The depersonalized Zeus who is almost identical with destiny, and destiny itself, are preeminently divine, and they are also preeminently causal: they are the divine source of all events, they are the power that rules the world" (p. 11). This sentiment is seen also in Plutarch (*De Aud. Poet.,* 23E). The idea might be that Heraclitus is willing to identify God with the idea of destiny, but is unwilling to identify God with the anthropomorphic Zeus who "cries."

[158] This fragment is preserved for us by Hippolytus (*Refutations* IX, 9.1).

σοφόν), it may be that Heraclitus is also referring to the divine in B50. In that case, Heraclitus would be claiming that God is all things, somehow. But perhaps someone might claim that the ἕν in B32 refers to God while the ἕν in B50 refers to the unity of the cosmos. What evidence do we have to suggest that Heraclitus does use ἕν to refer to God in both B50 and B32? Perhaps we can see evidence of this in B57:

> B57: διδάσκαλος δὲ πλείστων Ἡσίοδος τοῦτον ἐπίστανται πλεῖστα εἰδέναι, ὅστις ἡμέρην καὶ εὐφρόνην οὐκ ἐγίνωσκεν ἔστιν γὰρ ἕν.[159]
>
> The teacher of the multitude is Hesiod; they believe he has the greatest knowledge - who did not comprehend day and night: for there is one.

Many scholars believe Heraclitus thought that "night and day are not two *things*, they are complementary moments, aspects, or phases of a single phenomenon" and that he is criticizing Hesiod for thinking that day and night are two separate things capable of independent existence.[160] But it seems to me that Heraclitus *did* think that day and night are two separate things capable of independent existence. Fragment B99 states that "if there were no sun, despite the rest of the heavenly bodies it would still be night." Heraclitus must think that night is something distinct, if he claims it could potentially exist apart from day under a specific condition: the absence of the sun. To me, the criticism of Hesiod in B57 is more likely due to *how* day and night are accounted for. Hesiod claims they are accounted for by activities of *two* distinct gods (*Nux* and *Hēmera*). Heraclitus claims Hesiod did not understand day and night "ἔστιν γὰρ ἕν." This

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[159] This fragment is preserved for us by Hippolytus in *Refutations* 9.10.2.

[160] Quoting Mourelatos (1973), pg. 34.

is often translated as "for they (i.e. day and night) are one" but it might be better translated "for there is [the] one."[161] Thus perhaps Heraclitus in B57 is referring to Hesiod's failure to understand *how* day and night are accounted for: they are ordered by the one (i.e. Heraclitus' single God) rather than the activities of multiple divinities. The upshot, I take it, is that Heraclitus repeatedly refers to God as ἕν. Thus the ἕν in B32, B50 and B57 most plausibly refer to Heraclitus' God.

Let's take stock. If it is correct to suppose that ἕν refers to God in these three fragments, then we know that God is a) unitary (B32, B50 and B57), b) wise (B32) and c) somehow identified with the world (B50 identifies God with all thing and B57 identifies God with day and night, somehow). But how are we to make sense of this wise, unitary being somehow identified with the world?

I will now defend the view that I believe makes most sense of Heraclitus' God. On my interpretation Heraclitus' God is just a principle of order for the cosmos. Some scholars have suggested similar interpretations of Heraclitus' God, but I believe that the

[161] Dilcher (1995) has argued that Heraclitus is not claiming that day and night are one since, if he did wish to claim that day and night are one, the fragment would have to end with ἔστιν γὰρ *μία* instead of *ἕν* since ἡμέρην and εὐφρόνην are both feminine nouns. See Dilcher (p. 109). However, this would only be true if we construe ἕν as an adjective rather than a predicate. We could actually construe ἕν as a neuter substantive that stands as a predicate for two feminine singular nouns. Compare e.g. the use of the neuter ταὐτόν in Ar. Pol. 1255b16-17: οὐ ταὐτόν ἐστι δεσποτεία καὶ πολιτική. The upshot here is that it is grammatically possible to translate the end of this fragment in two ways: "for they are one thing," or "for there is one thing."

account I here present is distinct from these interpretations.[162] As I see it the biggest difference between my view and these similar interpretations is that on my view God is *merely* a principle of order for the cosmos which permeates all things rendering them united and intelligible. I hope to show how, on my view, this principle of order produces cosmic unity and renders the cosmos intelligible.

We have much evidence from the fragments of Heraclitus that God is associated with cosmic order. Consider fragment 64:

> B64: τὰ δὲ πάντα οἰακίζει Κεραυνός.
>
> Thunderbolt guides all things.

Κεραυνός (thunderbolt) was a traditional epithet for Zeus in the ancient world. Heraclitus, as we have already seen in B32, claims that God is both willing and not willing to be called by the name of Zeus. So, it seems reasonable to think that Heraclitus conceived of God as something that "guides" (οἰακίζει) all things. If God, for Heraclitus, is the "guider" of all things, then it seems that God is some sort of principle (i.e. a metaphysical *source*) of *order* for the universe. This concept seems to resonate with B41:

> B41: εἶναι γὰρ ἓν τὸ σοφόν, ἐπίστασθαι γνώμην, ὁτέη ἐκυβέρνησε πάντα διὰ πάντων.

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[162] See Jeannière (1977) who claims that God is a principle of unity, but also, "Il est la cause qui organise et régularise" (p. 50). There are issues with Jeannière's interpretation which I highlight below. The biggest issue seems to be that he identifies God with the cosmos. Hence God is much more than a cause of order, he is the cosmos. O'Connell (2006) claims that "the term 'god' … functions as yet another way of naming the supreme principle of cosmic unity" (p. 63). Fatouros (1994) claims that God is a principle, but on his interpretation God is just the principle of 'conjoining opposites': "was hier von Heraklit als Gott bezeichnet wird, ist im Grunde nichts anderes als sein Prinzip der sich zusammenfügenden Gegensätze, dessen multiple Anwendung der Philosoph in der Struktur der empirischen Welt erkannt haben will" (p. 66).

> Wisdom is one: knowing the thought/plan that steers all things through all.[163]

We have seen that Heraclitus characterizes the divine as "the wise." He here seems to claim that what makes god wise is that he knows the plan (or, thought) that directs (or, steers) all things. It seems quite likely that, given the connection between τὸ σοφόν and the divine, the γνώμην is the thought of God. The γνώμην isn't itself God, but seems to be the product of Heraclitus' God and is known by this God.[164] When taken with B64, Heraclitus seems to be saying that God steers (ἐκυβέρνησε) or guides (οἰακίζει) all things in accordance with its wise plan. But, if God is a being capable of directing all things according to some sort of thought-plan (γνώμην), then it seems reasonable to suppose that God is some sort of personal agent.

I wish now to investigate the kind and degree of agency Heraclitus is actually attributing to God in these fragments. The first thing we should note is that Heraclitus' God doesn't seem to be the principle of all *motion* in the universe. We should note that the verbs ἐκυβέρνησε and οἰακίζει, despite being active in mood, denote a minimal amount of activity. Heraclitus doesn't say that god "drives" all things through all things, or "moves" all things in accordance with its wise plan. Rather, motion seems to be a given and God simply *steers* the course of all things. I believe the upshot here is that

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[163] τό σοφόν for Heraclitus probably means both "wisdom" and "the wise being" which is god. Depending on the context, τό σοφόν will have to be translated in one of these ways. But the idea, I think, is that Heraclitus wants his readers to see the radical connection between wisdom and the divine.

[164] Contra Curd (2013) p. 234-6. See also Curd (1991).

Heraclitus' God is *not* a principle of *motion* for the universe. Heraclitus seems to be setting his God in contrast with Xenophanes' conception of God. According to Xenophanes, Heraclitus' predecessor, God "sets all things astir by the power of his mind alone" (Xenophanes, B25). It is a common view that Xenophanes' God is something akin to Aristotle's unmoved mover.[165] At any rate, Xenophanes' God seems to be the principle of motion for the universe (i.e. "all things"). It appears as though Heraclitus is offering an implicit criticism of Xenophanes here; God is *not* the source of motion for the universe, but he is the source of order and unity for the universe. So God *does* act on the universe and is therefore an agent. But he is not the efficient cause of all things in the way some philosophers of the Enlightenment thought (e.g. Descartes and Leibniz).

We can further examine three aspects of Heraclitus' God that will help us to understand what *kind* of agency Heraclitus ascribes to this divine being. First, we can examine the verbs Heraclitus uses to denote divine action (ἐκυβέρνησε and οἰακίζει). The image conjured by these verbs is that of the helmsman (κυβερνήτης) of a ship who, himself remaining motionless, keeps the ship on course with a steady rudder (οἴαξ).[166] Both verbs imply that God is a governing/ordering agent. Second, we can see that there is evidence of a divine *perspective* in the fragments of Heraclitus. In B102 he claims that "to God (τῷ θεῷ) all things are fair, good and just" (a similar construction is echoed in

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[165] Jaeger (1947), for example, claims "we think at once of the Aristotelian unmoved mover, an idea which really originates here in Xenophanes" (p. 45). On Xenophanes' theology see Granger (2013).

[166] Compare with Anaximander's idea of cosmic steering in A15.

B79), which seems to imply that God has a perspective on the world.[167] Since God has a perspective on the world he must have some sort of agent-like capacity for perception. Finally, as we have already seen B32, Heraclitus associated God with *wisdom*. So we can conclude that his God is a wise, ordering and perceiving agent.

The universe is ordered and unified because God is the source of order and unity for the cosmos. While we cannot conflate the divine ordering with the divine who orders,[168] Heraclitus does seem to think that the divine ordering of the universe justifies him in ascribing some divine qualities to the universe. Perhaps we could see how this works if we examine fragment 30:

> B30: κόσμον τόνδε τὸν αὐτὸν ἁπάντων, οὔτε τις θεῶν οὔτε ἀνθρώπων ἐποίησεν, ἀλλ᾽ ἦν ἀεὶ καὶ ἔστιν καὶ ἔσται, πῦρ ἀείζωον, ἁπτόμενον μέτρα καὶ ἀποσβεννύμενον μέτρα.
>
> This *cosmos* (or, 'world-order'), the same for all, was made neither by someone of the gods nor of men, but it always was, is and will be, an ever-living fire, being kindled in measures and being put out in measures.

We can glean a few interesting things from this fragment concerning the nature of God and God's relation with the universe. First, the cosmos was not ever created by a God. This tells us that God is not a pre-existing creator of the universe. Second, Heraclitus identifies the cosmos (a word which could be translated "order") with "ever-living fire." Some have taken this as evidence that Heraclitus is indeed a material monist: the cosmos

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[167] On my view, all things are good to God since he orders all things wisely. Hence, even though humans think somethings are good and others are bad, all things are good to God since God experiences the wise ordering of the totality. See Chapter 4 for a more robust discussion of this fragment.

[168] Contra Curd (2013) p. 234-6.

simply *is* fire and all apparent change is qualitative change of this primal and eternal substance. However, Heraclitus also says that fire dies (B76), and the material monist interpretation is unable to satisfactorily accommodate this language of the elements dying and coming to life (B31 and B36). Perhaps a better statement of the significance of this fragment is this: the cosmos (i.e. the *ordered* universe) is ever-living (*aeizōon*), and thus *eternal.* Despite the death of earthly creatures and earthly elemental masses, the *order* of the universe is ever-living and eternal. Given the religious milieu of his day, Heraclitus probably considered what is "ever-living" (*aeizōon*) to be divine. So, perhaps Heraclitus is trying to convey to his reader that the *order* (*kosmos*) of the universe is associated with the divine.[169] This would fit with the conception of a God that is the principle of the order for the cosmos.

To take stock, I believe we have ample evidence in the fragments discussed (B32, B50, B57, B64, B41 and B30) that Heraclitus believed in a God that was a) unified, b) wise, c) the source of order for the cosmos, and d) identified with all things, somehow. I believe we can make most sense of a, b and c by understanding Heraclitus' God as the single, wise supplier of order for the cosmos. But we are still left with d). How exactly is God supposedly identified with all things? Furthermore, what exactly does the orderliness

[169] Interestingly, the Stoics, who considered Heraclitus to have influenced their views, seem to have called God a "designing fire." Aëtius reports: "The Stoics made God out to be intelligent, a designing fire (*pur technikon*) which methodically proceeds towards the creation of the world, and encompasses all the seminal principles according to which everything comes about according to fate, and a breath (pneuma) pervading the whole world, which takes on different names owing to the alterations of the matter through which it passes." (Aëtius, *Placita* 1.7.33 = LS 46A) Of course, if Aëtius is correct, then their view would differ from Heraclitus' precisely because they thought God was creator of the world.

of the cosmos have to do with its unity? And what precisely does Heraclitus mean when he claims that all things are one (ἓν πάντα εἶναι)?

III. All Things are One

In this section I will try to give a satisfactory explanation of the ἓν πάντα εἶναι (all things are one) formula. Several solutions have been given in the literature and it might prove useful to examine these. There is the view that all things are one since there is a single *connection* between all things (Kirk). On another interpretation God (the "one") simply is all things (Curd, 2013).

According to Kirk, Heraclitus' formula "all things are one" means that "all things are connected by an underlying unity."[170] However, Kirk doesn't claim that this unity is the divine; rather, he seems to think it is the *logos.* He claims that the *logos* is the all-pervasive, common structure or "formula of things."[171] On the basis of this conception of *logos*, he claims that "all things are one in two ways: they are 'one', first, in that they all have a common component, part of their structure; and secondly, because they all connect up with each other *because of* this common structure." However, it isn't at all obvious that Heraclitus' *logos* refers to some formula[172] of the world and Kirk's use of the term "connection" does not seem to be supported by the fragments. At least, the term

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[170] Kirk, p. 69.

[171] Ibid.

[172] See Johnstone (2014). Johnstone argues that there are issues with thinking that Heraclitus denotes a formula or law in the world. He claims "the single biggest problem with this 'cosmic-law' interpretation, as it might be called, is that it risks completely detaching Heraclitus' employment of the word '*logos* ' from any other attested use of it in and around his time" (p. 2).

"connection," upon which Kirk's interpretation so heavily relies, does not translate any term evident in the fragments of Heraclitus.[173] Furthermore, it isn't obvious that connectedness is sufficient to produce a unity.[174] Thus the basis for thinking that all things are one because they are "connected" is dubious.[175] As such, Kirk's idea that all things are connected by an underlying unity fails to make good sense of Heraclitus' "all things are one" formula.

According to Curd, the *logos* is the plan for the cosmos but this *logos* is divine (since it "always is" and actively "controls" things). Furthermore, she claims that "[the divinity] is the *logos* and the cosmos as ordered by it. The *logos,* as the eternal, and as the principle and explanation of all things, fits the description of divinity: it always was, is and will be, and it controls all things."[176] Thus, on her view, God is all things *and* God is the *logos*. There is a difficulty with understanding Curd's construal of the relation between these three concepts. It isn't clear if, on her view, God = *logos* = all things (after all, she claims that God is the *logos* and God is all things), or if God = *logos* + all things (on this view God is the plan of all things and, in addition, is all things which are

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[173] It could translate the term ἁρμονίη (fragments B126 and B51), but this term doesn't obviously relate to the *logos* in the way Kirk seems to think. Furthermore the term ἁρμονίη seems to refer only to the structure of mid-sized objects, not the cosmos itself.

[174] Do all the leaves on a tree constitute a unity in virtue of their connectedness? See Marmodoro (2013, p. 8).

[175] Jaeger (1947) gives a similar answer to this problem: He thinks God is identical to the principle of opposites (i.e. God simply is the doctrine of the unity of opposites). On his reading, "the struggle of opposites has been generalized until it becomes the supreme principle of the world" (p. 118).

[176] Curd (2013), p. 237.

governed by the plan). Both construals have their difficulties. If God is the *logos* which is all things, then Heraclitus' position is quite confused, since the plan which governs all things is identical to all the things it governs. But our conceptual intuitions won't allow us to conceive of an identity relation between the plan and the thing planned. If, on the other hand, God is the *logos* plus all the things the *logos* governs then Heraclitus' God is not a simple, unitary God. This itself isn't a difficulty, since we could reasonably think of Heraclitus' God as one (ἕν) while still having distinct parts (i.e. plan and thing planned). However, on whichever construal we understand Curd, her position faces two problems. First, she understands *logos* as a metaphysical entity, which seems to be an anachronistic and strained interpretation of the term.[177] Thus it is difficult to think of God as being the *logos*. The second problem is that Heraclitus seems to think that God is different from all things in B108:

> B108: ὁκόσων λόγους ἤκουσα, οὐδεὶς ἀφικνεῖται ἐς τοῦτο, ὥστε γινώσκειν ὅτι σοφόν ἐστι πάντων κεχωρισμένον.[178]
>
> Of those whose accounts I have heard, no one has arrived at the point of knowing that what is wise (or, wisdom) is different from all things.[179]

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[177] See Johnstone (2014).

[178] This fragment is preserved for us by Stobaeus 3.1.174. The main difficulty is in translating σοφόν. The two main possibilities are: i) "wisdom" and ii) "what is wise" (i.e. god). Kirk, with hesitation, suggests it should be translated "wisdom." Johnstone (forthcoming) argues that it could mean both wisdom and "the wise one" (i.e. god) since Heraclitus is known to employ bivalent terms. I think this is probably correct. At any rate, Heraclitus seems to be establishing a strong connection between wisdom and the divine. There is also a difficulty in translating κεχωρισμένον. Many translators translate it as "separate" from. I follow Marcovich (1967/2001) and Long (2007) who translate it as "different" from. See Marcovich, who shows that this usage is attested in Herodotus (p. 441).

[179] This is the translation offered by Laks and Most (2016) with slight alteration. Similar translations are given by Kahn (1979) and Robinson (1987).

If I am right to think that Heraclitus is speaking of God in B32 (as I argued above), and if God is the only wise being, then whatever is said of "what is wise" (σοφόν) in B108 will be applicable to God.[180] But we learn from B108 that "what is wise" is *different* from all things. This provides evidence that Heraclitus is *not* conceiving of God as *identical* to all things. So, contra Curd, it seems difficult to think that God simply is all things. In addition, contra Kirk, it seems very difficult to think that all things are interconnected and that this is sufficient to produce the unity of the cosmos.

In contrast to these views, I believe we can make good sense of the claim that all things are one if we suppose that Heraclitus' unitary God is the source of order for the entire cosmos. This order, since it is associated with all things, is sufficient to produce an ordered totality. If all things are ordered by a single source, then all things are unified in virtue of that single order. On this view the divine orderliness of the cosmos produces the unity of the cosmos. Thus the universe is not united in virtue of its interconnectedness (contra Kirk), but via its common orderliness. This view also helps to relieve some of the difficulties of Curd's view. On the view I propose, we can safely distinguish between God, the source of the order, the divine plan produced by God, and the universe (all things) which are ordered by the divine plan.

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[180] Alex Long (2007) has argued that *sophon* in B32 refers to God, while *sophon* in B108 refers to wisdom. His basic interpretation of wisdom being separate from all things is that wisdom is an exception to the rule that all unities entail a co-instantiation of opposites. That is, God can be wise without also having to be foolish. However, Long's interpretation begins with the assumption that Heraclitus subscribed to the thesis that every opposite is collocated, a thesis that to my mind is not warranted by the fragments of Heraclitus. See also, Dilcher (1995 pp. 103-108).

IV. God and All Things

But there is still a difficulty here. We saw in the last section that we have evidence that God was different from or separate from all things in B108. But Heraclitus does seem to identify God with the world in some way in B67. Thus, we have evidence both that Heraclitus *identifies* God with all things (including the opposites) *and* that Heraclitus thought God is still different from all things.[181] The challenge I take up in this section is to make sense of a God that is both identified with all things and yet also somehow distinct from them.

We can begin by examining fragment B67:

> B67: ὁ θεὸς ἡμέρη εὐφρόνη, χειμὼν θέρος, πόλεμος εἰρήνη, κόρος λιμός [τἀναντία ἅπαντα: οὗτος ὁ νοῦς] ἀλλοιοῦται δὲ ὅκωσπερ [...] ὁπόταν συμμιγῇ θυώμασιν, ὀνομάζεται καθ΄ἡδονὴν ἑκάστου.[182]

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[181] There are two solutions in the literature for this issue. First, with Marcovich, we might think that God is a being transcendent from the world. However, this doesn't *really* answer the question at hand; a transcendent God cannot be "identified" with all things. Furthermore, this answer seems to contradict Marcovich's claim that the entire world really is just "God-fire" under an altered guise (see note below). Thus by positing a transcendent God, Marcovich is able to account for God's separation from all things; but he cannot then account for God's immanence, which is implied by the fact that God is (according to Marcovich) the "essence" of all things. Perhaps for this reason, some have opted for a second type of answer: Heraclitus doesn't say that *God* is separate from all things, but that *wisdom* is separate from all things (Long, Kirk, Burnet). This is fine, as far as it goes, but we have already seen that Heraclitus makes a strong association between God and wisdom (ἕν τό σοφόν in B32). So even if we translate σοφόν as "wisdom," we would still need to make sense of how this essential property of the divine can be separate from all things when the divine being seems to be identified with all things.

[182] This fragment is preserved for us by Hippolytus (*Refutation* 9.10.8).

> God is day night, winter summer, war peace, satiety hunger [all the contraries: this is the meaning], and he alters just as <oil,[183]> when it is mixed with spices, is named according to the aroma of each of them.

Heraclitus seems here to *identify* God with a series of opposites. Hippolytus, our source for the fragment, adds that Heraclitus thought God was identified with *all* the opposites. This seems probable, since it isn't obvious from the fragments why these opposites would be identified with God while no other opposites would be identified with God. Furthermore, the case could be made that these opposites are meant to stand for all things. This is because Heraclitus elsewhere seems to claim that opposites are *all-pervasive.* We can see evidence of this in B80, which states that "war (τὸν πόλεμον) is common, and strife (ἔρις) is justice, and all things come to be in accordance with strife and necessity." More evidence is contained in B53 which states that "War (Πόλεμος) is father (πατήρ) of all things and king of all things." So the case could be made that Heraclitus is identifying God with the entire cosmos *somehow.*

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[183] There is a lacuna in this fragment. Diels, Graham, Marcovich and Kirk fill it with "fire." However, there is some evidence to suggest that the missing word could well be "oil," since this was a common mixture with spices. See Frankel (1938). There is another possibility: We could accept the text as it is and suppose that there is no lacuna. This is the reading offered by Kahn, who translates the text: "The god: day and night, winter and summer, war and peace, satiety and hunger. It alters, as when mingled with perfumes it gets named according to the pleasure of each one" (p. 276). But this is an extremely confusing translation. What is it that is mixed with perfumes? If we leave out "fire" or "oil" then we have to suppose it is god that is mixed with perfumes (or spices), but that is an odd notion.

Some think that Heraclitus believed that God is actually identical to all things.[184] But the only real evidence we have for this is the nominative predicate construction in

[184] This seems to be a common view. We have seen that Curd (2013) seems to think so. Other scholars have argued this by claiming that Heraclitus' God is akin to an Aristotelian substance and this is how he can be identified with all things. The most notable proponents of this view seem to be Fränkel and Marcovich. However, I believe the substance interpretation is based on an anachronistic reading of the verb "to alter" (ἀλλοιοῦται) and an overall misunderstanding of the analogy in B67 (see Kirk pp. 189-191). Heraclitus claims in B67 that God "alters" (ἀλλοιοῦται). This word, in the noun form "alteration" (ἀλλοίωσις), takes on a technical sense in Aristotle's physics to denote the qualitative change that a substance undergoes (e.g. the substance, an individual human being, undergoes the qualitative change from "non-musical" to "musical") (See Aristotle *Physics V.* 226a26). Both Fränkel and Marcovich seem to think that if God can alter, then he must be something akin to an Aristotelian substance that undergoes qualitative change. On this interpretation, all change in the natural world actually does reduce to mere qualitative change undergone by the divine substance. For example, Marcovich claims that "God-Fire is the underlying *essence* of all things, undergoing *qualitative* changes... all things are actually different forms of fire…" (p. 412). However, this commits Marcovich to the claim that the opposing elements are actually all *really "*fire" (or, "fire-God" according to Marcovich). This would require Heraclitus to be a material monist. But if were to look at his theory of elemental transformation (in fragments B31, B36 and B76), we would see that Heraclitus believed there was a radical discontinuity of existence when one element *becomes* another element (See Graham (1997 and 2006) for a substantial argument against reading Heraclitus as a material monist). For this reason Heraclitus cannot be a material monist since a material monist believes that all things are really one, undying substance. This puts tremendous stress on Marcovich's claim here about the nature of Heraclitus' God. At any rate, Marcovich's views concerning Heraclitus' God are based on a misreading of the analogy in fragment 67. He seems to think that Heraclitus' God simply *is* fire, univocally. He derives this by following a long tradition of supplying the missing word in B67 as "fire" and by claiming that the fragment doesn't actually contain an analogy between God and fire. He claims that "[t]he presence of πῦρ here is of great interest: it seems to be *much more than a simple comparison* [emphasis mine] … alluding to the very essence of God: *fire*" (Markovich, p. 416). However, even if the missing word were fire, it wouldn't follow from this fragment that the essence of God is fire for Heraclitus. The term ὅκωσπερ in B67 seems to make it quite clear that Heraclitus is attempting to convey something about the divine that is *analogous* to the way "fire" or "oil" is experienced when it is mixed with spices. Jeannière argues that there is a "dialectical identity" between God and the world: "Nul panthéisme, mais une identité dialectique" (p. 55). But it is difficult to see how a dialectical identity is distinct from a logical identity. He also claims that "Le dieu est la totalité de ce cercle, parce qu'il en est la mesure même, sa tension, sa limite" (p. 50). The circle in question is the supposed cycle of world transformations; either way Jeannière identifies God with the totality of the cosmos. He also claims "Il est la cause qui organise et régularise, absolument pur et 'séparé de tout' justement parce qu'identique à ce tout" (p. 50). Fatouros (1994) hints at something like pantheism: "aus allen Einzeldingen bzw. -teilen wird ein Ganzes, wobei das Eine dann als summatives Ganzes aufgefaßt wird" (p. 67). See also Zeller (1881): "Our philosopher's theory of the universe is therefore the most outspoken pantheism; the divine essence by necessity of its nature is constantly passing over into the changing forms of the finite, and the finite abides only in the divine, which in undivided unity is the substance, cause and law of the world" (pp. 46-47).

B67. This identification is indeed puzzling, but B67 seems to contain the answer to its own puzzle. The key word in B67 is "as" (ὅκωσπερ) which signals a comparison. The two things compared seem to be God and oil (or fire).[185] But there are two ways in which God is like oil; it is claimed that God *is* the series of opposites and that God *changes.*[186] How is God the opposites and how does he change? *Just as* (ὅκωσπερ) oil when it is *mixed* with spices is *named* according to them. The image here is of neutral-scented oil, which was traditionally mixed with spices and used as a type of perfume. When the oil was scented with, say, frankincense or myrrh, the oil itself would be called by the name of the particular spice/incense.[187] So, God, who manifests himself in different forms (e.g. peace and war), is called by such names.[188] In addition to explaining God's manifestation in the world, I believe that the God-oil analogy is meant to explain *how* God can be identified with all things while remaining different from all things.[189] If we take oil (or

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[185] The more common supposition is that the missing word is "fire." I believe my interpretation still makes sense on this supposition, though I submit the illustration seems to make more sense if we suppose the missing word is oil.

[186] This comparison, signalled by ὅκωσπερ, seems to be missed by Fatourus (1994, p. 66) and Papamichael-Paspalides (2005, p. 45). These thinkers suppose that God is actually the opposites. Since God is a unitary being, on this view, the opposites are united.

[187] See Fränkel, pp. 234-5.

[188] This idea of calling different things God is reminiscent of Stoic theology.

[189] Kahn (1979) seems to think that this fragment cites nothing concerning God's nature, pp. 279-281. However, Kahn makes a hard association between the divine and the alleged "unity of opposites." Regarding B67, he claims that "His simile holds not between the transformations of the God and the mingling of fire with incense but between the different manifestations of the God and the alternative *naming* ... when so mingled. As there is one fire called by many names, so there is one divine system of unity and opposition that has just been designated by four pairs of opposites" (p. 280). I would accept Kahn's statement with this alteration to the last phrase: "so there is one *divine principle of unity and order that is here (i.e. in B67) designated by four pairs of opposites*."

fire, since either will work on this interpretation) to represent God and if we take the spices to represent all things (or, minimally, the opposites listed), then God would be related to all things *by being mixed* (συμμιγῆ) *together with all things.* In other words, God would be said to permeate all existence.[190] We experience different opposing states of affairs (i.e. night/day etc.) but they are all God (in a way) since God permeates all existence. Now, if I am right that Heraclitus' God is a principle of order for the cosmos, perhaps the reason Heraclitus identifies the divine with these opposites is to demonstrate the ordered (and therefore unified) succession of opposites in these pairs. We experience God as he manifests himself in day and night, etc., but we also experience God when we witness the ordered and unified progression of day-night. This view does seem to be supported by Heraclitus' mixture analogy and, I submit, makes good sense of why Heraclitus would on the one hand repeatedly come close to saying that God is all things while on the other hand insists that God is different from all things. Hence, on my view, Heraclitus does not actually identify God with all things. Rather, he wishes his readers to "identify" God in all things, since God is the all-pervasive cause of order and unity in the cosmos.

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[190] See Fatouros (1994): "Denn die ganze Welt sei von diesem Gott, d.h. von der Spannung der Gegensätze, durchdrungen, und man spure ihn auf Schritt und Tritt" (p. 66). This concept of the divine is also reminiscent of Stoic theology. It is well documented that the Stoics took Heraclitus to be a main source of inspiration for their philosophy, even though they seem to have misrepresented his philosophy at times. While this is, in itself, not evidence that Heraclitus' divine being is akin to the Stoic's divine being, it does produce an interesting hypothesis for how the Stoics developed their theology. It might be the case that they inherited this notion of a permeating divine entity from Heraclitus and developed their theory of extreme mixture to provide a metaphysical account for God's mixture with all things.

It may be fairly obvious at this point how God is associated with the opposites on my account. If God is the principle of order for all things, then God would be a principle of order for the opposites.[191] But it is worth pointing out that this is a novel way of understanding the unity of opposites in Heraclitus. This is because the standard view of the unity of opposites sees their *essential connection* as their unifying function rather than their *divine ordering.*[192] On my view, the opposites are, for Heraclitus, *explananda* requiring *explanantia*.[193] We can make sense of the opposites and their relations only because God renders the universe orderly and therefore intelligible.

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[191] See Aal (1896): "er eine bunte Menge von gegensätzlichen Erscheinungen aufzählt, um Gott als das Band zu bezeichnen, welches dies alles in mystischer Weise enheitlich zusammenhält" (p. 18). See also Fatouros (1994, p. 66). While these interpretations seem to have grasped that Heraclitus' God is the principle that produces the unity of opposites, they seem to have failed to grasp *how* Heraclitus' God unites the opposites. On my interpretation, God produces the order of the cosmos and this order produces the "unity" of opposites.

[192] On the "essential connection" reading of the fragments containing opposites, their real philosophical value is found in their contribution to this idea of essential connection between opposites. Kirk does claim that the *way* in which opposites are connected can differ for Heraclitus; thus, he says, "this unity expresses itself in different ways: (I) opposites are "the same" relatively to different observers, or to different aspects of the same subject... (2) Opposites are "the same" because they inevitably succeed one another: they are different degrees of some quality, or different poles of the same continuum... These different *modes* [emphasis mine] of the unity of opposites are illustrated by concrete examples…" (p. 72) So, for Kirk, there is a hierarchy of subsumption at work here. First, there are concrete examples of opposites being connected (we have seen many of these in chapters 1 and 2). Second, there are *modes* of the unity of opposites thesis (i.e. opposites are essentially connected in different *ways*). Third, there is the unity of opposites doctrine itself. And finally, there is the formula ἓν πάντα. These four "theses" stand in a system of hierarchical subsumption, in that the fourth thesis contains all the conceptual content of the lower theses, the third thesis contains all the conceptual content of the theses below it, and so on. For example, Kirk explains that "all the pairs of opposites can themselves be equated with god, who stands for the connexion between things" (p. 166). Furthermore, Kirk elsewhere claims that the *logos* is the "connection" between all things. To be consistent Kirks should say that the *logos* just is God, but he never claims this. At any rate, this would be Curd's view which, as I have argued above, is problematic.

[193] See Chapter 5 for a robust defence of this interpretation.

V. God and the Intelligibility of the Cosmos

So far I have argued that Heraclitus' God is a principle of order for the cosmos that permeates all things. I will now argue that Heraclitus' God makes human understanding of the cosmos possible.[194] I will do this by demonstrating two concrete ways in which we can make progress in human understanding in virtue of God's being a principle of order for the cosmos. Consider B10, which is a fragment pertinent to our discussion:

> B10: συλλάψιες: ὅλα καὶ οὐχ ὅλα, συμφερόμενον διαφερόμενον, συνᾷδον διᾷδον, καὶ ἐκ πάντων ἓν καὶ ἐξ ἑνὸς πάντα.
>
> Collections: wholes and not wholes; brought together, pulled apart; sung in unison, sung in conflict; both from all things one and from one all things.

Crucial to understanding God's relation to all things is understanding what Heraclitus means by "from" (ἐκ) in this fragment. Generally, the Greek term ἐκ denotes either *generation* or *composition.*[195] If Heraclitus means the former, he would be claiming that all things are generated from God, and that God is generated by all things. If he intends the latter, he would be claiming that God is made out of all things, and that all things are made out of God. Reading ἐκ as generation from *seems* to contradict B30, which claims that the world is ever-living and was not created by any God. Reading ἐκ as composition

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[194] Curd (1991) argued that an object of knowledge requires a principle of unity. She locates this principle of unity in the *logos.* My account is an alternative solution to the possibility of knowledge in Heraclitus. On my interpretation, God supplies the world with order such that humans can view objects in the world as unities.

[195] There are other uses of ἐκ: place (the place *from* which), or of time (thereafter, or a point in time *at* which something occurs) (See LSJ entry: ἐκ), but this fragment does not seem concerned with time or place.

seems to contain a logical difficulty: God cannot be composed of the stuff of which all things are composed, if all things are the stuff out of which God is composed. A book, for example, can be made out of pages, but we cannot say that pages are made out of a book. To solve this puzzle, we cannot divorce the latter half of the fragment from the former half. The first half of this fragment contains a list of opposites, which are called "collections." On my reading, the point being made by this fragment is that things can be analyzed from opposing perspectives: we can take a synthetic view of things by finding the unity in dissonance (wholes/brought together/sung in unison) or an analytic view of things by finding the differences in a perceived unity (not wholes/pulled apart/sung in conflict). The basic notion of human understanding evident in the first half of B10 cannot be ignored when trying to make sense of the latter half of the fragment. I believe the ἐκ here refers to the *human understanding* of "all things" (πάντα) and "one" (ἕν).[196] We understand the cosmic principle of unity and order by understanding all the things it directs. In terms of B67, this requires an understanding of the wise *ordering* of the sequences: day-night, winter-summer, war-peace, and satiety-hunger. And we can

[196] This usage of ἐκ seems to be a plausible construal of the "in accordance with" usage cited by LSJ (LSJ entry: ἐκ III.7). In this instance, ἐκ seems to be citing the origin or source of *understanding.* Compare the following usages: Herodotus I.64: τὴν νῆσον Δῆλον καθήρας ἐκ τῶν λογίων (he purified the island of Delos *in accordance with* the oracles). Demosthenes *Against Timocrates* 28.3: ἀνελὼν τὸν ἐκ τῶν νόμων χρόνον (he cancelled the time that was in accordance with the statute). Aeschylus *The Persians* 397: ἔπαισαν ἅλμην βρύχιον ἐκ κελεύματος ("they struck [with their oars] the briny deep *in accordance with* the command"). In all these cases ἐκ seems to be citing an origin of understanding. In the Herodotus passage, Peisistratus cleanses the island of Delos having been informed to do so by the oracles; Peisistratus understands x (to cleanse the island) from y (the oracle). In the Demosthenes passage, Demosthenes is describing a man who drafts a decree but alters the date; he cancels the date that was *given,* or *informed* by the statute. In this situation we understand x (the correct date) from y (the decree). In the Aeschylus passage the rowers strike oar because of the command; they understood x (to row) from y (the command).

comprehend all things (day-night, etc.) by understanding the cosmic principle which directs them: the one, wise being who is the director of these sequences. So the ἐκ seems to be used in the sense of *generation,* but ἓν and πάντα aren't reciprocally generated; rather, it is our *understandings* of ἓν and πάντα that are reciprocally generated. Furthermore, this seems to suggest that we cannot have a *synthetic* view of the universe unless the universe itself contained a principle of *unity* (i.e. God).

In her article "Heraclitus and the Art of Paradox," Mary Margaret Mackenzie (now McCabe) argued that Heraclitus' unity of opposites doctrine implies that there are opposites within a unity.[197] In other words, Heraclitus wasn't just interested in opposites being united, but also with unities containing opposites. Though I do not agree with her complete analysis,[198] Heraclitus does seem to be interested in pointing out instances where opposites are united in some way *and* in pointing out that unitary objects contain opposites. For example, Heraclitus claims that "hot things cool, cool things warm up; dry things moisten and moist things dry out" (B126). On my view this is an *explanandum* for Heraclitus, supplied by our observation of the cosmos. His *explanans* for this phenomenon (i.e. the exchange between opposing properties) is his theory of elemental transformation in B76: "The death of fire is the birth of air, and the death of air the birth of water. It is death for earth to become water, and death for water to become air, and

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[197] MacKenzie, M. M. "Heraclitus and the Art of Paradox," *Oxford Studies in Ancient Philosophy* 6 (1988), pp. 1-37.

[198] For example, her belief that Heraclitus held the standard Unity of Opposites doctrine is not amenable to my multi-thesis interpretation of Heraclitus' use of opposites.

death for air to become fire and contrariwise." Heraclitus, as I have argued in Chapter 1, seems to be promoting a transformation thesis: *certain opposing stuffs transform into one another in such a way that they are transformationally equivalent and therefore unified*.[199] On my view, we can *see* that these opposites (i.e. the hot, the cold, the wet and the dry) are united *because* we can view the world synthetically. Our synthetic vision whereby we recognize the transformation thesis is possible because God in fact permeates all things, ordering and unifying them.

But we can also view the world analytically. We can take unitary objects, like sea-water, and see opposites inhering in them: "Sea-water is the purest and most polluted water: for fish drinkable and healthy, for men undrinkable and harmful" (B61). This would be an example of MacKenzie's "opposition in unity" principle.[200] On my view, the sea-water is in fact dependent on the properties "pure" and "foul" (the superlatives seem to be hyperbole). Sea-water as we know it does not exist if the properties "pure" and "foul" are not united within the substance we call sea-water. The idea that these properties inhere in sea-water is grounded by the fact that God permeates all things, ordering and uniting all things. But this also means that we can see the opposition in unity because God makes it possible for us to view the world with the analytic vision whereby we distinguish opposites within unities.

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[199] Daniel Graham originally advanced the thesis that Heraclitus' theory of transformation is an opposites thesis: Graham, D. W. "Heraclitus' Criticism of Ionian Philosophy," *Oxford Studies in Ancient Philosoph*y 15 (1997), 1-50.

[200] See MacKenzie (1988) pp. 14-17.

Heraclitus' God is a principle of order for the cosmos. This principle permeates all things and wisely orders them. Since this singular being permeates all things and orders them according to a single, wise plan, all things are one. A single order directed over all things produces a unity. Opposites, the disparate elements of the cosmos, are part of this ordered totality and are therefore intelligible.

VI. Conclusion

In conclusion, my proposed interpretation allows us to answer the questions posed at the start of this chapter. Regarding the first question, (i.e. what *is* God for Heraclitus), I have argued that Heraclitus' God is a principle of order for the cosmos (all things). Regarding the second question, (i.e. what does Heraclitus mean when he claims that all things are one?), I claim that the fact that God is a principle of order for the cosmos entails that the entire cosmos is unified. From B10, we can see that Heraclitus thought it was possible to view the cosmos from an analytic view (whereby we distinguish differences in a unity), but that it is also possible to view the cosmos from a synthetic view (whereby we see unity despite difference). Heraclitus claimed that a synthetic vision of the cosmos is only possible if the cosmos itself contained its own principle of order: God. In answer to the third question (i.e. how can Heraclitus claim that God *is* all things while also claiming that he is different from all things?), I have argued that God is a principle which *permeates* all things, being mixed together with all things as spices are with oil. But it also seems clear that the principle of that order is, in a way, different from the things it unifies, orders and permeates. Finally, in response to the

last question (i.e. what does God have to do with the opposites?), I submit that, by virtue of the fact that God is the principle of unity and order for the cosmos, he is also a principle of order and unity for the opposites. This has ramifications for a human understanding of the cosmos, since it supplies us with the metaphysical groundwork for synthetic and analytic perspectives on the cosmos.

Chapter 4: Opposing Values

I. Introduction

In this chapter I hope to show that Heraclitus is concerned with a subject matter which today we might call "value theory." Value theory, as I see it, is concerned with questions concerning goodness: what does it mean for a thing to be good? What does it mean for a thing to be good *for* someone? Is anything good *simpliciter*? That is, is there any good thing whose goodness exists independently of any respondent? In this chapter I argue that Heraclitus was interested in such questions and had his own views concerning the nature of value and goodness. On my view, the fragments of Heraclitus support the following claims: i) the same object can have opposing values. This is evident in the world (e.g. sea-water is both pure and polluted), and is a phenomenon in need of explanation. His explanation is that ii) the things we normally take as good or bad are only good *for* (or bad *for*) certain respondents, which means that iii) the things we normally think of as good are not good *simpliciter.* So called "good things," for Heraclitus, are good *for* some other thing(s). But, I will argue, he holds that iv) the orderliness of the cosmos, as well as our comprehension of that order (i.e. wisdom (σοφόν)), are good *simpliciter*, and they are the only things that are good *simpliciter.* But there is an issue: if some things are both good and bad, how can we know what is good *simpliciter*? Heraclitus, I believe, has an interesting view concerning a standard of goodness which can answer this question. I argue that for Heraclitus v) God's response to goodness is the standard whereby we can measure the goodness of all things. Finally, I

argue that vi) wisdom holds a special place in Heraclitus' value theory, since it alone is both good *for* its possessor and good *simpliciter*. The important point for the purposes of this dissertation is that Heraclitus' views on value contain an opposites thesis: *it is possible for one and the same object to have opposing values* (*i.e. to be both objectively good and objectively bad*).[201] This is so since what is good is always good *for* a kind of respondent, and what is good for one kind of respondent is possibly not good *for* another kind of respondent. The only exceptions to this are the orderliness of the cosmos and our apprehension of it.[202]

In the first section of this chapter I introduce some terms and distinctions that will prove useful for understanding Heraclitus' fragments that are concerned with value. In the second section I argue in support of the interpretation that for Heraclitus claims about goodness are generally claims about goodness *for*, and that for Heraclitus nothing in our ordinary experience is good *simpliciter*. In the third section I argue that for Heraclitus claims concerning goodness from God's perspective act as a functional replacement for goodness *simpliciter* claims. This raises the following issue: if God's view of goodness is of the highest order, can humans access this view of the good? In the fourth section I argue that humans progress in their understanding by recognizing *that* all things appear good to God and by understanding *how* this can be so by seeing the *kosmos* as an orderly

[201] The fragments supporting this thesis are sometimes thought to support a *relativism thesis* of sorts. See Burnet (1932), who thinks that Heraclitus is a proto-Protagorean, and Kirk (1954, p. 80), who simply claims that for Heraclitus "assessments" are "relative." I wish to recast this thesis in terms of (objective) goodness *for* claims, since I think this best captures what Heraclitus is doing.

[202] I will expand upon and defend that these are exceptions below in this chapter.

whole, that is, as a single *kosmos*.[203] In this way humans can make progress in understanding what is good. In the final section I argue that wisdom holds a special place in Heraclitus' value theory, since it alone is both good *for* its possessor and good *simpliciter.* This is a good basis for Heraclitus to pronounce in B108 that "wisdom is different from all things."

II. Preliminary Remarks About Goodness

Heraclitus uses a variety of terms which I take to be concerned with value.[204] The most important term is, of course, "good" (ἀγαθόν), which occurs twice (B102 and B11), and its superlative form "best" (ἄριστος), which occurs three times (B29, B49 and B118).[205] Heraclitus uses a number of further terms which we might also call value terms:

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[203] Heraclitus was the first Greek writer we know of who used the term κόσμος to denote something like a "world-order", in B30: κόσμον τόνδε τὸν αὐτὸν ἁπάντων, οὔτε τις θεῶν οὔτε ἀνθρώπων ἐποίησεν, ἀλλ᾽ ἦν ἀεὶ καὶ ἔστιν καὶ ἔσται, πῦρ ἀείζωον, ἁπτόμενον μέτρα καὶ ἀποσβεννύμενον μέτρα. "This *cosmos,* the same for all, was made neither by someone of the gods nor of men, but it always was, is and will be, an ever-living fire, being kindled in measures and being put out in measures."
Prior to Heraclitus κόσμος simply meant "order," but Heraclitus clearly uses this term here as a name for the entire world.

[204] Heraclitus has historically been viewed as a cosmologist or as a metaphysician (or both), but more recent scholarship has been open to treating him, rightly in my view, as also concerned with ethics. See for example Robert Bolton, (1989) "Nature and Human Good in Heraclitus," in *Ionian Philosophy* pp. 49-57, David Sider, (2013) "Heraclitus' Ethics," in *Doctrine and Doxography* pp. 231-234 and Mark Johnstone (forthcoming), "On the Ethical Dimension of Heraclitus' Thought," in *Early Greek Ethics.* See also Charles Kahn (1989) *The Art and Thought of Heraclitus* and Roman Dilcher (1995) *Studies in Heraclitus*, who treat Heraclitus as primarily concerned with the human condition. While there has been a growing interest in Heraclitean ethics, no one else has examined his fragments concerning the nature of what is good in the manner I do here.

[205] Fragment B29 claims that "The best choose one thing above all, the everlasting fame of mortals; the many gorge themselves like cattle." This seems to be at odds with B118 which claims: "A dry soul [is a dry beam of light,] wisest and best." B29 seems to claim "fame" is the best thing while B118 seems to associate wisdom with the best. David Sider has argued that this is actually a critique of the nobility (οἱ ἄριστοι) who choose something (i.e. immortal fame) that is not actually the best. (See Sider (2013), pp. 325-327).

"just" (δίκαιον) and "fair/fine" (καλόν). These terms, while not synonymous with "good," are still value terms that *imply* goodness in some sense. He also uses several value-laden terms whose relation to "good" is slightly unclear. These terms include "healthy" (σωτήριον)[206] and "pleasant" (ἡδύ). These two terms, I submit, are used by Heraclitus as *markers* of goodness; they serve as clues about a thing's goodness (though they are fallible).[207] As I see it, all these terms are value terms. Heraclitus uses them to characterize things in the world in interesting ways in several of the fragments. Thus Heraclitus is interested in value theory insofar as he is interested in ascribing value to objects and describing the nature of that value.

Before we begin, it would be good to get clear about some concepts. We must, for example, recognize a distinction between the objective goodness of a thing and our subjective valuing of a good thing. The objective value that a thing bears is, at least in principle, not dependent on a respondent's recognition of that thing's value. For example, it may objectively be the case that green beans are good *for* a child, even though that child may not recognize that the green beans are valuable. In this situation, we might say that the child does not value the green beans. Thus we must distinguish between value as an objective property (noun) of an object and valuing as an activity (verb) of a respondent in relation to an object. There is a difficulty here: is a good thing good even if no

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[206] This word is generally translated as "bringing safety" or "bringing deliverance." But in the context of the fragment in which it occurs, I believe Heraclitus used it to mean "healthy" since he seems to be contrasting harm and health.

[207] I explain and defend this claim below, in section II. There is also a term which serves as marker for badness (or negative value): "harmful" (ὀλέθριον)

respondent actively values the thing as good? In other words, can a good thing really be good if no-one ever recognizes its value? We might be inclined to say that a thing's value is in some way dependent on a respondent. By this we might mean one of two things: either i) a thing is good iff some respondent actually values it as good or ii) a thing *x* is good iff it is in fact good for some other thing *y* (even if *y* never recognizes *x* as good). I argue below that Heraclitus held claim ii, and hence that a thing can be objectively valued without being subjectively valued.[208]

The distinction between the objective value of a thing and our recognition of that value introduces another distinction that is pertinent to understanding what I believe Heraclitus is saying about value. This distinction is between good *for* and good *simpliciter*. Being good *for* someone means being beneficial for someone.[209] For example, we might say that green beans are good for *y*, where *y* is some human being. But are green beans good in and of themselves? Probably not; but if they were, we might say that they are good *simpliciter*. Being good *simpliciter* means being good without recourse to

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[208] In section II of this paper, I call this sort of construal "respondent-dependence" rather than "response-dependence."

[209] Richard Kraut (2012) in *Against Absolute Goodness* agrees with this characterization of goodness *for* (p. 3). We can note that there is nothing that is "beneficial *simpliciter*." According to the "point of view model" being good *for* someone "means being good from a certain point of view." See Schroeder, Mark. "Value Theory" in *Stanford Encyclopedia of Philosophy.* https://plato.stanford.edu/entries/value-theory/. Accessed 27 Nov. 2017, 1:46pm.

some respondent.[210] The difference between "being good *for*" and "being good *simpliciter*" is that an object that is good *for* someone or something has goodness only in virtue of the respondent for which it is good, while an object that is good *simpliciter* would have goodness as a property independent of any such respondent. Many scholars have expressed skepticism regarding the concept of goodness *simpliciter*.[211] I believe Heraclitus did as well, except, as I will argue, with reference to the orderliness of the cosmos and our apprehension of it (i.e. wisdom).

III. Goodness *For*

We can begin to see Heraclitus' interest in the nature of value by revisiting a fragment discussed in Chapter 2: B61.

> B61. θάλασσα ὕδωρ καθαρώτατον καὶ μιαρώτατον - ἰσχθύσι μὲν πότιμον καὶ σωτήριον, ἀνθρώποις δὲ ἄποτον καιὶ ὀλέθριον.[212]

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[210] Some have described goodness *simpliciter* as something like "intrinsically good" (i.e. good in and of itself): "We can perhaps further positively characterise what it is to say that X is good simpliciter in the following way: the claim 'X is good simpliciter' is synonymous with the claim, 'X is desirable for its own sake'." (Rowland, R. (2016), p. 1373 fn. 7). Richard Kraut (2012) has used a number of synonyms for goodness *simpliciter*: "absolute goodness," "valuable (period)," "good *tout court*," "good *sans phrase*," and "impersonally good."

[211] See Philippa Foot, *Natural Goodness* (Oxford: Oxford University Press, 2001), Peter Geach, "Good and Evil," *Analysis*, (1956) 17(2), 33–42, and Richard Kraut *Against Absolute Goodness* (Oxford: Oxford University Press, 2012). For a defence of good *simpliciter* see Richard Rowland "In Defence of Good *Simpliciter*" *Philosophical Studies* (2016) 173.5, 1371-1391.

[212] This fragment is also preserved by Hippolytus (*Refutatio* IX.10.5). Hippolytus claims "[Heraclitus] says that the polluted and the pure are one and the same thing and that the drinkable and the undrinkable are one and the same thing." If Hippolytus means *this* pure and polluted thing (i.e. sea-water) is one and the same thing, then I think he is correct. But Hippolytus, judging from his explanation of B58 (see below), probably thought Heraclitus meant that purity and pollution are one and the same thing. Kahn claims that this fragment merely "contrasts the needs or preferences of mankind with those of another species" (Kahn, p. 186). However, as I argue, I believe Heraclitus is doing more than simply contrasting here.

> Sea is the purest and most polluted water: for fish drinkable and healthy, for men undrinkable and harmful.

I argued in Chapter 2 that the initial part of this fragment supports the idea that objects are ontologically dependent on essential yet opposing properties. But I believe Heraclitus is also using the entire fragment to make a point about the value of the sea-water. The interesting thing is that sea water seems to have opposing values; on the one hand the sea-water is good for fish, since it is drinkable and healthy (σωτήριον). But sea-water is *not* good for humans, since it is undrinkable and harmful (ὀλέθριον). Sea-water is indeed good, but its goodness is limited to what we have called goodness *for*. Thus sea-water is not good *simpliciter*. We might say that the goodness of the sea-water is conditioned by its respondents: if fish (or, I take it, any other sea-creature) didn't exist, sea-water wouldn't be good *for* anyone or anything. Thus its goodness depends on a certain sort of respondent. Likewise, if humans (or any similar creature for whom sea-water is bad) didn't exist, sea-water wouldn't have any sort of objective negative value, since it wouldn't be harmful for anyone. The point I believe Heraclitus is trying to make is this: sea-water is objectively good *and* bad. Heraclitus treats this as a problem, which he recognizes is alleviated when we see that the goodness of the sea-water is dependent on a sort of respondent and the badness of the sea-water is dependent on a different sort of respondent. I don't suppose Heraclitus thought that the objective value of the sea-water is dependent on our subjective act of valuing the sea-water as such; rather, the fact that sea-water is at the same time good *for* fish and bad *for* humans is an objective state of affairs.

It is true whether or not the respondents *recognize* the value (negative or positive) or *judge* the value of sea-water as good or bad (I defend this view below in this section).

This theme concerning value seems to recur in more of the fragments of Heraclitus. Consider, for example, fragment B9:

B9: ὄνους σύρματ΄ἄν ἑλέσθαι μᾶλλον ἢ χρυσόν.[213]

Asses would choose refuse over gold.

In this fragment we have two objects: refuse and gold. It explicitly names one sort of respondent (asses), but I believe it implies another sort of respondent: humans. The first object, refuse, is of value for the asses (it is choice-worthy, in the sense that asses would in fact choose it). But for humans, these same things would not be chosen — at least this seems to be implied. Humans, on the other hand, would choose gold over refuse. Heraclitus seems to be citing here the subjective sort of valuing explained above: asses "choose" (ἑλέσθαι), and hence *value* (verb), one thing instead of another. But I believe Heraclitus is also implying something concerning the actual objective value of the objects. Of course, the value of gold is merely conventional, but it is still in fact valuable

[213] This fragment is preserved for us by Aristotle in the *Nicomachean Ethics* 10.5, 1176a5, but is not preserved in Heraclitus' exact words. There is some debate whether the word σύρματ' (draggings) should be σάρματ' (sweepings). As Kirk points out, σύρμα means "anything trailed." It is difficult to know exactly how to translate the term but most scholars believe it refers to refuse of some sort (see Kirk pp. 81-83). Kirk translates "rubbish"). Aristotle thought the fragment was an implicit comparison between humans and animals. He says "for there is a different pleasure of a horse and a dog and a man, just as Heraclitus says …" Kirk has a very forced interpretation here: he draws the conclusion that "there is no essential difference between pleasant and unpleasant" (p. 84).

for humans (whether one of us recognizes its value or not).[214] On the other hand, gold is in fact not valuable for the asses. The point of this fragment seems to be this: humans take it that gold is a good thing, but do not recognize that its goodness is limited to a certain class of respondents and that the same gold is of no value to other sorts of respondents. It should be noted, of course, that this fragment does not have the same weight as the preceding fragment. In B61, Heraclitus cites an object that is at once good and bad; in B9 he simply cites two objects that are good for certain types of respondents, but neutral (i.e. of no value) to other sorts of respondents. But the same sort of theme runs through both fragments: what we think of as good is not good *simpliciter,* but rather good *for* some and not for others.

The same theme is expressed in B13b:

B13b: ὗες βορβόρῳ ἥδονται μᾶλλον ἢ καθαρῷ ὕδατι.[215]

Pigs delight in mud rather than pure water.

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[214] Of course gold would not be objectively valuable if no humans valued it. Thus the value of gold is actually dependent on whether or not humans collectively value it. Gold seems to be a special case (since its value is conventional). In all other instances, Heraclitus seems to cite things that are valuable whether or not the respondents (collectively or individually) treat them as valuable. Still we might think Gold has objective qualities which make it useful as a medium for storing and exchanging wealth.

[215] This fragment is reconstructed from three sources: Athenaeus 5, 178f, Clement *Protrepticus* 92.4 and Columella 8.4. See Kirk pp. 76-78. There have been a number of different interpretations of this fragment. Gigon and Fränkel thought "pigs" referred to the majority of people and that mud and pure water were simply metaphors for unenlightened or enlightened desires. Others have argued that this shows a relativity principle of sorts (see Kirk. p. 80 and Kahn pp. 186-189). Kirk ultimately thinks that this fragment supports his unity of opposites principle because "opposites are 'the same' relatively to different observers." I think Kirk's application is quite similar to mine; though, of course, I disagree with his ultimate point that this is support for the idea that Heraclitus employed many instances of opposites to support the thesis that "opposites are essentially connected."

I take it that, as in B9, humans are implied as another sort of respondent to these two objects. Pigs find value (literally, they take pleasure) in mud.[216] From a certain point of view, that of a pig, mud is good. But we should note that implied in this fragment is the idea that humans would *not* delight in mud. In fact, humans have a sort of revulsion to mud, and so mud is not good for a human (at least it doesn't seem to have any obvious, positive value). On the other hand, humans would delight (take pleasure) in pure water, since it is valuable to us for washing and for drinking. Thus water is good *for* humans. But maybe this is too quick: Heraclitus only says that pigs take pleasure in mud, not that mud is actually good for pigs.[217] We might be inclined to think that this fragment has nothing to do with goodness. However, it does follow the same pattern as the preceding two fragments and, as such, I believe Heraclitus wrote it to make a similar point, if not the exact same point (i.e. that what we take to be good is almost always good *for*). If this is right, then Heraclitus might be correlating what is pleasant with what is good. The relationship between what is good and what is pleasant cannot be one of identity for Heraclitus (as I will show from B58 below). But, as we will see in B111, Heraclitus does

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[216] Though Heraclitus might not have known why, mud is actually very good for pigs. A healthy coating of mud helps to keep a pig's temperature regulated in the hot sun. Mud is better for keeping a pig cool than pure water since it takes longer for the moisture of mud to evaporate.

[217] My interpretation here is compatible with Catherine Osborne's idea that for Heraclitus "what counts as good and worthwhile depends upon who we are" (Osborne, 1997, pg. 104). However, I disagree with Osborne's overall interpretation of opposition in Heraclitus. For her, Heraclitus' interest in opposites was simply to convey the idea that: "what counts as the same and what counts as opposed is decided by a significance acquired in a social or temporal context, and is not determined absolutely by a fixed nature or material constitution in the entities we observe" (Osborne, pg. 88). See my Introduction for my argument against Osborne's "opposite thesis" as a comprehensive solution for the problem of opposites in Heraclitus.

seem to associate goodness with pleasure in some way. It seems that the best way to make sense of the relationship between pleasure and goodness would be to think that Heraclitus thought of pleasure as a fallible *marker* for what is good (our analysis of B58 will reveal why it is fallible).

Let us take stock. In these three fragments, I believe that Heraclitus is trying to convey the following points: i) the same object can have opposing values. This is evident in the world (e.g. sea-water), and is a phenomenon in need of explanation. His explanation is that ii) the things we take as good or bad are actually only good *for* (or bad *for*) certain respondents, which means that iii) the things we normally think of as good are not good *simpliciter*.

So far we have examined three fragments which seem to show that there is a discrepancy between which objects in the world are valuable to animals and humans. Perhaps, one might think, Heraclitus' goal in considering these opposing values is simply to show that humans and animals perceive the world differently.[218] If this is so, we may be reading too much into Heraclitus' fragments by ascribing to him the strong thesis that most things aren't good *simpliciter*. We must then look and see if there are other fragments which show that even among humans there is a discrepancy between perspectives with respect to value. Fragment B111 seems to be such a fragment:

[218] Aristotle uses B9 to make an interesting point in *Nicomachean Ethics* 10.5, 1176a5-9. He argues that "each animal is thought to have a proper pleasure, as it has a proper function viz. that which corresponds to its activity… the pleasures of creatures different in kind differ in kind."

> B111: νοῦσος ὑγιείην ἐποίησεν ἡδὺ καὶ ἀγαθόν, λιμὸς κόρον, κάματος ἀνάπαυσιν.[219]
>
> Sickness makes health pleasant and good, hunger satiety, weariness rest.

We should note again, in support of my interpretation of B13b, that Heraclitus forms an association between a thing's goodness and its pleasantness. I suggested that pleasure is a fallible marker for a thing's goodness. We can now see if this interpretation of the relationship between pleasure and goodness holds for B111. This fragment asserts that, for three sets of opposites, one opposite of each set makes the other opposite both good and pleasant. But it is difficult to make sense of this concept. How could hunger make satiety a good thing? Even more difficult to understand is how sickness could make health a good thing. Health seems to be the sort of thing that is good all of its own. We might take Heraclitus to say that health only *seems* good and pleasant because of sickness.[220] This would be easier to understand; if a person was never sick, their health would never present itself as particularly good and pleasant. But Heraclitus does not say that sickness makes health *seem* good and pleasant; he claims that it in fact makes health good and pleasant somehow. Thus we must make sense of how sickness can make health a good thing.

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[219] This fragment is preserved for us by Stobaeus (*Florilegium* I, 177). While there are some difficulties with the text (e.g. the evidence of Ionicization (see Kirk. p. 130)), this fragment is generally deemed by scholars to be authentic. Kahn argues that this fragment belongs with B110: "it is not better for human beings to get all they want."

[220] This is how Kahn interprets the fragment. He claims that "it is only the contrast with sickness that permits us to *recognize* (emphasis mine) health as something 'sweet and good'" (Kahn, p. 182).

I believe that this fragment resonates with the previously discussed fragments. B111 resonates with B13b, B9 and B61, since it contains the subject matters of value and opposition. As such I believe it makes most sense to present a reading of this fragment on which it aligns with the interpretation of the previously discussed fragments. Heraclitus presents his reader with three "good" things: health, satiety and rest. These three states of being are generally thought to be good things. But, on my reading, these three things are not good *simpliciter*. Rather, health, satiety and rest are in fact good, but their goodness is goodness *for*. For whom are health, satiety and rest good? The answer seems to be the sick, the hungry, and the weary. I don't suppose Heraclitus means that health is good only for the person who is now sick. Rather, if we follow the discussion of the previous fragments, Heraclitus seems to be pointing out that the goodness of various things is dependent on a certain sort of respondent. If we follow that pattern, Heraclitus seems to be saying here that health is good *for* the sort of respondent who *can* experience sickness. It is in this way that I think Heraclitus thinks sickness makes health good. Likewise, rest and satiety are not good *simpliciter*. This is because they are good only for the types of respondents who can experience weariness and hunger. The point, I take it, is that his reader might agree to the statement that health, satiety and rest are good things, but Heraclitus wishes his reader to understand that they are not good in and of themselves (i.e. good *simpliciter*), but that their goodness is goodness *for,* that is, goodness *for* the beings who can be in the opposite states. It is in this way, I submit, that their goodness depends on the opposite states.

There is one more fragment in which Heraclitus seems to be conveying the message that what we take to be good is only good *for* some kind of respondent:

> B58: οἱ [γοῦν] ἰατροί [φησὶν ὁ Ἡράκλειτος], τέμοντες, καιόντες, ἐπαιτέονται μηδὲν ἄξιον μισθὸν λαμβάνειν, ταὐτὰ ἐργοζόμενοι, [ἀγαθὰ καὶ αἱ νόσοι].
>
> Doctors, says Heraclitus, when they cut and burn people, complain that they are not paid enough for doing what they do.

This is a notoriously difficult fragment to translate, in part because the text seems to be corrupted in places.[221] Hippolytus, the preserver of this fragment, thinks the fragment means that good and evil are one and the same thing, but the fragment does not actually support this strong claim. What the fragment does is cite two surgical practices (cutting and burning) which are painful and therefore *seem* bad. But what these practices produce is ultimately the betterment of the patient. Because the patient does not see any immediate value in the negative experience, he does not pay the doctor according to the *final* (i.e. actual) value of the surgical procedure. The doctor, being an expert and having in mind the long-term benefit of the patient, sees that the procedure (though painful) is ultimately very good and that the future goodness heavily outweighs the time of pain,

[221] This fragment is preserved for us by Hippolytus in *Refutation* IX, 10, 2-3. There are some considerable difficulties with it: 1) Hippolytus spatters the fragment with explanatory interpolations, 2) Hippolytus' source seems to be corrupt, 3) Interpreters have offered a variety of emendations to the text and come up with opposing interpretations. According to Bywater, the fragment essentially says "Doctors complain that they do not receive a big enough fee for what they do." But according to Diels, "Doctors demand a fee for what they do, but they deserve nothing at all." I follow Kirk: "The fact that all later versions of the paradox, except two which probably depend on a single unreliable source, imply no criticism whatsoever of doctors makes it highly probable that Bywater's text (which is very nearly the manuscript text) is correct as against Diels" (pg. 91). Hippolytus' fragment contains at the end the words τὰ ἀγαθὰ καὶ τὰς νόσους. Kirk excises these words, but Graham emends them as ἀγαθὰ καὶ αἱ νόσοι. and translates the last bit as "they produce the same benefits as the diseases." I have chosen to follow Kirk in excising these words as Hippolytean interpolations, since it is impossible to make sense of Graham's emendation.

intense as it might be. It is for this reason that we cannot interpret Heraclitus' association between pleasure and goodness as one of identity. If we did, the patients would be correct in their judgment that cutting and burning are not pleasant and therefore not good. But we can still think that pleasure is a fallible marker for the good; if the patient pulls through and analyses the experiences from a later point of view, she can associate the pleasantness of the ensuing health as a marker that the surgical procedures were themselves good.

This fragment, along with the previously discussed fragments, supports the idea that Heraclitus thought that the value humans find in things is goodness *for* someone (the good of the surgery isn't good *simpliciter,* it is only good for the long-term health of the patient). But it seems that Heraclitus is pointing out something deeper concerning the nature of value here. I noted at the beginning of this chapter that there are several ways we might think of the relation between the value of a thing and the valuing of that thing by a respondent. On the one hand, we might think i) that a thing is valuable iff. a respondent deems it valuable. Alternatively, we might think ii) that a thing's value, though dependent on the existence of the respondent for which it is valuable, is objective in the sense that it is valuable whether or not the respondent *recognizes* the thing's value. In fragment 58, Heraclitus suggests that the patient who deems the surgical procedures "not-good" actually gets the value judgment incorrect; it is the doctor who makes the correct value judgment concerning the surgical procedures. The doctor thinks the procedures are good (and thinks he should be compensated accordingly). Thus, I claim,

Heraclitus believes value is response-dependent in the sense that something good is always good *for* some respondent (and its value is therefore dependent on the existence of that kind of respondent). However, he does not believe that a thing's value or goodness is dependent on that respondent's *recognition* of the thing's being valuable.[222] It is for this reason that I think it makes better sense to characterize Heraclitus' notion of value as "respondent-dependent," rather than "response-dependent."[223]

So far, I have been arguing that Heraclitus was trying to show that various things we normally take to be good are instances of goodness *for.* But are there any instances of goodness *simpliciter* according to Heraclitus? In order to find out if Heraclitus' fragments can support the idea of goodness *simpliciter*, we will need to examine what could possibly be good *simpliciter* for Heraclitus, in light of the preceding discussion. One might think that pleasure, for Heraclitus, is good *simpliciter.*[224] Even though immediate

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[222] Furthermore, concerning understanding in general, Heraclitus condemns the many who "live as though having a private understanding" since "one must follow what is common" (B2). Patricia Curd explains: "Heraclitus' claim is that private understanding is not real understanding at all" ("Knowledge and Unity in Heraclitus," *The Monist* 74.4 p. 537).

[223] Not to mention that response-dependence is often associated with moral sentimentalism. See Kauppinen, Antti, "Moral Sentimentalism", The Stanford Encyclopedia of Philosophy (Spring 2017 Edition), Edward N. Zalta (ed.), URL = <https://plato.stanford.edu/archives/spr2017/entries/moral-sentimentalism/>. especially the supplement entitled "Response-Dependence."

While the basic idea is associated with David Hume, the term "response-dependence" was introduced by Mark Johnston: Johnston, M. "Dispositional Theories of Value." *Proceedings of the Aristotelian Society* 63 (1989): 139–174. See also Pettit, Philip, 1991. "Realism and Response-Dependence," *Mind* 100, 587-626, and Wright, C., 1992. *Truth and Objectivity* (Cambridge, Mass.: Harvard University Press). For an article critical of response-dependence with respect to theories of morality see Koons, J. R. "Why Response-Dependent Theories of Morality are False" *Ethical Theory and Moral Practice* 6.3 (2003), 275–294.

[224] Pleasure is often cited by hedonists as something that is good *simpliciter.* For a recent argument see Moen, O. "An Argument for Hedonism," *Journal of Value Inquiry* (2016) 50.2, pp. 267-281

pleasure might not always be good in itself (e.g. the aversion to surgical procedures), a concept of maximal pleasure in the long run might still operate as a type of goodness *simpliciter* for Heraclitus in the fragments discussed. However, Heraclitus does have something to say directly concerning pleasure:

> B4: Si felicitas esset in delectationibus corporis, boves felices diceremus, cum inveniant orobum ad comedendum.[225]
>
> If happiness consisted of pleasures of the body, we would call cattle happy when they found vetch to eat.

Heraclitus is clearly not an ethical hedonist (at least not with respect to the pleasures of the body) and it would be difficult to think that he could both maintain the claim in B4 and the claim that pleasure is good *simpliciter*.[226]

But are there any other possible candidates for something that is good *simpliciter* in Heraclitus? Perhaps wisdom is one thing that is good *simpliciter*. We actually do have evidence that Heraclitus associated wisdom with goodness of the highest sort:

> B118: αὔη ψυχὴ σοφωτάτη καὶ ἀρίστη.
>
> A dry soul is wisest and best.

I don't wish here to discuss what a *dry* soul might mean.[227] What is important for our purposes is that Heraclitus associates two qualities with the good (i.e. dry) condition of

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[225] This fragment is preserved for us by Albert the Great (*On Vegetation* 6401). This fragment is, of course, not preserved in Heraclitus' own words.

[226] Furthermore, it would be hard to square a notion of hedonism with fragment B85 (It is hard to fight against passion; for whatever it wills, it buys at the expense of the soul) and fragment B110 (It is not better for men to get whatever they wish).

[227] See Betegh, Gábor, "On the Physical Aspect of Heraclitus' Psychology" *Phronesis* 52.1. 2007 (pp. 3-32).

one's soul: superlative wisdom (σοφωτάτη) and superlative goodness (ἀρίστη). As such, wisdom and goodness are clearly related. But is wisdom good *simpliciter*? We do have evidence that Heraclitus thought of wisdom (σοφόν), or what is wise, as something distinct from all other things:

B108: …σοφόν ἐστι πάντων κεχωρισμένον.

Wisdom is different from all things.

I argued in chapter 3 that σοφόν in this fragment refers to God (what is wise/the wise one). But Heraclitus is known for polysemy and I believe it is possible that he is also claiming that human wisdom is separate from all things. If this is so, then perhaps this is evidence that wisdom is good *simpliciter.* If I am correct to argue that all good things are good *for,* and if wisdom is distinct from all things, then perhaps what distinguishes wisdom from all things is its goodness, since it alone is good *simpliciter.*[228] I will pick up the discussion of whether wisdom is good *simpliciter* in the final section of this chapter.

So far, I have argued that Heraclitus held several beliefs concerning the nature of value. On my interpretation, Heraclitus aimed to show that what we normally think of as good is not good *simpliciter* (as we may be inclined to believe), but that good things

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[228] Alex Long has argued for a similar interpretation in his "Wisdom in Heraclitus" *Oxford Studies in Ancient Philosophy.* Winter 2007, pp. 1-17. He too thinks that σοφόν refers to the divine as well as to human wisdom (pp. 4-5). On his view, wisdom is separate from all things since it is not subject to what he calls a "general principle: the unity of (or in) opposites." He supposes that this principle means that in whatever object some property is instantiated, its opposite property is also instantiated. Of course, I do not believe Heraclitus actually subscribed to such a principle. But on Long's interpretation, wisdom is separate from all things since it is exempt from this principle. This, on his view, makes it possible for someone to be wise without also being foolish. As I say, I don't believe Heraclitus ascribed to such a principle, hence, on my view, there is no issue of someone needing to be wise if he is foolish or vice versa.

(with the exception of perhaps wisdom) are good only *for* someone or something. Good *for* x seems to mean *beneficial* for x. This means that a thing's goodness is dependent on the existence of some other thing: a certain kind of respondent. This is most clearly seen in the sea-water example: sea-water is good *because* there are certain species who respond to sea-water in a certain way, such that the sea-water is good *for* them. However, what we take to be good is not response dependent in the sense that whatever we generally deem valuable *is* in fact valuable, because we value it;[229] on Heraclitus' account we can be mistaken about the value of a thing. But this doesn't seem to be all that Heraclitus has to say concerning the nature of goodness; he seems also to have seen that, while most good things we encounter in the world are good *for,* there exists something that we might call goodness *simpliciter.*

IV. Goodness *Simpliciter*

In this section I will argue that Heraclitus recognizes a distinct kind of goodness which we can call goodness *simpliciter.* In order to do so, I will need to explain Heraclitus' views on perspective. I will argue that there is a hierarchy, for Heraclitus, between non-human, human, and divine perspectives. Heraclitus distinguishes between the three levels of this hierarchy for two purposes: i) to demonstrate that there is a sort of knowledge of a higher order than ordinary human understanding, and ii) to show that we can access this higher knowledge if we recognize that the distinction between human and

[229] This is not to suppose that a response-dependence theorist thinks we can never wrongly value things. On their account someone could fail to value something on an occasion if that thing is valued in general.

divine understanding is analogous to the distinction between animal and human understanding. I will then argue that Heraclitus considered God's perspective on goodness to be an indicator of goodness *simpliciter*.

Having examined fragments B9, B13 and B61, a reader of Heraclitus might conclude that Heraclitus is simply pointing out the fact that humans and animals perceive the world differently: humans think pure water is preferable to mud, but animals prefer the opposite, so we cannot know which one is truly more preferable. On this reading, one might think that Heraclitus is being charitable to the non-human perspective of the world, and might conclude that the animal perspective on things is as legitimate as the human perspective. However, we cannot read B9, B13 and B61 in isolation; we must read them in light of B82 and B83:

> B82/B83. πιθήκων ὁ κάλλιστος αἰσχρὸς ἀνθρώπων γένει συμβάλλειν.... ἀνθρώπων ὁ σοφώτατος πρὸς θεὸν πίθηκος φανεῖται καὶ σοφίῃ καὶ κάλλει καὶ τοῖς ἄλλοις πᾶσιν.[230]
>
> The most beautiful of apes is shame-worthy in comparison with the human race.... The wisest of men will appear like an ape compared to God, in wisdom, in beauty, and in every other respect.

Even the best of apes (presumably the animal species most similar to humans) is worthy of shame when compared with humans. This fragment makes it quite difficult to interpret Heraclitus as charitable to the non-human, animal perspective. Rather, he seems to be

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[230] These fragments are preserved for us by pseudo-Plato in *Hippias Major* 289a/b. There is some doubt as to the authenticity of these fragments (see Marcovich pp. 487- 489 and Kahn p. 174). Fränkel believes this is a thought pattern in Heraclitus (A/B = B/C). However, I don't think we should place too much emphasis on the "mathematical proportions" here; rather, Heraclitus seems to be illustrating *that* the mind of God is of a higher order than the mind of man.

distinguishing the human race as superior to the rest of the animals. We must read fragments B9 and B13b in light of this distinction. As such, we cannot conclude that Heraclitus is trying to establish that the non-human, animal perspective is on an equal footing to the human one. The human perspective, according to Heraclitus, seems to be superior to the animal perspective.

But humans should not rejoice in this superiority, for humans suffer the same fate as the apes when they are compared with the divine. Just as the noblest of apes is considered worthy of shame when compared to a human, the human race suffers the same fate (i.e. it will appear worthy of shame) when it is compared to God. The last part of B83 clarifies in which respect humanity is distinguished from the divine: in *every respect* (but perhaps wisdom and beauty in particular). This divine level of perspective is also highlighted in fragment 79:

B79: ἀνὴρ νήπιος ἤκουσε πρὸς δαίμονος ὅκωσπερ παῖς πρὸς ἀνδρός.

A man is called childish by a deity (*daimon*), just as a child by a man.

Heraclitus, it appears, is trying to instil a sense of the superiority of the divine perspective by means of an analogy: just as a man thinks a child's understanding is foolish, so too a deity thinks a man's understanding is foolish.[231] Thus we can glean two important, philosophical points from fragments B82, B83 and B79 if we view them together: i) there is a hierarchy of perspectives ranging from the animal to the human to the divine, and ii)

[231] Frankel suggests "that which makes the ape appear so hideous, contemptible, and ridiculous is the fact that he seemingly tries to look like a man and to act and behave like a man. This is precisely the situation of man in reference to God. Humanity is a caricature of divinity." (Frankel 1938, p.315)

we can begin to understand something of the divine perspective by realizing that the distinction between the human perspective and the divine perspective is analogous to the distinction between the animal perspective and the human perspective. Heraclitus could assume his reader was aware of the differences in mental powers between, say, an adult and a child, or between a human and an ape. The way in which these mental powers differ is analogous to the way in which our mental powers differ from the mental powers of the divine. While we cannot have access to the divine perspective by means of this analogy, we can grasp *that* the divine perspective is of a higher order than ordinary human understanding.

But all we know at this point is *that* the divine perspective represents a higher order of understanding; we do not yet know *in what way* the divine perspective represents a higher order of understanding. Thus, we might ask, what is the property of the divine perspective that distinguishes it from the human perspective? If we can identify the distinguishing property, we can then ask whether it is possible for humans to adopt a "divine" perspective on the cosmos.

On my interpretation, God's perspective differs from the human perspective in terms of scope; while humans are only able to experience this or that portion of the world at this or that time, God is able to experience the world as a unified totality. God's view has, as it were, the greatest scope imaginable on the world. God's view of the world has two dimensions: spatial and temporal. God can experience the totality of the spatial dimension of the universe as a unified whole. But he is also able to experience present,

past and future in an instant. I argued in Chapter 3 that for Heraclitus God is a principle of order and unity for the universe: this means that the universe is ordered in accordance with a divine plan (B41: The wise is one: knowing the thought/plan that steers all things through all). On my interpretation, all things are good, fine and just to God because a) the universe is in fact an ordered whole and b) God is a being capable of experiencing the universe as it really is: ordered and unified. If this is right, then B102 seems to imply that unity and orderliness together are sufficient conditions for goodness, fineness and justice:

> B102: τῷ μὲν θεῷ καλὰ πάντα καὶ ἀγαθὰ καὶ δίκαια, ἄνθρωποι δὲ ἃ μὲν ἄδικα ὑπειλήφασιν ἃ δὲ δίκαια.[232]
>
> To God all things are fine, good and just, but men suppose some things are unjust, some just.

Since God is the principle of unity and order for the cosmos, and since he knows the plan whereby the cosmos operates, to him the entire cosmos is fine, good and just.[233] But those who don't experience the universe as a unified, ordered totality don't see the order and unity of the cosmos; so, to them, some things will appear just and others unjust.

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[232] Our source for this quotation is Porphyrius, who prefaces this fragment by saying "god accomplishes all things with a view to a harmony of the universe, arranging them so as to be fitting." There is some doubt whether or not this is a verbatim quotation. Kirk writes: "the sentiment attributed to Heraclitus is expressed in Porphyrius' own words, not in its original form: this is suggested by the extreme antithetical style and the variation in construction from τῷ … θεῷ to ἄνθροποι … ὑπειλήφασιν; for as far as can be determined from other fragments Heraclitus emphasized parallelism in sense by the use of parallel constructions rather than by excessive use of μὲν … δέ" (Kirk, 180).

[233] See Long, A. "Wisdom in Heraclitus" *Oxford Studies in Ancient Philosophy* (2007) pp. 1-17. He states "our source [i.e. Porphyrius] suggests that the world's goodness is not merely apparent from the divine perspective, but produced by the divine administration" (p. 8).

It is interesting to note, for our purposes, that Heraclitus does not say that all things are actually good *simpliciter*. Rather, he qualifies what is good by saying that all things are good to God. But I have argued that the divine perspective is of a higher order than the human perspective. Hence it seems that Heraclitus is claiming that what really matters for understanding goodness is understanding what goodness is for God. Thus the claim: "all things are good" (to God) takes priority over the claim: "some things are just and others are unjust" (to humans). If this is true, then it seems that the divine view of goodness in the universe becomes a functional replacement for a goodness *simpliciter* principle. All things are good to God is a functional replacement for all things are good *simpliciter*.[234] By functional replacement, I do not mean that things that are good for God are good *simpliciter*. Rather, goodness *simpliciter* claims usually function as the standard of objective value[235] and I believe Heraclitus is interpreting claims of goodness to God as

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[234] This is reminiscent of Thomas Nagel's view in *A View from Nowhere* (1986). Nagel attempts to solve the following problem: "how to combine the perspective of a particular person inside the world with an objective view of the same world, the person and his viewpoint included. It is a problem that faces every creature with the impulse and the capacity to transcend its particular point of view and to conceive of the world as a whole" (p. 3). To be clear, Nagel does not believe in a "divine perspective," but his characterization of the objective view (or, as he calls it, the external view) is that it is a "view from nowhere," which has some similarities to Heraclitus' divine view. Understanding the world "from nowhere in particular" "enables us to form a broader conception of our place in it, to recognize new possibilities of thought and action, and indeed to become better people" (Moore, A. W. "Book Review: *A View from Nowhere*" *The Philosophical Quarterly* (1987) vol. 37. p. 323). The difference is that Heraclitus actually has a being who has this sort of "objective" or "external" view of the universe: God. Nagel, with respect to value, argues that something is objectively valuable if it is valuable from an "agent-neutral" (i.e. his view from nowhere) perspective. There are significant differences between Heraclitus' view (as I see it) and Nagel's, but the point of commonality seems to be this: both are attempting to explain objective value claims as indexed to some perspective.

[235] For example, some consequentialists hold to the claim that "pleasure is good *simpliciter*" and treat this as a standard whereby to measure all of human activity. If an activity promotes more pleasure than pain overall, then that activity is good.

claims to the highest standard of objective value. In this way, Heraclitus seems to treat goodness to God as a functional replacement for goodness *simpliciter* claims.

There is a difficulty here: "all things are good *simpliciter*" seems to be inconsistent with the claim made in the first section of this chapter, that "the various things we take to be good are good *for* certain respondents while not being good *for* other respondents." To avoid this difficulty I believe it makes best sense to think that "all things are good *simpliciter*" does not mean *each and every* thing is good *simpliciter.*[236] Rather, the totality of all things together is good *simpliciter.* Recall that Heraclitus uses *ta panta* in B50 to refer to the whole. But what precisely is it about the totality of all things that makes them good to God and therefore good *simpliciter*? The best answer seems to be that the *orderliness* of the *kosmos* is its good-making feature.

We have good evidence from the fragments that Heraclitus considered the world to be an ordered, singular whole. From B50, we know that all things are one (ἓν πάντα εἶναι). In B30, Heraclitus uses the term κόσμον, which, in his time, generally meant "order," to mean something like "world-order."

> B30: κόσμον τόνδε τὸν αὐτὸν ἁπάντων, οὔτε τις θεῶν οὔτε ἀνθρώπων ἐποίησεν, ἀλλ᾽ ἦν ἀεὶ καὶ ἔστιν καὶ ἔσται, πῦρ ἀείζωον, ἁπτόμενον μέτρα καὶ ἀποσβεννύμενον μέτρα.
>
> This *cosmos,* the same for all, was made neither by someone of the gods nor of men, but it always was, is and will be, an ever-living fire, being kindled in measures and being put out in measures.

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[236] Contra Denis O'Brien (1989), who claims that "If God's view is the true view, then the things which men suppose are just and unjust are, all of them, just" (p. 299). For O'Brien this would, by extension via B102, entail that all the individual things of this world are in fact good.

Presumably κόσμον is Heraclitus' label for the universe (i.e. the πάντα that is ἓν). Heraclitus, by calling his universe a κόσμον (a novel use of the term), emphasized the order of all things. He also emphasizes that "all things are *steered* (ἐκυβέρνησε) through all things" in accordance with a divine plan (γνώμην) (B41). So even though some things appear just and some things appear unjust to humans, to God all things are good since God is able to grasp the universe as an ordered and unified totality.

But what about the unity of the *kosmos*? Is it good *simpliciter* as well? We might also wonder about the relation between the concepts of "orderliness" and "unity." Is orderliness by itself a sufficient condition for the goodness of the universe, or is unity also required? Perhaps the best way to construe the relation between order and unity here is to see order as *producing* the unity of the cosmos. That is, because all things are ordered, the universe is a single whole; the unity of the cosmos is simply the product of *all things* being ordered. On this reading, the order of the universe is the cause of the unity in the universe. But is the unity of the *kosmos* also good *simpliciter*? Since what we mean by the unity of the *kosmos* simply refers to the single order of *all things*, I think it is best to claim that the orderliness of the *kosmos* alone is its good-making feature. God proclaims all things good because all things are ordered. Hence, it is the orderliness of all things that is good *simpliciter*.

V. Human Understanding

I wish now to examine the question "how can humans recognize what is good *simpliciter*?" The answer seems to be: by apprehending the order and unity of the cosmos. But how can humans do this? While the divine perspective may be something that is inaccessible to humanity in its entirety, I will argue that humans are able to progress in their understanding by a) recognizing *that* God's perspective is of a higher order and taking it on faith that the world is unified and orderly and hence good and b) by actively interpreting the world we see as unified, orderly and therefore good (i.e. by adopting a synthetic vision). In other words, while we cannot have a view of the cosmos from God's perspective, we can understand that from God's perspective the entire cosmos appears to be orderly, unified, and good. For a human to learn this is to make an advance in their understanding. But I don't believe this is the end of the road for human progress in understanding on Heraclitus' account: he seems also to think that we can transcend our naive human condition by using our minds to understand *how* the world is orderly and therefore unified, even if we can only make small advances.

Concerning human understanding, several scholars have argued that Heraclitus intends his reader to interpret the cosmos via introspection.[237] Edward Hussey argues that "the experience we have of the cosmos, via the senses, has for Heraclitus to be interpreted in the light of the experience we have of our own selves, via introspection."[238] Hussey also argues that for Heraclitus "there is no superhuman perspective on the world, and if there is a divine or cosmic intelligence it must be in essence *human,* and see the meaning of its work in just the same terms as a human being would."[239] Hussey argues this because he believes Heraclitus implicitly subscribed to a *Rule of Intrinsic Meaning* which states that the meaning of the cosmos is given by the cosmos itself and not

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[237] Diels (1909), Reinhardt (1916), Kahn (1979), Hussey (1982) and Dilcher (1995) seem to support the microcosm view.

Curd (2013) comes close to the microcosm view on p. 235. However, she (1991) also argues that understanding is attained by seeing *how* all the things in the world are connected up by a principle of unity which she attributes to the *logos.* I disagree with Curd that the principle of unity is the *logos* itself. I follow Johnstone (2014) who argues that *logos* simply refers to the fact *that* the world is structured in a certain way. To understand "the *logos*," on this view, just is to understand the world as it presents itself to us. On my interpretation, it is Heraclitus' God who is the principle of unity for the things in the world. My view is actually quite close to Curd's view other than on this issue: on my view, and on Curd's view, understanding means seeing *how* the world is unified and orderly.

Johnstone (forthcoming) espouses a view of human understanding in Heraclitus similar to Curd's, but that does not operate with recourse to the microcosm. On his interpretation, God is primarily an exemplar for human wisdom. According to him, the goal of Heraclitus' fragments concerning human understanding is to encourage "an understanding of the world as an interconnected and dynamic whole, as opposed to a mere collection of independent things. If we achieve this understanding, we will become congruent with reality, improve our souls, and approach the state of god, the one who is supremely wise." While I disagree that Heraclitus thought of the world as an "interconnected" whole (I believe it is an ordered whole, not necessarily connected), I am in agreement with much of what Johnstone argues. We seem to be in agreement that God is both an exemplar for human wisdom and that God is the metaphysical source for the unity and order in the cosmos. In general I agree with Johnstone that we advance in human understanding by adopting what I have called a "synthetic vision" of the world (chapter 3) whereby we see unity in difference.

[238] Hussey, "Epistemology and Meaning in Heraclitus" p. 41.

[239] Ibid.

imposed from outside it.[240] However, it seems to me that we could agree with Hussey that Heraclitus subscribed to some sort of rule of intrinsic meaning, while disagreeing with Hussey that this means that the divine intelligence must necessarily be human. Furthermore, I think we have strong evidence from the fragments themselves to oppose Hussey's idea that the divine perspective is essentially human. We can call the view that Heraclitus wished us to interpret the cosmos via introspection the *microcosm view.* I believe this view is wrong; rather than encouraging his reader to look inward to understand what lies outside, Heraclitus wishes his reader to understand the cosmos better by considering the cosmos from the perspective of the divine insofar as we are able. We will now examine some fragments which show that Heraclitus is more interested in the divine perspective than in introspection.

Heraclitus explicitly rejects the view that human character has insight (presumably concerning the cosmos) in B78:

B78: ἦθος γὰρ ἀνθρώπειον μὲν οὐκ ἔχει γνώμας, θεῖον δὲ ἔχει.

Human character does not have insight, while divine character does.

To be clear, this fragment does not say that humans do not have insight and that God does have insight. θεῖον is often translated as "God-like" or "Godly," so we cannot derive from the fragment itself that insight is restricted to divine beings; it may extend to some humans who become "God-like" in some way. Furthermore, it is not *humanity* that does

[240] Hussey, 36. Though, as he admits, it isn't "easy to argue directly for its presence in Heraclitus himself" (p. 39).

not have insight, but a human *character* (ἦθος ἀνθρώπειον). At any rate, Heraclitus does seem to have a negative view of human understanding compared to divine understanding. Since he makes the negative comparison more than once (B78, B79 and B83), it is hard to think that Heraclitus thought that human introspection is the key to understanding the cosmos. But we still need to get clear about this: if Heraclitus intends his reader to fully adopt the divine perspective, then perhaps Hussey has a point, since the divine perspective would need to be accessible to humanity (which, I take it, is what Hussey means by the divine view being "*essentially* human"). On the other hand, if Heraclitus thought that the divine perspective was in some way inaccessible to humanity, then Hussey would be wrong to claim that God's perspective is *essentially* human.

Before we can answer the question of whether Heraclitus thought we could have *full* access to the divine perspective or only *partial* access, we must first ask whether Heraclitus thought humans have access to the divine perspective *at all.* One might think that in fragments B78, B79 and B83 Heraclitus is espousing a pessimistic, Socratic view of human wisdom (i.e. that it is worthless compared to divine wisdom).[241] Perhaps we might think this if we were to read this fragment in isolation. However, other fragments display Heraclitus' optimistic view on the value of human inquiry. For example, from B1 and B2 (taken to be Heraclitus' introduction) we know that his goal in writing his book was that his reader would understand the *logos,* the way in which the world is.[242] He also

[241] See Plato, *Apology* 23a.

[242] See Johnstone, M. "On '*logos*' in Heraclitus" *Oxford Studies in Ancient Philosophy.*

claims in B50: "harkening not to me but to the *logos,* you should agree that wisdom is knowing that all things are one." Heraclitus seems to have a pessimistic view about the natural state of human understanding, but also seems to think that what he says *can* help humans to understand the world. So Heraclitus does seem to think his readers can make progress in the area of human wisdom. Heraclitus thus seems to subscribe to two ideas: a) divine wisdom is of a higher order than human wisdom (from B79, B78 and B83), and b) humans can make progress in the area of wisdom (from B1). I wish now to argue that Heraclitus subscribed to a third idea: c) humans make progress in wisdom by attempting to contemplate the cosmos from the divine perspective.

In B1, Heraclitus claims that wisdom is knowing that all things are one. This, I believe, is meant to be the link between human wisdom and divine wisdom.[243] We have already seen that God is the principle (i.e. the *metaphysical source*) of unity and order for the cosmos. By employing these perspectival comparisons between God and humans, Heraclitus seems to be aiming to generate in his readers' minds an appropriation of the

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[243] cf. Kahn: "wisdom in the full sense is accessible only to the divine ruler of the universe, since it means mastering the plan by which the cosmos is governed. For human beings such wisdom can serve as an ideal target, a goal to be pursued by *homo-legein*, by agreement with the *logos*: putting one's own thought, speech, and action in harmony with the universal course of things (Kahn, 268)." I agree with Kahn that this does seem to be an ideal goal for humanity *and* that Heraclitus is pessimistic that his readers will be able to attain this sort of wisdom. However, I do not think Heraclitus meant this to *deter* his reader from trying to grasp the divine perspective.

For a recent discussion of Heraclitus' view of wisdom in light of the divine, see Patricia Curd, "The Divine and the Thinkable: Toward an Account of the Intelligible Cosmos." *Rhizomata* 1.2 (2013), 217-247. Curd states "For Heraclitus there is a similarity of structure between the divine *logos* that guides and steers all things and the capacity for understanding that Heraclitus locates in the human soul. The *logos* provides the connection between the soul and the world in a way that makes the divine and intelligible cosmos something that can be grasped and understood by human beings" (p. 235). I explained above that I do not think the *logos* is a metaphysical, independently existing thing. Rather, (following Johnstone (2014)) it seems to refer to the orderly presentation of the world to us.

divine perspective. But we need to get clear on what this might mean. In B78, we used the word "insight" to translate γνώμας. This same term, now translated as "thought/plan," recurs in B41:

> B41: εἶναι γὰρ ἓν τὸ σοφόν, ἐπίστασθαι γνώμην, ὁτέη ἐκυβέρνησε πάντα διὰ πάντων.[244]
>
> The wise is one: knowing the thought/plan that steers all things through all.[245]

B78 claims that humans don't have γνώμας, while the divine nature does possess γνώμας. Here, in B41, "the wise" is said to know the γνώμην by which the world is ordered. I believe Heraclitus' point is that by nature humans don't have insight into the workings of the cosmos, but that God does have this insight, and we can have it too if we understand the thought/plan in accordance with which all things occur. But what does this actually mean? What, for example, does it mean to know the γνώμην that steers all things through all things? I suggested in the last section that God's view of the cosmos is of the widest imaginable scope (with respect to space and time). Humans cannot attain this view of the cosmos in its totality. But, humans *can* a) recognize that their view of the cosmos is limited and inferior compared to God's view of the cosmos, b) recognize that from God's view of the cosmos the world is good, and c) begin to understand *how* the cosmos is in fact unified, orderly, and therefore good. But how precisely does this work?

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[244] See Chapter 3 for philological comments on this fragment.

[245] τό σοφόν for Heraclitus probably means both "wisdom" and "the wise being," which is god. Depending on the context, τό σοφόν will have to be translated in one of these ways. But the idea, I think, is that Heraclitus wants his readers to see the radical connection between wisdom and the divine.

I believe the following interpretation best explains how all things are good to God: while there are bad things in this world (and thus humans see some things as unjust), God, according to Heraclitus, has a unified and orderly plan for the universe. Thus, while some things are bad, they ultimately serve some higher purpose that justifies their presence. Since God has a total view of the cosmos, he doesn't experience these bad things or events in isolation (as humans do); rather, he experiences the total intricate workings of the cosmos as a whole and the ultimately good purpose these bad things and events serve in his unified and orderly plan for the universe.[246] In this way, all things (including the bad events) are good in the eyes of God. But for humans, these events can still be bad in themselves. There is no guarantee that all things will work together for the good of each (or any) individual human.[247] But humans can understand *that* bad things in this world can serve good ends. Furthermore, we can even understand *how* bad things can serve good ends. In fact, we have already seen how this can be the case in one of Heraclitus' fragments:

> B58: Doctors, says Heraclitus, when they cut and burn people, complain that they are not paid enough for doing what they do.

The doctor is wise here because he understands that a bad experience can ultimately produce good results. A wise person, on Heraclitus' account, seems to be like the doctor. Not only does the wise person recognize *that* all things (even bad events) are ultimately

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[246] Much like the Stoics, who took Heraclitus as their inspiration, understood their divinely inspired, rational cosmos.

[247] In contrast with the Christian idea that "for those who love God, all things work together for good" (Romans 8:28).

good (since they serve higher purposes), but the wise person also begins to see *how* disparate things in this universe (including bad events) are unified in an orderly manner and therefore good.

In Chapter 3, I argued that God is a principle of order, unity and intelligibility for the cosmos and that this makes it possible for humans to have both a synthetic view (whereby we see unity in difference) and an analytic view (whereby we see difference in unity) of the cosmos.[248] The type of wisdom I have been explaining here concerning what is good seems to fit into this model. With our analytic vision we can recognize that unified objects, such as sea-water, hold opposing values at the same time by recognizing that their value is dependent on different types of respondents. As such, we can recognize that a thing can be good *for* one type of respondent while being bad *for* another type of respondent. But we can also use our synthetic vision to see, in a limited way, how events can work for good ends. Hence we can understand, in a limited way, *how* all things are good to God (by which I mean that the ordered totality of all things is good *simpliciter*) and that God is able to grasp this fact.

I believe this principle can be applied in a further manner that may be able to make sense of a fragment that has been notoriously difficult to interpret: fragment B124:

B124: σάρμα εἰκῆι κεχυμένων ὁ κάλλιστος κόσμος.

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[248] An example of effective use of the synthetic vision is apprehension of the transformation thesis in which we understand that the opposing elements of the world are united and ordered into a system of transformation (Chapter 1). An example of the effective use of the analytic vision is recognizing that unified mid-sized objects are ontologically dependent on opposing properties (Chapter 2).

The fairest order/cosmos is a random heap of sweepings.

If, from God's perspective, all things are good because they are unified and orderly, then it would turn out that the current cosmos (κόσμος, or "order") is of the fairest (κάλλιστος) sort. But the cosmos doesn't appear this way to all people. Heraclitus draws a distinction between people who comprehend the universe as it is and those who do not. In B1 he claims that "people are like the inexperienced whey they experience such words and deeds as I set out." For him the difference is akin to that between those who are awake and those who are asleep.[249] Those who do not understand the cosmos are like those who are asleep. To them, perhaps, the cosmos appears to be a random heap of sweepings. Why? Because they fail to grasp the ordered unity of the disparate elements of experience.[250] Consider fragment B67:

> B67: ὁ θεὸς ἡμέρη εὐφρόνη, χειμὼν θέρος, πόλεμος εἰρήνη, κόρος λιμός [τἀναντία ἅπαντα: οὗτος ὁ νοῦς] ἀλλοιοῦται δὲ ὅκωσπερ [...] ὁπόταν συμμιγῇ θυώμασιν, ὀνομάζεται καθ΄ἡδονὴν ἑκάστου.[251]

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[249] Heraclitus B1 states that "although all things come to be in accordance with this *logos*, people are like the inexperienced whey they experience such words and deeds as I set out, distinguishing each thing in accordance with its nature and showing how it is. But other people fail to notice what they do when awake just as they fail to notice what they do while asleep." In B89 he states: "for there is one common world, but when asleep each person turns away to a private one."

[250] See Johnstone (forthcoming): "much as one must go beyond the meanings of individual words (*epea*) to understand the meaning of a connected account (*logos*), so one must go beyond isolated experiences to understand the meaning of the world as an interconnected whole."

[251] This fragment is preserved for us by Hippolytus (*Refutation* 9.10.8).

> God is day night, winter summer, war peace, satiety hunger [all the contraries, and this is mind], and it alters just as <oil,[252] which,> when it is mixed with spices, is named according to the aroma of each of them.

We have already examined this fragment in the last chapter. There, I took it as partial evidence for the idea that Heraclitus' God is a source of order for the cosmos. B67 refers to a series of opposites that are found in the world: day/night, winter/summer, war/peace, satiety/hunger. When humans consider war and peace in the world, and hunger and satiety, we might conclude that "some things are just while others are unjust." Since the world contains both, we might conclude that the world is sometimes good and sometimes bad. We might also think that there is no real meaning or order over and above the good and bad elements of the world. To those who view the world as such, it might appear to be a heap of sweepings. But in point of fact, it is not, since God is the source of unity and order for these seemingly disparate properties of the world. When we adopt a synthetic vision of the cosmos, we are in a state to appreciate the order and unity of that cosmos. As we have seen, Heraclitus' exhortation is to understand all the workings of the universe as ordered and unified. However, it isn't immediately obvious *that* the universe is thus. We often think the universe is in a state of chaos and disarray (i.e. it appears to us a random heap of sweepings). But when we understand God and the divine will that justly orders all things, we see that the same universe is in fact the fairest ordered cosmos.

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[252] There is a lacuna in this fragment. Diels, Graham, Marcovich and Kirk fill it with "fire." However, there is much evidence to suggest that the missing word could well be "oil," since this was a common mixture with spices. See Frankel (1938). I discuss this issue in detail in chapter 3.

VI. Wisdom as good *for* and good *simpliciter*

I argued in section III that the order of the cosmos and the unity produced by it were the features of all things that make all things good to God (i.e. good *simpliciter*). From this, I concluded that, when Heraclitus claims that all things are good *simpliciter,* he is saying that the unity and order of the cosmos are good *simpliciter.* But is there anything else that is good *simpliciter*? I suggested at the end of section II that wisdom is a possible contender for being good *simpliciter* in Heraclitus' theory of value. In the last section I argued that wisdom, for Heraclitus, is understanding that the cosmos is orderly and therefore unified and seeing how this is so. Hence we might think that wisdom too is good *simpliciter*, since it recognizes that the world is good *simpliciter.* But couldn't it also be the case that wisdom is good *for* its possessor? We can answer this by looking at B118:

B118: αὔη ψυχὴ σοφωτάτη καὶ ἀρίστη.

A dry soul is wisest and best.

This fragment is interesting since it aligns the good condition of the soul with an improvement to its material condition. Heraclitus seems to have thought that the soul is a material composition that can become wetter or dryer (he associates badness with wet souls in B117).[253] So, if wisdom is instrumental in bringing the soul into a dryer, that is, better state, then wisdom does seem to be beneficial for the soul and hence good *for* it.[254] If this is right, and I think it is, then wisdom would be both good *for* its possessor and

[253] See Betegh, Gábor, "On the Physical Aspect of Heraclitus' Psychology" *Phronesis* 52.1. 2007 (pp. 3-32).

[254] Mark Johnstone (forthcoming) makes this same point.

good *simpliciter*.[255] We should note that wisdom isn't good for its possessor in the same way that that green beans are good for the child. Green beans are good for the child extrinsically, in that they help us acquire some other good (e.g. energy, longevity of life, function of bodily systems etc.). But being wise, for Heraclitus, won't necessarily make you live longer or even be happier. It is good *simpliciter* for an individual to be wise and insofar as wisdom brings an individual's soul into a better state, it is good *for* that individual. Wisdom, therefore, holds a special place among the valuable things in Heraclitus' fragments. Everything else seems to be either good *simpliciter* (e.g. the order of the cosmos) or good *for* (e.g. sea-water). But wisdom alone is both good *for* and good *simpliciter*. This explains why Heraclitus is able to proclaim that "wisdom is different from all things" [σοφόν ἐστι πάντων κεχωρισμένον] (B108b).[256]

VI. Conclusion

In this chapter I have argued that for Heraclitus the things we regard as good are generally good *for* some kind of respondent, while being potentially bad *for* (or not good *for*) another type of respondent. Thus what we normally regard as good is not good *simpliciter*. There is an opposites thesis here: *it is possible for one and the same object to have opposing values* (*i.e. to be both objectively good and objectively bad*). This is so

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[255] Johnstone (forthcoming) also recognizes this point. He claims that "becoming wise improves the soul" (p. 15). He also claims that "Heraclitus apparently regarded wisdom as an intrinsically valuable thing: something we should pursue, not because it helps us to acquire other things we want, but *simply because it is good* to be free from ignorance and to comprehend reality aright" (p. 22, emphasis mine). I take it as uncontroversial that "being simply good" is the same as being good *simpliciter*.

[256] Contra Alex Long (2007).

since what is good is always good for a kind of respondent and possibly not good for another kind of respondent (with the exception of unity and order of the cosmos and our apprehension of these qualities (i.e. wisdom)). Heraclitus says that all things are good *to* God. I have claimed that this suggests that the divine perspective is a standard by which we can measure ultimate goodness, or goodness *simpliciter*. This does not mean that each and every thing is in fact good *simpliciter*. Rather, it means that God's perspective is the standard for understanding goodness (among other things). Hence, in a world full of opposing yet legitimate good *for* claims, there is a higher-order goodness clai: all things are good to God. I argued that by this statement Heraclitus means that the cosmos as an orderly whole is good *simpliciter*. The qualities of order and unity are the qualities of the cosmos that make it good *simpliciter*. Hence the orderliness of the cosmos is good *simpliciter*. Humans can have a share in the divine if we adopt the synthetic vision of the universe whereby we see order and unity among the disparate elements of the cosmos. This sort of understanding seems to be what Heraclitus thinks wisdom is. This wisdom is both good *for* its possessor and good *simpliciter*.

Chapter 5: Opposites and Explanation

I. Introduction

Throughout this dissertation, I have been arguing that Heraclitus' fragments involving opposites do not convey a single opposites thesis; nor do they convey a set of theses subsumable under one meta-thesis. Rather, his fragments convey a distinct *set* of opposites theses, not one of which is able to capture the nature of the other theses. These theses are (i) *the world contains opposing stuffs which transform into one another in such a way that they are transformationally equivalent and therefore unified*, (ii) *objects are ontologically dependent for their* existence *and their* identity (i.e. their "nature" or φύσις) *on opposing, yet essential properties which are necessarily inherent in them*, and (iii) *it is possible for one and the same object to have opposing values* (i.e. to be both objectively good and objectively bad), since what we generally take to be good is always good *for* a kind of respondent and may be bad for another kind of respondent. This leaves us with several questions: What precisely was Heraclitus' interest in opposites, such that his fragments can be said to convey three distinct opposites theses? What do the opposites theses have to do with one another?

The main goal of this chapter is to provide plausible answers to these questions. To that end, I argue that Heraclitus' use of opposites was a reaction to the way opposites were being used by his Ionian predecessors, Anaximander and Anaximenes.[257] Opposites,

[257] Anaximander and Anaximenes were residents of the Ionian city Miletus, while Heraclitus lived in the nearby Ionian city of Ephesus.

for the earlier Ionians, seem to have been explanatory principles. The physical world, which includes events, stuffs and things, was explained by a limited set of oppositional pairs (e.g. hot and cold, condensation and rarefaction). Heraclitus' use of opposites, I submit, is best understood in relation to these earlier schemes of philosophical explanation.[258] I will argue that Heraclitus was the first to treat opposites, not as explanatory principles, but as *problemata* in need of explanation. Opposites are primarily *explananda* for Heraclitus. These *explananda* require different *explanantia* and Heraclitus' several opposites theses contain the appropriate *explanantia.* The three theses,

[258] I use the term "explanation" in this chapter to capture what I think Heraclitus and his predecessors were doing with opposites, although I sometimes use the term "grounding" when the thoughts of these early thinkers seem to be amenable to the principles of grounding being debated today. Grounding is more fine-grained and thus less likely to capture what the early Greeks were doing, while explanation is more rough-grained and thus more likely to capture what the early Greeks were doing. For this reason I will use "explanation" as my default term and reserve "grounding" for instances in which the early Greeks' intuitions seem to follow the contemporary principles of grounding. Grounding, as it is conceived today, is a non-causal, metaphysical type of explanation (though many think it is more strictly a metaphysical relation which *backs* certain explanations; in other words grounding explanations track grounding relations). For our purposes both "explanation" and "grounding" denote *metaphysical* (rather than *causal*) explanations of the way things are. The precise nature of grounding relations will be made explicit where appropriate throughout this chapter.

while distinct and irreducible to one another, work together to promote some common end: the philosophical explanation of the cosmos.[259]

In the first section of this chapter I will provide a brief recapitulation of the overall argument thus far. In the second section I will briefly examine the role of opposites in archaic Greek literature (i.e. in Homer and Hesiod). In the third section I will examine the role of opposites in the explanatory schemes of two early Presocratics: Anaximander and Anaximenes. Understanding how opposites feature in these thinkers will prove helpful for understanding how opposites feature in Heraclitus. In the third section I also argue that Heraclitus' use of opposites in the fragments is best understood as a reaction against these earlier thinkers. In the fourth section I will explain some interesting features of Heraclitus' scheme of explanation. These features are the complementary principles of Non-Well-Foundedness (whereby for all x, x is neither explained by some fundamental entity or entities, nor is itself a fundamental entity) and Reciprocal Explanation (whereby x partially explains y and y partially explains x).

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[259] One might object that this sort of interpretation is doomed from the start since Heraclitus' fragments seem to be intentionally obscure. Heraclitus' style is sometimes referred to as "gnomic utterance" (see Hölscher (1994)). The criticism then is why did Heraclitus write in his paradoxical and obscure manner if his intention was to offer an explanation of the world, as I argue in this dissertation? My answer to this is that Heraclitus actually thought of the cosmos as difficult for humans to understand and that it is up to humans to find out how it is in fact orderly and understandable despite its problematic appearance. It seems to me likely that Heraclitus wrote in a manner that mirrors how the world presents itself: orderly despite its initial problematic appearance. We might think of Heraclitus' fragments as a philosophical primer for understanding the world. If so, his book would be propaedeutic to understanding the cosmos. But his book is, of course, more than a primer for humans to sharpen their abilities to make sense of a problematic world. since he does, on my interpretation, offer an explanation to the cosmos. For more on Heraclitus' style, see Kahn (1979) and Dilcher (1995).

II. The Argument Thus Far

Before I begin my investigation into the early uses of opposites in Greek literature, I wish to recapitulate my argument thus far. The problem I have been attempting to solve is this. Heraclitus cites numerous examples of opposing terms, and seems to think that they are unified in some way. Most scholars have thought that Heraclitus, by citing these pairs of opposites, promoted the simple thesis that *opposites are essentially connected*.[260] However, I have argued, this interpretation fails for two reasons: i) it is conceptually loose, since the term "connected" just serves as a catch-all term for the various ways in which opposites do in fact relate to one another, and ii) it reduces all of Heraclitus' examples of opposites to this one thesis about the relationship between opposites in general, which demands some extremely forced interpretations of the texts in which Heraclitus seems to be making some claim about opposites that extends beyond the nature of the oppositional relation itself. For example, as we saw in chapter 1, Heraclitus casts his elemental transformations as transformations between stuffs with opposing properties. Thus it is correct to understand Heraclitus' elemental transformations in terms of opposites. But Heraclitus' theory of elemental transformation cannot account for all, or even most, of his citations of opposites.[261] Hence it must be *one thesis among several opposites theses.* I then argued in chapters 2 and 4 that there is evidence for two more opposites theses: the dependence thesis and the value thesis. In

[260] Or at least a variant of this thesis (e.g. *coincidentia oppositorum*).

[261] This seems to be the main shortfall of Graham's "transformational equivalence" interpretation of Heraclitus' unity of opposites.

Chapter 3, I argued for a way to understand Heraclitus' theology and situated it in relation to the opposites theses: God is an all-pervasive principle of order, unity and intelligibility for the cosmos. Thus, God is related to the opposites, since God is the principle which orders all things, including the opposites.

This is what I have called a "multi-thesis solution" to the problem of opposites in Heraclitus. No thesis by itself can account for Heraclitus' interest in opposites. But this raises the problems cited above, in the introduction to this chapter: what do the opposites theses have to do with one another? And what was Heraclitus' interest in opposites, such that his fragments seem to convey these three distinct, philosophically interesting theses? In sections III-V, I will argue that Heraclitus was reacting against the use of opposites in some of his predecessors. This reaction explains why Heraclitus used opposites in the way he did, such that his fragments convey several opposites theses.

III. The Pre-philosophical Use of Opposites

Of course, Heraclitus was not the first Greek thinker to use opposites. Before those thinkers generally recognized as the "Presocratics" became active, oppositional pairs were used for various purposes in non-philosophical writings. One such usage we could call a "stylistic trait," which employs "polar expressions" or "couplets" to convey either a totality or an alternative. For example "land and sea" was a common polar couplet used to express the whole earth as a totality (see Hesiod *Works and Days* 101 and Homer *Iliad* 24.341). Polar couplets were also used to express alternatives, as when Menelaus asks Telemachus on his arrival at Sparta whether his business is "public, or

private" (Homer *Odyssey* 4.314).[262] This literary use of opposites, while not itself distinctly philosophically interesting, does show that the early Greeks where interested in capturing multiplicities with polar dualities.

There is another use of opposites in the pre-philosophical, religious literature which could be characterized as the "symbolic association" between various opposites. This phenomenon is well documented in the literature.[263] It is well-known, for example, that early Greek religion associated "auspiciousness" with "right" and "inauspiciousness" with "left." There are many more examples of such superstitious associations in early Greek thought, but the associations do not seem to follow any logical pattern, nor do they seem to be based on evidence or argumentation.[264] What this suggests is that the early Greeks were interested in explaining and predicting things by appealing to opposites. However, these explanations by associations did not seem to follow any systematic method. Much work can be done (and has been done) to trace all the symbolic associations documented by the early Greek religious thinkers, but doing this work will not explain *why* the early Greeks held these associations. The important point is *that* they appealed to opposites and their symbolic associations in trying to make sense of the

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[262] This is the view and these are the examples of G.E.R. Lloyd (1966). See pp. 90-94 for a more thorough explanation of the view as well as more examples.

[263] See Lloyd (1966) pp. 41-48.

[264] See Lloyd (1966). Lloyd claims that "certain antitheses (immortals/mortals, Olympians/ chthonic gods) are fundamental to Greek religion, and many natural oppositions (sky/earth, light/ darkness, etc.) had marked symbolic associations for the ancient Greeks at an early period" (p. 48). Despite this, "the evidence clearly does not permit us to speak of any developed or systematic Table of Opposites in Homer or Hesiod" (p. 47).

world. I think the important point here for our purposes is that when the early Greek philosophers appealed to opposites in their attempts to explain the physical world (as I will argue they did, in the next section), it would not have been thought of as out of the ordinary.[265] However, as I will argue in the next section, their interest in opposites seems to be more systematic.

There is a special case in the pre-philosophical literature that warrants our attention: Heraclitus seems to criticize Hesiod's use of the opposites "day and night" in Heraclitus' fragment B57, and so we should examine more precisely how opposites feature in Hesiod. It is important to note that, while Hesiod uses opposites, he does not seem to have had any special interest in the nature of opposition itself. He does claim, for example, that Day is the offspring of Night, but it does not seem we can conclude just from this that Hesiod subscribed to a principle whereby opposites beget opposites. Indeed, it seems we would also have to conclude that like begets like for Hesiod, since on his account Chaos begets Erebos (god of darkness) and Night. Some argue that Hesiod's parent-offspring relations operate under the organizing principles of polarity and

[265] This is not to say that what they were doing was not thought to be out of the ordinary; surely it was. But the simple fact that opposites factored so heavily in their writings would not have been thought of as being as out of the ordinary as it might seem to us.

affinity.[266] But if these are organizing principles, they are inconsistent. Why does one entity reproduce an entity like itself, while another entity produces an entity that is its opposite? We do not find in Hesiod a reason *why* some entities give birth to opposites while others give birth to similars. Hence there does not seem to be any organizing *principle* of polarity and affinity in Hesiod himself. Rather, all parent-offspring relations seem to be exhaustively categorizable under the concepts like, unlike and opposite, and Hesiod's are no exception. So I do not believe that Hesiod's genealogies provide any evidence of special interest in opposition as such. Consequently, I do not think Heraclitus was criticizing Hesiod for his genealogical patterns.[267]

Perhaps more pertinent to our discussion is Hesiod's claim that Night and Day have the same house, although they do not ever occupy it at the same time; they merely speak a word of greeting as they pass one another on the threshold (Hesiod *Theogony* 748-54). But we shouldn't conclude from this either that Hesiod intends to convey some general principle concerning opposition. It seems to me Hesiod is simply interested in

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[266] See Mourelatos (1973), who claims that "[p]atterns of polarity and affinity among groups of the gods in *Theogony* are, of course, pervasive" (p. 30). McKirahan (2010) agrees with Mourelatos that the "genealogies … manifest organizing principles or patterns of order: like produces like, opposite produces opposite" (p. 11). See Kirk, Raven and Schofield (1983): "Generation is of opposites (e.g. of Aither and Day by Erebos — whose neuter gender does not inhibit parental activities and Night), or of similars (Erebos and Night from Chaos…), or of local differentiations. Some births however cannot be explained on any of these principles — notably that of Ouranos from Gaia" (p. 36). It seems more likely to me that Hesiod was not interested in these principles, but that whenever we look at offspring we categorize it as like or unlike or opposite its parent. There is no logical space for any other parent-offspring relation.

[267] Kirk thought Heraclitus was criticizing Hesiod for his genealogy of night begetting day (p. 156). Mourelatos (1973) argues against Kirk, arguing instead that Heraclitus was criticizing Hesiod for thinking that day and night were two separate entities who shared the same house (p. 34).

accounting for the natures of day and night, which happen to be opposites only incidentally. But many scholars think that Hesiod's analysis of day and night is important for understanding Heraclitus' development of opposites, so it is important for me to spell out why I think this is not the case. The fact Hesiod seems to be accounting for is that day and night do not ever occupy human experience together at the same time. They do succeed one another, and there are two times during any given day when day and night almost seem to occupy our experience at the same time. Hesiod seems to account for these phenomena by appealing to the activities of the gods Day and Night. Hence, for him, the activities of the gods Day and Night (that they own the same house but never occupy it together) seem to explain why we experience day and night as we do. But why does Heraclitus criticize Hesiod for not understanding day and night? A brief re-examination of B57 is in order:

> B57: διδάσκαλος δὲ πλείστων Ἡσίοδος τοῦτον ἐπίστανται πλεῖστα εἰδέναι, ὅστις ἡμέρην καὶ εὐφρόνην οὐκ ἐγίνωσκεν ἔστιν γὰρ ἕν.[268]
>
> The teacher of the multitude is Hesiod; they believe he has the greatest knowledge - who did not comprehend day and night: for they are one [or, 'for there is one'].

Many scholars believe Heraclitus thought that "night and day are not two *things*, they are complementary moments, aspects, or phases of a single phenomenon" and that he is criticizing Hesiod for thinking that day and night are two separate things capable of

[268] This fragment is preserved for us by Hippolytus in *Refutations* 9.10.2.

independent existence.[269] But it seems to me that Heraclitus *did* think that day and night are two separate phenomena capable of independent existence. Fragment B99 states that "if there were no sun, despite the rest of the heavenly bodies it would still be night." Heraclitus must think that night is distinct and independent, if he claims it could potentially exist apart from day under a specific condition: the absence of the sun. To me, the criticism of Hesiod in B57 is more likely due to *how* day and night are accounted for. Hesiod claims they are accounted for by two different gods (*Nux* and *Hēmera*). Heraclitus claims Hesiod did not understand day and night, "ἔστιν γὰρ ἕν." This is often translated as "for they (i.e. day and night) are one," but it might be better translated "for there is one."[270] We saw in Chapter 3 that Heraclitus often refers to his conception of God as ἕν. Thus perhaps Heraclitus is referring in B57 to Hesiod's failure to understand *how* day and night are accounted for: they are ordered by the one (i.e. Heraclitus' God; see Chapter 3)

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[269] Quoting Mourelatos (1973), pg. 34. Mourelatos offers an impressive explanation of Heraclitus' criticism of his predecessors, though I believe it too has its problems (see main text). According to Mourelatos, Heraclitus reacted against a "naive metaphysics of things" (NMT) which was the default worldview of the intellectual ancestors of the early Greek philosophers. According to NMT, the basic constituents of the world are "character-powers" and these are *independent* existents in the world. Heraclitus criticizes NMT by arguing that the opposites (i.e. character-powers) are *interconnected* (following Kirk's thesis) and conditioned by one another; hence they are not independent. Mourelatos argues that Heraclitus held that "night and day are not two *things*, they are complementary moments, aspects, or phases of a single phenomenon" (p. 34). Thus, according to Mourelatos, Heraclitus in B57 is criticizing Hesiod's *Theogony*, in which Hesiod claims that Day and Night are two distinct individuals.

[270] Dilcher (1995) has argued that Heraclitus is not claiming that day and night are one since, if he did wish to claim that day and night are one, the fragment would have to end with ἔστιν γὰρ *μία* instead of *ἕν*, since ἡμέρην and εὐφρόνην are both feminine nouns. See Dilcher (p. 109). However, this would only be true if we construe ἕν as an adjective rather than a predicate. We could actually construe ἕν as a neuter substantive that stands as a predicate for two feminine singular nouns. Compare e.g. the use of the neuter ταὐτόν in Ar. Pol. 1255b16-17: οὐ ταὐτόν ἐστι δεσποτεία καὶ πολιτική (I wish to thank an anonymous reviewer for pointing this out). The upshot here is that it is grammatically possible to translate the end of this fragment in two ways: "for they are one thing," or "for there is one thing."

rather than the activities of multiple divinities. At any rate, I do not think Hesiod is using opposites in any intentional manner that conveys a particular belief about opposition in general. And I do not think Heraclitus is criticizing Hesiod for misunderstanding the nature of opposition in general, but rather for misunderstanding the specific phenomena day and night, and what accounts for their regular activities.

What we can conclude from this section is limited. We know that the very early Greeks used opposites. Sometimes opposition was used as a literary device, sometimes it was used to invoke the various superstitious meanings associated with certain polar terms deemed important to life (e.g. interpreting omens). Some archaic Greeks appealed to opposites to make sense of their world, but did not do so in a systematic or distinctly rational manner. We can also see that the pre-philosophical thinkers routinely appealed to divinities of various kinds in order to make sense of the world.

IV. **Opposites and Explanation in Anaximander and Anaximenes**

When we turn to the early Greek philosophers there are two things to notice regarding opposites and explanation. First, the cosmogonies presented by various presocratic thinkers differ from those of the pre-philosophers (i.e. Homer and Hesiod) in that they do not appeal to the Olympian gods to account for the physical world. In other

words, their *explanantia* for the physical world are not mythological divinities.[271] Second, the early presocratics seem to have had a special interest in opposites, suggested by their repeated appeal to pairs of opposites in their accounts of nature. But their appeal to opposition for explanation seems to be more systematic and orderly than their predecessors'. In this section, I offer a brief survey outlining how opposites feature in the thought of two early Greek philosophers, Anaximander and Anaximenes.[272] Doing so will help us to appreciate why Heraclitus was interested in opposites, and why they feature so heavily in the extant fragments.[273]

Before we examine the use of opposites in Anaximander and Anaximenes, we must note that we have very little of their own words. While we have a few statements

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[271] There have been many attempts to explain the differences between Hesiod and the Presocratics. See for example McKirahan (2010), who claims that "[a] principal difference between [Hesiod and the Presocratics] is that the traditional Greek mythology, focussing on the Olympian gods, is omnipresent in Hesiod yet absent from the Presocratics" (p. 7). See also Gregory (2007). Gregory identifies the distinguishing features of a philosophical cosmogony from a mythical cosmogony as: parsimony, invariance and non-supernaturalness (pp. 13-18). He claims that "Thales is the first to give us a parsimonious philosophical cosmogony. Hesiod, while he may attempt a systematisation of theogony, is not parsimonious in his theogony" (p. 13). Gregory argues that the rejection of the supernatural "is a consequence of the acceptance of parsimony and invariance rather than an independent factor" (p. 14).

[272] It is interesting to note that Heraclitus does not mention Anaximander and Anaximenes by name in his fragments, while citing various other thinkers (Homer, Xenophanes, Hesiod, Hecataeus). Despite this, he seems to be aware of their thought and seems to be reacting to it in some way, as I argue below.

[273] I have left out of the discussion the Pythagoreans and Xenophanes. Xenophanes seems to have no special interest in opposites. The Pythagoreans certainly had a special interest in opposites. Aristotle in *Metaphysics* A.5 claims that "other members" of the Pythagoreans claim there are "ten principles" arranged in two columns: "limit and unlimited, odd and even, one and plurality, right and left, male and female, resting and moving, straight and curved, light and darkness, good and bad, square and oblong." Aristotle isn't sure if Alcmeon (5th century) is influenced by this list or if the list was influenced by Alcmeon. Burkert (1962) argues that the table originated in Plato's Academy. More recently, Zhmud (2012) argues that this list has very little to do with the early Pythagoreans, but Goldin (2015) argues that the table could very well be part of early Pythagoreanism. I am inclined to think that it is later than Heraclitus.

which appear to be verbatim quotations preserved by later authors (*fragments*), most of what we have are paraphrases and summaries of their thought recorded by later authors (*testimonia*).[274] In general, when dealing with Presocratic philosophy, I believe we must privilege the verbatim quotations over the *testimonia.* But with Anaximander we have only one (or two (see below)) verbatim quotations and with Anaximenes we have none. Thus we are forced to rely on the paraphrases of later authors. This does not mean we cannot investigate their views, but simply that we must recognize our limitations.

What we do have concerning Anaximander suggests he wrote a book *about nature* (περὶ φύσεως).[275] In what follows, I present a conventional sketch of Anaximander's ideas which I take to be, for the most part, uncontroversial.[276] According to Anaximander, there is something called *to apeiron*, which seems to be a sort of primordial entity from which all things are generated. It is eternal, contains all things (somehow) and steers all things (somehow). Anaximander seems to have constructed a cosmogony based on *to apeiron*:

> A10 (part): [Anaximander] says that the part of the **everlasting** (i.e. *to apeiron*) which is **generative** (*gonimon*) **of hot and cold separated off** (*apokrithēnai*) at the coming to be of the world-order and after this (*ek*

[274] As explained in the Introduction, the *fragments* are, following Diels, prefaced by the letter B (i.e. B123 is fragment 123) while the *testimonia* are prefaced by the letter A (i.e. A5 is *testimonia* 5). The numbers follow the ordering presented by Diels-Kranz.

[275] Themistius in *Orations* 26.317c (A7) tells us he is the first Greek known to write a book on nature. See also *Suda* s.v. (A2).

[276] I do not offer any new claims concerning Anaximander here except that his thought is amenable to some recent work in contemporary metaphysics concerning grounding (see below).

> *toutou*) a sort of sphere of flame grew around the air about the earth like **bark** around a tree.[277]

It is hard to know with certainty, but it seems that this bit of *testimonia* is evidence that the first things generated from Anaximander's *to apeiron* are the opposites, hot and cold.[278] To be more precise, that which generates (*gonimon*) the opposites is the first thing that separates off from *to apeiron.* It is difficult to tell what this *gonimon* is, but the account in pseudo-Plutarch clams it is part of *to apeiron*, it separates from *to apeiron* and it generates opposites. The account also states that "after this" (*ek toutou*) flame and air (i.e. stuffs) come into existence. Some translate *ek toutou* as "from this," in which case the *toutou* must refer back to that which is generative of hot and cold (i.e. the *gonimon*).[279] If so, the *gonimon* would turn out to be something generative not just of hot and cold but also of flame and air.[280] But I don't think this is the best translation of *ek toutou* here, and it is certainly not our only option. Following the narrative nature of the account, I think it more likely that *ek toutou* means "after this,"[281] in which case it refers to the separating off of that which is generative of opposites *and*, as is likely, the actual

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[277] A10 is a testimony from pseudo-Plutarch *Miscellanies* 2. Though it is, on the whole, clearly a testimony and not a verbatim quotation, Daniel Graham (2010) thinks the words highlighted are verbatim quotations.

[278] Simplicius tells us that "[Anaximander's] contrarieties are hot, cold, dry, moist, and the others" (*Physics* 150.24-25). It isn't clear here what Simplicius means by "the others" (τὰ ἄλλα).

[279] See Graham (2010) pg. 57.

[280] In itself this isn't a difficulty. But, given the context, I think it would be strange if pseudo-Plutarch introduces an object which he calls "that which is generative of hot and cold" turns out to be an object that can equally be called "that which is generative of stuff."

[281] See Liddell and Scott (1889) entry on οὗτος.

generation of opposites.[282] If so, it seems that the opposites (or at least what generates the opposites) predate the stuffs on Anaximander's cosmogonical timeline. According to a principle of primacy, the earlier items in a cosmogony are more explanatorily basic than the later items in that cosmogony.[283] If this is correct, Anaximander seems to have treated the opposites as explanatorily basic with reference to the physical world.[284]

We can see how this might work by examining more of our evidence for Anaximander's thought. From Theophrastus (quoted by Simplicius), we learn that from *to apeiron* things come to be, but also that it is into *to apeiron* that things perish. Consider Anaximander B1, which is embedded in a paraphrase from Simplicius:

> B1: ἐξ ὧν δὲ γένεσίς ἐστι τοῖς οὖσι, καὶ τὴν φθορὰν εἰς ταῦτα γίνεσθαι **κατὰ τὸ χρεών· διδόναι γὰρ αὐτὰ δίκην καὶ τίσιν ἀλλήλοις τῆς ἀδικίας κατὰ τὴν τοῦ χρόνου τάξιν,** ποιητικωτέροις οὕτως ὀνόμασιν αὐτὰ λέγων.
>
> From what things existing objects come to be, into them too does their destruction take place, **according to necessity: for they give**

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[282] It may be that what is generative of hot and cold remains latent in its power to produce these opposites until after the stuffs are generated but I find this unlikely. I find it more plausible that the *gonimon* separates off from *to apeiron* and immediately generates hot and cold.

[283] Compare this with how Marmodoro (2017) deals with the development of what she calls Anaxagoras' "cosmic narrative" (pp. 12-17).

[284] If this is correct, Anaximander was probably a power ontologist, since for him the opposing powers (hot and cold) are more basic than the physical stuffs. Power ontology is the view that the basic constituents of the cosmos are *powers* rather than *stuffs*. See Marmodoro (2017) for a power-ontology reading of Anaxagoras. Kahn (1960) supports this view. He claims that the "elements … are the opposite powers of cold and heat, moisture and dryness, darkness and light, and also the main portions of the visible world, regarded as embodiments of those universal factors" (p. 178). Vlastos (1947) too seems to suggest this when he speaks of "the opposites which constitute this world" (p. 169). Freudenthal (1986) claims that the statement "the basic constituents of Anaximander's world are equal opposite powers" is "uncontroversial" (p. 198). Graham (2006), on the other hand, argues against this pure power ontology. But Graham still promotes, as do I, the interpretation that the powers are the explanatorily basic factors in Anaximander's thought.

> **recompense and pay restitution to each other for their injustice according to the ordering of time**, expressing it in these rather poetic terms.[285]

According to the standard interpretation of Anaximander, the most basic entities are the elemental powers, which participate in a system of retaliation with one another, such that if one opposite becomes too powerful it is overtaken by another opposite. We can actually see in the *testimonia* how Anaximander's powers explain meteorological phenomena. According to Aëtius, Anaximander thought that meteorological events are consequences of wind (A23). But we also learn that wind is accounted for by elemental powers in strife: "Anaximander says wind is a rush of air when the most fine and moist parts of it are moved or dissolved by the sun" (A24). Presumably the sun has the power to heat and thereby dry out the moisture in the air, causing the air to move and become wind.[286] Wind accounts for the meteorological phenomena, but the striving of opposing powers accounts for wind. Graham writes: "In Anaximander we see a closed system of explanation in which a set of items, apparently including elemental stuffs and their

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[285] The words in bold are generally thought by scholars to be original to Anaximander.

[286] Compare this with the words of the *Turba Philosophorum* 110.15-20: "… wind arises from the fine mist of air because when heat is joined with moisture, something fine goes out which must become wind." The *Turba Philosophorum* is a much later document of a different tradition which offers a creative (and somewhat inaccurate) interpretation of Anaximander's philosophy. But it is interesting to see that similar interpretations have been maintained concerning Anaximander's natural philosophy across time and tradition.

contrary properties, accounts for all the phenomena of experience" (Graham, p.42).[287] Since the opposites seem to be more ontologically basic than the stuffs, I believe it makes most sense to suppose that for Anaximander the war of opposites is the most basic principle of explanation for this world. He then, perhaps, posited *to apeiron* to account for the source of these opposites.[288] At any rate, the main thrust concerning opposites seems to be that these opposites explain the physical events and stuffs in the phenomenal world.

I turn now to Anaximenes, who is generally thought to be one of Anaximander's rough contemporaries.[289] According to the *testimonia*, Anaximenes provides an

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[287] Graham does not think the basic elements are themselves powers for Anaximander. Rather, he thinks the basic elements are the powers embodied in stuffs. However, this is difficult to square with the evidence from A10, in which the powers seem to be generative of stuffs. However, Graham seems to find most of his evidence that the powers are always embodied (i.e. there exist no pure powers) not in Anaximander himself but in later thinkers: "Anaximenes appeals not to hot and cold to explain things, but to substances. They are characterized according to the rarity and density, but the rarity and density have no existence apart from the substances that exemplify them … Heraclitus … envisages elemental change between the substances of fire, water, and earth … It appears that, important as powers are, they are not thought of as realities independent of substances, but as characters in substances" (p. 67). Apart from the fact that "substances" is an Aristotelian concept which post-dates these thinkers, it is not possible to cite the dealings of later authors as conclusive evidence for an interpretive issue in an earlier author. It may be the case, as is likely, that Anaximander was doing something quite different from his immediate successors. Furthermore, it seems that Anaxagoras (a later author) did hold there are independent existing powers (see Marmodoro 2017), and so we have evidence that some later authors did not conceive of powers as always embodied in stuffs. At any rate, I believe it is best to examine closely the evidence we have of Anaximander's thought itself for interpretive issues before comparing or contrasting his view with his successors.

[288] This interpretation of *to apeiron* is supported by Vlastos (1947) but is contested by Freudenthal (1986).

[289] Diogenes Laertius (*Lives of the Eminent Philosophers* 2.3) and Simplicius (*Physics* 24.26) claim that Anaximenes was the student of Anaximander. But these later reporters loved to arrange all historical philosophers into long chains of teachers and students. However they often did so without any real evidence.

explanation of the observable world by means of two opposing processes: rarefaction and condensation:

> A5: [Air] differs in essence in accordance with its rarity (μανότητι) and density (πυκνότητι). When it is thinned (ἀραιούμενον) it becomes fire, while when it is condensed it becomes wind, then cloud, when still more condensed it becomes water, then earth, then stones. Everything else comes from these.[290]

Here, as with Anaximander, Anaximenes in a way treats opposites as the *explanantia* of the physical world. This is not to say that the opposites are of the same sort for these two thinkers, or that they account for the physical world in the same way. For Anaximander, it seems opposing *powers* explain the physical world, while for Anaximenes opposing *processes* explain the physical world. But it does seem both attempted to offer an explanation of the world by appealing to opposites. Put simply, for both Anaximander and Anaximenes, things and events in the physical world are *explananda* and certain opposites serve as their *explanantia.*[291]

In addition to this, there seem to be some formal features common to both Anaximander's and Anaximenes' systems of explanation that are worth exploring. For

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[290] This testimony is provided by Simplicius *Physics* 24.26-25.1.

[291] G. E. R. Lloyd argues in *Polarity and Analogy* (1966) that this was the common view among the Greek thinkers. Lloyd claims "[t]ime and again in attempting to identify the constituent elements of man or of the universe as a whole, to describe the formation of the world, to establish causes of diseases or to suggest remedies, Greek speculative theorists proposed doctrines based on a pair or pairs of opposite principles" (p. 65). He also states that for many Greek thinkers "objects are classified or explained by being related to one or other of a pair of opposite principles" (p. 7).

one, both thinkers seem to be concerned with explanatory *fundamentality*.[292] For Anaximander, meteorological phenomena hold "in virtue of" the elemental stuffs. The elemental stuffs seem to hold "in virtue of" the opposites. And the opposites seem to hold "in virtue of" *to apeiron.* Observable meteorological events are explained by the change of the elemental stuffs (e.g. wind), but the change of the elemental stuffs is explained by the war of opposites. Finally the existence of the opposites seems to be explained by *to apeiron*, from which the opposites are generated. The point is that there are more or less fundamental items in the chain of explanations. In addition, the relations between Anaximander's explanatory relata seem to be transitive, asymmetric and irreflexive. They are transitive since, if the opposites explain the elements and the elements explain the meteorological events, the opposites explain the meteorological events. These relations don't seem to be symmetric: if the opposites explain the elements, it does not follow that

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[292] In the terms of modern metaphysics, we might say they are concerned with *grounding.* Grounding relations are generally thought to be "in virtue of" relations, such that when *y* holds in virtue of *x, x* grounds *y.* If *x* grounds *y,* then *x* is more fundamental than *y* and *x* explains *y.* While these early thinkers are clearly not concerned with the finer points of grounding relations being debated today, their systems of explanation seem to follow the general pattern of grounding as expressed above. See Correia and Schnieder (2012) for a recent anthology on ground. There is a current debate concerning the precise nature of ground; for a sample of this debate see Rosen (2010), Jenkins (2011), Schaeffer (2012), Fine (2012), Koslicki (2012), Raven (2015) and Zylstra (2018). The notion of grounding I believe to be at work in Anaximander is endorsed by Raven (2015). According to Raven, "Ground is … supposed to serve a certain job description: it is the common factor in diverse *in virtue of* questions, the structuring relation in the project of explaining how some phenomena are "built" from more fundamental phenomena, and a key part of a venerable tradition concerned with metaphysical explanation" (p. 324). He also explains that "ground is *metaphysical* because it concerns the phenomena in the world itself, but also *explanatory* because it concerns how some phenomena hold in virtue of others" (p. 326). We might worry that it is anachronistic to interpret these thinkers as being concerned with grounding. However, the idea is not that they are consciously employing a concept of grounding, but merely that they seem to have had some basic notion of ontological and explanatory fundamentality, and that this notion, untheorized among these early Greek philosophers, is the same one contemporary metaphysicians interested in grounding investigate.

the elements explain the opposites. At least, we do not have evidence of Anaximander thinking in this way. These relations are also irreflexive: nothing seems to explain itself, since there seems to be a chain of explanatory components. We might wonder if *to apeiron* explains itself, but I think it does not. It seems more likely to me that Anaximander saw the need to avoid an infinite regress of explanations and posited *to apeiron* as a terminus to the chain of explanations.[293]

Anaximenes' system of explanation seems to have some similar characteristics. We saw from A5 above that for Anaximenes air is some sort of originative stuff. The opposing processes of condensation and rarefaction produce change in that stuff and cause it to become something else: rarefaction causes air to become fire, condensation causes air to become wind, then water, then earth, then stones.[294] Interestingly, Simplicius tells us that for Anaximenes "everything else comes from these," which seems to be

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[293] Raven (2015) argues that ground seems to have the characteristic of *well-foundedness*: "if explanations must begin, then so too any grounded fact must ultimately be grounded in facts which themselves are ungrounded … [this] entails that this ordering terminates in minimal elements, like an explanatory chain beginning from unexplained explainers" (p. 327). To use Raven's language, Anaximander's *apeiron* seems to be an "unexplained explainer."

We might also characterize Anaximander as a "metaphysical foundationalist." Thompson (2016) explains that " [metaphysical] foundationalists hold that grounding chains terminate in one or more fundamental entities, and as we move up the chain from the fundamental we encounter entities that can be considered increasingly derivative. Since grounding is transitive, the fundamental entities collectively provide the 'ultimate ground' for reality. The collection of fundamental entities can thus be thought of as comprising reality's 'fundamental level'." This sounds like a strikingly accurate description of Anaximander's project, as I, in agreement with most others, understand it.

[294] Grounding is a metaphysical notion thought to be distinct from causal explanation (see Fine (2012)). Anaximenes' explanations might be thought to be causal, though they could be construed otherwise. Hence, Anaximenes seems less amenable to the current grounding literature than Anaximander. Still, causal explanations are explanations and Anaximenes stands in a tradition that seemed to use opposites to explain the world.

evidence for a transitive chain of explanations. Consider how Aëtius characterizes Anaximenes' meteorology:

> A17: Anaximenes [says] clouds are formed when air is thickened more, and when it is gathered together still more rain is expressed, snow when the water freezes as it descends, and hail when some gaseous stuff is included with the moisture.

Rarefaction and condensation explain not only the existence of different stuffs, but also the meteorological events in which the stuffs participate. While air is originative and thus ontologically basic for Anaximenes,[295] it isn't really the most fundamental *explanans*. Rather, rarefaction and condensation seem to be the most fundamental principles of explanation. Air's distinctiveness from the other stuffs is dependent on its rarity and density relative to those other stuffs. Air as a stuff is originative and *ontologically* basic, since it is apparently the first type of stuff, but it is not *explanatorily* basic. Rarefaction and condensation as processes explain what air and all the other stuffs are (from fire to rocks) and the stuffs explain everything else (if we can trust Simplicius when he claims that everything else comes from these). As with Anaximander, Anaximenes treats opposites as explanatorily basic.

Despite these commonalities, there are some differences between these two schemes of explanation. For one, Anaximander seems to treat the opposites as explanatorily basic *and* ontologically basic, while Anaximenes treats air as ontologically

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[295] On the material monist interpretation of Anaximenes (the one found in Aristotle), air is originative since all the other stuffs are air under an altered guise. See *Metaphysics* A; Aristotle refers to Anaximenes at 984A5-7. On the generative substance theory (Graham), air is originative since it is the first stuff in a series.

basic and the opposing processes of rarefaction and condensation as explanatorily basic.[296] The reason for this seems to be that the opposites in Anaximander are powers, while the opposites in Anaximenes are causal processes. For another, Anaximander's scheme of explanation seems to fit a more rigid format than Anaximenes'. For Anaximander, opposites appear to explain stuffs and stuffs appear to explain events. For Anaximenes, the opposing processes of rarefaction and condensation account not only for the stuffs like air and the rest, but also for opposing properties like hot and cold, at least if we are to believe Plutarch. For Anaximenes, Plutarch says, "what is contracted and condensed is cold, what is thin and loose (using this very expression) is hot." So we could say of Anaximenes (and not of Anaximander) that opposites (processes) explain opposites (properties). Yet despite these differences, both Anaximander and Anaximenes seem to have committed to the idea that the most fundamental *explanantia* of the cosmos are opposites.

To summarize, I believe Anaximander and Anaximenes accepted two principles concerning opposites and explanations: i) the physical world is an *explanandum* and certain pairs of opposites are *explanantia*, and ii) these opposites are explanatorily fundamental and everything else, including various phenomena in the natural world, is explained by reference to them.

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[296] In contemporary metaphysics, facts or objects can be taken to be explanatorily basic. For example, Rosen (2010) writes as though facts are the relata of grounding relations, while Jenkins (2011) writes as though objects are the relata of grounding relations. If some objects are taken to be explanatorily basic (as in opposites as powers for Anaximander), then those objects will turn out to be ontologically basic. If however one takes facts to be explanatorily basic, those facts need not be ontologically basic.

V. Heraclitus' Use of Opposites

When we turn to Heraclitus, we see a change in how opposites are featured, but it is difficult to see clearly what that change amounts to. As noted in the Introduction to this dissertation, many scholars appeal to the *essential connection* of opposites, or to some such thesis, to explain Heraclitus' novel use of opposition. However I have argued that this will not do. I have argued from the beginning of this dissertation that there are two important features of Heraclitus' use of opposites that must be accounted for: Heraclitus' opposites are a) numerous and b) varied.[297] In Anaximander and Anaximenes, the featured opposites are few and of the same order: hot and cold (and perhaps more of the same sort) for Anaximander and condensation-rarefaction for Anaximenes. This discrepancy between how opposites are featured in Heraclitus and how they are featured

[297] Lloyd tries to make sense of Heraclitus' new approach within the tradition of appealing to opposites: "While Heraclitus' theory was exceptional in that he particularly emphasised the interdependence or "unity" of opposites, it was typical in so far as he too analysed the data of experience generally into pairs of opposites" (p. 17). However, Lloyd does not treat very seriously exactly *how* Heraclitus analysed the data of experience into opposites. Furthermore, as I argue below, it seems Heraclitus treated the pairs of opposites *as* data of experience rather than *analyzing* the data of experience by means of opposites (esp. B126 "cold things warm up … etc.").

in his predecessors suggests an implicit criticism on the part of Heraclitus, but it is difficult to see what the criticism might be.[298]

Many scholars have suggested that Heraclitus' B80 is an implicit criticism of Anaximander:[299]

> B80: εἰδεναι δὲ χρὴ τὸν πόλεμον ἐόντα ξυνόν, καὶ δίκην ἔριν, καὶ γινόμενα πάντα κατ᾽ ἔριν καὶ χρεών.
>
> It is necessary to know that war is common, and strife is justice, and all things come to be in accordance with strife and necessity.

While Anaximander in B1 (quoted above) says that the opposites pay for their injustice, Heraclitus claims that the striving of opposites *is* justice. Some interpreters see this as

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[298] According to Graham, Heraclitus contributes to the development of early Ionian natural philosophy by solving the problem of primacy in what he (Graham) calls the Generating Substance Theory (GST). GST is an alternative to the material monism attributed to many early Greek thinkers by Aristotle (i.e. each thinker picked one material (e.g. fire, water, air) and claimed that all other things are instances of that original matter under an altered guise). Graham describes his interpretation of Heraclitus' criticism of his predecessors: "Challenging GST, with its naive assumption of a generating substance, Heraclitus criticizes its weaknesses and passes beyond them to a new conception. The world is orderly because of its order of changes. We need no primary generating substance, only a flux of equal substances according to law" (p. 144). Graham's view helps to situate Heraclitus in the development of Ionian science. However, it does not tell us why Heraclitus uses opposites in the way he does. Furthermore, as we have seen in chapter 1, Graham wrongly reduces all instances of opposites to Transformational Equivalence.

[299] Kirk says "there may be … in this fragment a reference to the extant fragment of Anaximander … It is possible that Heraclitus was deliberately amending this statement by Anaximander, with its implication that opposites commit aggression upon each other, and that change between opposites involves a kind of injustice: on the contrary, *he* held that strife between opposites was 'the right way', normal and just" (p. 240). Marcovich argues, against Kirk, that "a criticism of Anaximander is not likely in Heraclitus' fr. 28" (p. 140), since neither Anaximander B1 nor Heraclitus B28 cite "change." However, it seems to me that Anaximander B1 is exactly about change and that Heraclitus B28 cannot be read in isolation from the other opposites fragments, some of which do cite change. Kahn agrees with Kirk: "In the fragment of Anaximander *adikia,* 'injustice', denotes the victory of one opposing power over another. Hence Heraclitus' identification of conflict with Justice can be seen as a deliberate correction" (p. 206). Vlastos too agrees with Kirk: "Two of the fundamental ideas in Anaximander — that there is strife among the elements, and that a just order is nevertheless preserved — are reasserted in a form which universalizes both of them and thereby resolves the opposition between them: what is a 'nevertheless' in Anaximander, becomes a 'therefore' in Heraclitus" ('On Heraclitus', in Furley and Allen, p. 419).

evidence for the single unity of opposites thesis in Heraclitus: *opposites are essentially connected.*[300] But if this is a criticism of Anaximander, surely Heraclitus' point is merely semantic and not substantial, since both Anaximander and Heraclitus seem to be claiming that a war or strife of some sort is the proper course of the cosmos.[301] For Anaximander, there seems to be a strife of opposites, whereby the opposites retaliate against other opposites.[302] So too for Heraclitus: "war is common." Heraclitus' criticism, if it is a criticism, seems to be that this strife *is* justice, while Anaximander claims that the opposites retaliate against one another for their injustices. But even for Anaximander, the

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[300] Mourelatos (1973) argues that for Anaximander the "opposites are essentially incompatible," but for Heraclitus "they are *one,* they are internally or conceptually related by being opposed determinations within a single field" (p. 35). But Anaximander's opposites would also have to be "opposed determinations within a single field," by the same logic.

[301] Kahn (1979), following Vlastos, seems to disagree: "Polemical intent aside, Vlastos is clearly right to insist that Heraclitus' conception of cosmic justice goes beyond that of Anaximander, since he construes *dikē* not merely as compensation for crime or excess but as a total pattern that includes both punishment and crime itself as necessary ingredients of the world order" (Kahn (1979), p. 207). But it seems to me that Anaximander's conception too includes both punishment (retaliation) and crime (overstepping/excess) and that both are the necessary modes of cosmic order. Perhaps it is better to think, with Kahn (1979), that "the polemical thrust of this identification is probably directed less against the recondite text of Anaximander than against the mainstream of Greek thought represented by Homer, Hesiod, Archilochus, and Solon" (p. 207). See also Kahn (1960): "the primary force of χρεών combines the ideas of right and of necessity: death succeeds to birth in the course of time, *because it must*" (p. 180). Later he states: "The words and imagery of the fragment indicate above all that the exchange of birth and death is sure, remorseless, inescapable, like the justice which the gods send upon guilty men … For Necessity enforces the ordinance which Time lays down" (p. 183).

[302] There are some differences here. For Anaximander this strife has a beginning (insofar as he thinks there is a beginning to the cosmos). For Heraclitus strife is eternal. Furthermore, Anaximander's retaliation of opposites is just, but not *all* strife is just on his account. For Heraclitus strife as such, seems to be just. But the point is that Heraclitus doesn't seem to be criticizing Anaximander for missing the point that justice is a strife of opposites.

cycle of retaliation seems to be the mode of justice.[303] Thus, for Anaximander too, justice takes the form of strife. Hence it does not seem that B80 is really a criticism of Anaximander after all; it even seems to be a point of agreement. So what really is Heraclitus' implicit criticism of the way opposites are featured in the intellectual milieu of his day?

Here is my suggestion. While Heraclitus' predecessors seemed to be trying to explain the physical world by means of a simple set of opposites, Heraclitus proliferates examples of many different pairs of opposites to make the point that we cannot so simply explain the world by reducing our *explanantia* to a pair (or limited set of pairs) of opposites or opposing processes. Perhaps we could even read Heraclitus' numerous and varied instances of opposites as a *reductio* argument against his predecessors. Why pick rarefaction-condensation as our explanatory pair of opposites when there are a number of others? His point, I suggest, is that opposites require an explanation as much as the physical world does. Indeed, we experience them as evident in the physical world (e.g. cold things warm up, etc.). Thus we cannot so simply use them as *explanantia,* we must treat them as *explananda.* Hence, on my view, Heraclitus presents the cardinal opposites in a puzzling fashion: "cold things warm up, warm things cool down, dry things moisten and moist things dry out." These are easily observable phenomena. But they evoke questions. How is it that cold things warm up? How do things come to be cold in the first

[303] Kahn (1960) writes: "The elements feed one another by their own destruction, since what is life to one is death for its reciprocal. The first law of nature is a *lex talionis*: life for life" (p. 183). There is a debate concerning whether or not for Anaximander the opposites govern themselves (Kahn and Vlastos) or whether the opposites require the *apeiron* to govern them (Freudenthal).

place? What is not so easily observed is the transformations of water, fire, air and earth he cites in the fragments, that seem to account for the change of cardinal opposites. So, the opposites for Heraclitus appear to be *explananda.* But since, as Heraclitus seems to be demonstrating, the instances of opposites in the world are numerous and varied, it seems we cannot account for all the opposites with one explanation; hence, on my view, there are several opposites theses. Fire is need and satiety, Heraclitus claims. He cites this case because contains a problem; it is an *explanandum.* We do not generally think of opposites as being co-present; so how is it that we experience need and satiety at the same time and in the same place? Heraclitus' explanation seems to be that objects are dependent for their existence and identity on opposing properties inherent in them. Hence, wherever there is an object, there must be a set of opposites present. Some things are both valuable and not-valuable. This is a puzzling feature of the world that presents itself to us. Heraclitus seeks to explain this puzzling feature of the way things are by showing that valued objects in the world are only good *for* some kinds of respondents, while being not-good *for* others, or even bad *for* others; they are valuable, but not valuable *simpliciter.*

In this way, I think Heraclitus differs from his predecessors with respect to their use of opposites. While Anaximander and Anaximenes seek to explain the world by means of opposites, Heraclitus seems to be saying that the opposites cannot so simply explain the world. Why? Because opposites are *problemata* themselves, and are therefore

explananda, just as the rest of the physical world is.[304] Why are they *problemata*? Because a) there are many opposites of many kinds and we have no real reason for choosing one oppositional pair (or type of oppositional pair) over another as the *explanans* of the world, and b) in many cases, opposing pairs are in themselves puzzling in the first place. And so we must explain them. On my account, Heraclitus' three opposites theses – the *transformation thesis,* the *dependence thesis* and the *value thesis* – are Heraclitus' ways of explaining the role of opposites in the world.

VI. Heraclitus on Explanation

In the last section I focussed on how Heraclitus' use of opposites contrasted with the use of opposites in his Ionian predecessors. I argued that Heraclitus *primarily* used opposites to criticize his predecessors for thinking that various opposing pairs could act as *explanantia* for the entire world. In this section I wish to focus more closely on how Heraclitus' scheme of explanation differs from that of his predecessors. First, I will argue that Heraclitus, despite diverging from his Ionian predecessors who used opposites to

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[304] To be clear I don't mean to suggest that Heraclitus ever *asserted* that opposites are *problemata.* To my knowledge there is no ancient tradition that asserts this and Heraclitus does not assert this himself. However, I believe it is a fact that the pairs of opposites he does cite are problematic and I believe that reading them as such can best explain what he was doing and why he was doing it. Since Heraclitus wrote, seemingly, in an obscure and aphoristic manner, we must make interpretive choices that fit with the fragments and can best explain what he was doing and why he was doing it. I see my "*problemata*" reading of the opposites fragments as an alternative to a similar interpretation: that of Mackenzie (1988). For her, Heraclitus' fragments concerning opposites are *paradoxical*. Heraclitus crafts fragments containing opposites so that his reader will have to solve the paradox by inferring the solution. Hence, on Mackenzie's view, Heraclitus' paradoxes are quasi-arguments. But the solution to the paradoxes for Mackenzie is the unity of opposites (and the opposition in unity). My view differs from hers since I think the opposites fragments are not *crafted paradoxes* in need of an inference, but *observable problemata* in need of an explanation. That is, I believe the opposites fragments are not arguments via paradox, but explanations via *problemata*.

explain the entire world, still utilized opposites as *explanantia* in a much more limited way. I will then explore some of the features of explanation as they appear in Heraclitus. I will argue that while Anaximander and Anaximenes (to a lesser extent) seem to have held to a principle of Strict Partial Order following from a principle of Well-Foundedness, Heraclitus, in contrast, held to the principles of Reciprocal Explanation and Non-Well-Foundedness.

In Chapter 1 we examined B80, which states that "war (τὸν πόλεμον) is common, and strife (ἔριν) is justice, and all things come to be in accordance with strife and necessity." Furthermore we saw from B53 that "War (Πόλεμος) is father (πατήρ) of all things and king of all things." There are a few things we can glean from these fragments. First, I take it that the commonality of war (presumably the war of opposites) refers to the *all-pervasiveness* of opposites. Second, war (again, presumably of opposites) is *productive*, since all things come to be in accordance with strife (B80) and war is a generative thing since it is the father of all (B53). So, while I think Heraclitus is arguing, negatively, that we cannot so simply explain the world by reducing our explanations to a simple set of oppositions, he also seems to be promoting, positively, the idea that opposition is all-pervasive and *productive*. I will argue that opposition is productive since it can help explain features of the world.

So far I have argued that Heraclitus primarily saw opposites as *explananda.* But here is a problem for my account. It seems that we also have evidence of Heraclitus treating opposites as *explanantia*. In the dependence thesis, Heraclitus seems to be saying

that the opposites *explain* (in part) the nature of the objects in which they inhere. But it also seems that his dependence thesis is meant to explain the puzzling phenomenon of the collocation of opposites. Hence, in the case of objects, it seems opposites explain objects and objects explain opposites. We might think that this is an instance of symmetrical explanation. Such relations are generally thought to be problematic in contemporary metaphysics: if *x* explains *y,* then *y* cannot explain *x.* This is because the orthodox understanding of explanatory relations (both causal explanations and grounding explanations) is that of strict partial order.[305] That is, explanatory relations are irreflexive, transitive and *asymmetric*. So this is the problem: if Heraclitus did treat the opposites as both *explananda* and *explanantia* with respect to the same things, then he seems to commit to a problematic principle whereby *x* explains *y* and *y* explains *x.*

I have already alluded to this principle in Chapter 3. There, I argued that Heraclitus' principle whereby "one from all things and all things from one" (B10) is best thought to capture a sort of reciprocal order of explanation between God and the world. I argued that God accounts for the orderliness of the universe since all things are steered by the wise, divine plan. But I also argued that the orderliness of all things accounts for something of the divine nature (I explain this in more depth below). If this is true, then it seems that all things explain (something of) God and God explains (something of) all things. If this is correct, then Heraclitus seems to be appealing to a reciprocal order of

[305] See Raven (2013) who argues that the "orthodox" view of grounding today is that of strict partial order (SPO). He argues that "just as cyclical explanations are prohibited, so too are cycles of ground." Thompson (2016) disagrees and argues that there is no issue with cyclic explanations so long as they are not *causal* explanations.

explanations. At any rate, this explanatory principle does not appear to follow a clean strict partial order, the likes of which are evident in Anaximander and, perhaps to a lesser extent, in Anaximenes. If we can assume that Heraclitus was aware of their use of opposites and how the opposites featured in their schemes of explanation, then it seems likely that Heraclitus was offering a new scheme of opposites and explanation in contradistinction to Anaximander and Anaximenes.

But is this reciprocal order of explanatory relations really a problem? We will need to examine each thesis in turn and see precisely how the pieces play out. Let us first look at the transformation thesis. In Chapter 1, I argued that the cycle of the cardinal opposites in fragment B126 (cold things warm up, hot things cool down: wet things dry up and dry things moisten) is a set of *explananda.* The suggestion was that the transformations of the elements (fire, air, water and earth) are the *explanantia.* But I also argued that the opposites explain the nature of the elements (fire=hot, water=wet, air=dry and earth=cold). If this is correct, then Heraclitus seems to be treating the opposites as both *explananda* and *explanantia* with respect to the same things: the elements. But what is really explaining what here? In the first instance, what is being explained is the *change* of the cardinal opposites. So the warming up of cold things, as well as the changes of the other opposites, are the *explananda*, whereas the *transformations* of the elements seem to be cited as the *explanantia* (or so I have suggested in Chapter 1). But in the second instance, the opposites seem to explain the elements. That is, the opposing properties account for what the elements are and why they are distinct from one another, such that

they can be said to die and become something new when they transform into one another. Here the opposites explain what sort of things the elements are. So, in the first instance the change of opposites is explained by the transformation of the elements. But in the second instance the distinctiveness of the elements is explained by their opposing properties. This is clearly not a problematic reciprocal relation, since the two relata in the first instances are not identical to the two relata in the second instance. Something about elements (their transformation) explains something about opposites (their change). And something about opposites (their properties) explains something about the elements (their distinct natures). This is still a reciprocal explanation, since (as we might say) the opposites partially ground the elements and the elements partially ground the

opposites.[306] This seems to be a coherent explanatory principle, and is rather interesting even to contemporary metaphysicians.[307]

If we look at the dependence thesis, we can see a similar pattern. I have argued that Heraclitus cited a wide variety of problematic oppositions to demonstrate that opposites are *problemata* and therefore *explananda.* The example of fire being both "need" and "satiety" seems pertinent to this argument. The opposites of need and satiety are generally thought to be either temporally or spatially distinct, yet they seem to be collocated at the same time in the case of fire. Wherever there is a fire, there also exists a state of both need and satiety. The two opposing properties are present at the same time in the same thing. How can this be? Heraclitus' answer, on my interpretation, is that fire, like many other objects, depends on opposites inherent in them. So, the collocation of

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[306] It is common for contemporary metaphysicians to make a distinction between *x* partially grounding *y* and *x* fully grounding *y.* See Fine (2012), Raven (2015) and Thompson (2016).

[307] Heraclitus' notion of reciprocal explanations is amenable to some recent work being done in metaphysics. Thompson (2016) argues that it is perfectly permissible for grounding and explanatory relations to be symmetric so long as we are speaking of non-causal explanations. She calls her view "metaphysical interdependence." She explains that "metaphysical interdependence … rejects both wellfoundedness and asymmetry. According to this view, some entities are such that they are not grounded in anything fundamental, and some entities are such that there is mutual ontological dependence between them. Imagine, for example, a world containing only a circle and its pair of semi-circles. It might be that at that world, the circle is grounded in the semicircles that compose it (a 'metaphysical explanation' of the circle cites the semicircles; once we have the semicircles, the circle is 'no addition to being') but the semicircles are also grounded in the circle – their existence derives from the existence of the circle. In this case, my contention is that there is a symmetrical grounding relation between the circle and the semicircles. Since everything at this circle-world is grounded in something else, nothing is ontologically basic; nothing is fundamental." The circle world might seem to be a bizarre example but there are real world examples. One such example is cited by Zylstra (2018): "The volume of a substance is the quotient of its mass (dividend) and density (divisor). The density of a substance is the quotient of its mass (dividend) and volume (divisor). Finally, the mass of a substance is the product of its density and volume." He concludes that volume is grounded in mass and density, density is grounded in mass and volume and mass is grounded in density and volume.

opposites seems to be an *explanandum* and the *explanans* seems to be that the thing in which the opposites are collocated is dependent on those opposing properties. But the objects don't just explain something about the opposites (i.e. their collocation). In the dependence thesis, it seems as though something about the opposites explains something about the objects. The opposing properties seem to explain (at least part of) the nature of the objects in which they inhere. In the first instance, the collocation of opposites is an *explanandum*, while the dependence on opposites of the object seems to be the *explanans*. In the second instance, the nature of the object is the *explanandum* and the opposing properties are the *explanantia*.

If we turn to the value thesis, we again see a similar pattern. There is a problem with opposites according to common ways of understanding the world: one and the same thing may in fact be both good and bad at the same time. Sea-water, for instance, is both pure and impure. As I argued in Chapter 4, this initially seems problematic; hence it is an *explanandum*. But Heraclitus seems to solve this apparent problem by promoting the idea that the value (i.e. goodness) of objects is respondent-dependent (i.e. dependent on a *kind* of respondent). Hence, goodness is goodness *for,* not goodness *simpliciter*. This is an *explanans* sufficient to explain how a single object can be both good and bad. But the opposing properties do explain something of the nature of the object valued. Hence sea-water really is an object that is both good and bad. It is in the nature of sea-water to be both pure and impure.

So, while I think Heraclitus is criticizing his predecessors for choosing certain opposites to explain the world, he also seems to be saying something very interesting about the nature of explanations in general. As I argued in section III, for Anaximander and Anaximenes opposites (either powers or processes) are explanatorily *fundamental* -- or at least more fundamental than *stuffs* and *events* in the physical world. In Anaximander, this is suggested by the procession of existents on his cosmogonical timeline: first there is the *apeiron,* then there is the *gonimon* which generates opposites, then the physical masses, and then the physical events. The meteorological events are explained by the physical masses (just air in this case), which are explained by the opposing powers, which are explained by *to apeiron.* This seems to be a strict partial order: *to apeiron* is the most fundamental item in the order of what grounds what, and the physical events are the least fundamental. The *apeiron* seems to be the most fundamental ground on Anaximander's ontology. This seems to follow a principle of Well-Foundedness: "for all *x*, *x* is either grounded by some fundamental entity or entities, or is itself a fundamental entity."[308] Anaximander's *apeiron* is only foundational because he seems to feel the need to posit a single, ultimate foundation for existence for all things. The real explanation of the physical world in his system seems to come from the opposites and their system of retaliation.

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[308] Cited from Thompson (2016), though this seems to be the standard formalization. On Thompson's analysis Anaximander would be a foundational monist since he grounds everything in a single foundational entity. Compare this with Schaeffer (2010 and 2013), who thinks that everything is grounded in a single fundamental thing: the cosmos.

For Anaximenes, it is more difficult to know precisely how the explanatory relata are related. But it seems that the changes of air to water and fire and earth etc. are meant to explain the events in the physical world. Thus the stuffs are more fundamental than the events in the physical world, but the opposites (i.e. rarefaction and condensation) are more fundamental still, since these are the processes by which air is transformed into the other stuffs. Air is fundamental in the sense that it is the originative *stuff*. As such, air may be *ontologically* fundamental. But even more *explanatorily* fundamental than air seem to be the opposing processes (rarefaction-condensation) by which this stuff is transformed and upon which the essences of the various stuffs depend. As with Anaximander, however rough it might be, Anaximenes' explanatory system seems to comprise a strict partial order following from a principle of Well-Foundedness.

But Heraclitus' scheme of explanatory relations seems to contrast with those of his predecessors. For one thing, he seems to treat the components of explanations as reciprocal, as explained above. For another, he does not seem to appeal to any sort of fundamental or foundational explanatory principle. If this is right, then, in contradistinction to Anaximander, he would subscribe to a principle of Non-Well-Foundedness: "for all *x*, *x* is neither grounded by some fundamental entity or entities, nor is itself a fundamental entity."[309] We can see evidence of this in his lack of a cosmogony and his anti-cosmogonical proclamation in B30:

[309] Thompson (2016).

> B30: κόσμον τόνδε τὸν αὐτὸν ἁπάντων, οὔτε τις θεῶν οὔτε ἀνθρώπων ἐποίησεν, αλλ΄ ἦ ἀεὶ καὶ ἔστιν καὶ ἔσται, πῦρ ἀείζωον, ἁπτόμενον μέτρα καὶ ἀποσβεννύμενον μέτρα.
>
> This cosmos, the same for all, was made neither by someone of the gods nor of men, but it always was, is and will be, an ever-living fire, being kindled in measures and being put out in measures.

This fragment suggests quite strongly that Heraclitus did not have a cosmogony, despite the fact that the early interpreters thought he did.[310] Heraclitus claims that this cosmos is beginning-less, end-less and, in a word, everlasting (ἀεὶ).[311] Since his cosmos has no beginning, he cannot be said to have a cosmogony. But what do cosmogonies have to do with fundamentality? For the non-philosophical thinkers like Hesiod, cosmogonies (better called "theogonies") seem to have very little to do with fundamentality. Hesiod invokes the muses: "from the beginning, also tell the one of them who came first" (*Theogony* 115). He then explains that it all began with Chaos and that the various deities are all the descendants of Chaos. But we are clearly not meant to infer from this that Chaos rules the world or is the most basic explanatory principle for all things. Instead, Hesiod's cosmogony proceeds to explain how Zeus, who comes much later on the cosmogonical timeline, engages in battle with the other gods and *becomes* the supreme ruler of all. Because of this, and other events in the *Theogony,* we would say that Hesiod's

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[310] Aristotle, Diogenes Laertius etc. Most scholars believe that the early tradition of seeing a cosmogony in Heraclitus stems from a Stoic misunderstanding of Heraclitus' fragments. See Burnet (1930). For a more recent defence of cosmogony in Heraclitus see Finkelberg (1998). Gregory (2007) argues that Heraclitus did not have a cosmogony.

[311] Of course ἀεὶ just means "always," but in the context of B30 I think it is safe to say that Heraclitus is using it in the sense of eternal.

cosmogony does not follow a principle of *invariance* whereby the events of the cosmos follow any sort of regularity. Philosophical cosmogonies, on the other hand, do seem to follow a principle of invariance. Anaximander's cosmos is always governed by the retaliation of opposites and Anaximenes' cosmos is always governed by the processes of rarefaction and condensation. These philosophical cosmogonies are, like Hesiod's, concerned with the beginning of the cosmos, but since they follow a principle of invariance, unlike Hesiod's, the timeline of the cosmos seems to be associated with the layers of explanatory fundamentality of the cosmos; the earlier events on a philosophical cosmogony seem to be more explanatorily fundamental than the later events on a philosophical cosmogony. If this is right, then Heraclitus, with his anti-cosmogonical proclamation in B30, seems to be suggesting that there is no fundamental principle of explanation.

But philosophical cosmogonies are only one way to introduce explanatory fundamentality; they need not be the only way. Hence one might object that Heraclitus could reject a cosmogony and still hold to a foundational principle of explanation. For Heraclitus, there seem to be three potential candidates for a non-cosmogonical, foundational principle of explanation for the cosmos: fire, *logos* or God. However, I will argue that none of these candidates can satisfy the conditions necessary to be considered a foundational principle of explanation.

Fire is actually cited in B30 as something that might appear to be a foundational principle. Heraclitus identifies the cosmos with an ever-living fire, and many have

interpreted this literally.[312] But does Heraclitus actually think that the cosmos is a fire? I think not. Elsewhere Heraclitus claims that fire *dies* when it transforms into air (B76) and so the ever-living fire in B30 cannot be a literal fire. Instead, I think the fire in B30 is symbolic of the change in the cosmos, since, as B30 states, the fire is kindled in measures and put-out in measures (μέτρα).[313] The point in B30 is not that the universe is a literal fire, but that, like fire, it is in constant change, though this change is regular (as evidenced by the μέτρα). So fire seems to be a symbol of the ordered change in the cosmos. Hence, it does not itself seem to be a foundational principle of explanation.

Instead of fire, some might claim that the *logos* is a foundational principle of explanation for Heraclitus.[314] There is much debate in the literature over Heraclitus' novel use of *logos*, but it seems to me implausible that Heraclitus conceived of the *logos* as a foundational, metaphysical principle. If, for Heraclitus, the *logos* were an independent, metaphysical principle governing the cosmos, then he would have used the term *logos* in

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[312] Most notably, Aristotle in antiquity and Jonathan Barnes (1979) more recently have argued that Heraclitus is a material monist who supposed that all things are actually fire in altered guise. I have argued in Chapter 1 that Heraclitus is not a material monist.

[313] In taking fire as a symbol for organized, cosmic change, I follow Graham, who says that fire is "fundamental just by being symbolic of the constant change that the elements undergo" (2006, p. 127). There are three competing solutions to understanding the privileged status of fire in Heraclitus' philosophy: 1) the *material monist* view which states everything is fire under an altered guise (for a good representation of this view, see Barnes (1979), pp. 60-64), 2) the *cosmogonical* view which states that everything *comes from* fire, and 3) the *ekpyrosis* view which states that there are periods of cosmic conflagration (for a good representation of this view see Reeve (1982)). Against 1), I have already argued that Heraclitus is not a material monist. Against the *cosmogonical* view, it is hard to see how everything can *come from* fire if Heraclitus states that the "*kosmos* ... is *everliving* fire." The *ekpyrosis* view, at least the most recently defended version, commits itself to a form of material monism (see Reeve (1982) as well as a criticism of this view by Kirk (1959)).

[314] Most recently McKirahan (2010) and Curd (2013).

such a radically novel manner that it would have had no resemblance to the standard, non-philosophical meaning of *logos* in the 5th century B.C. As Johnstone (2014) argues, the common usage of *logos* was to denote a structured account meant to convince someone of something. Thus, following Johnstone, it seems best to me to think that "Heraclitus denotes by the term '*logos*' neither his own discourse nor a cosmic law, but rather the world's orderly and intelligible (i.e. comprehensible, understandable) presentation of its nature to us throughout our lives" (p. 21). On this reading, the *logos* is simply the world's presentation of its nature as orderly and intelligible, not the foundational explanatory principle of the cosmos itself.

Still others might claim that Heraclitus' God (i.e. ἕν) is the foundational principle of explanation for the cosmos.[315] While I have argued that God is the principle of *order* for the cosmos, Heraclitus seems to suggest in B10 that neither God nor the world is foundational. He claims that "one from all things and all things from one" (ἐκ πάντων ἓν καὶ ἐξ ἑνὸς πάντα). I have argued in Chapter 3 that the ἓν here refers to the one divine being. The "from" (*ek*) might be suggestive of cosmogonical language. In Anaximander A10, it is claimed that "hot and cold separated off at the coming to be of the world-order and from (or, after) this (*ek toutou*) a sort of sphere of flame grew." The preposition *ek*, when used in a cosmogonical context, might signal a sort of cosmogonical movement from fundamental to derivative. Heraclitus' point in B10 might therefore be that "all things" and "one" are mutually dependent, such that neither is more fundamental than the

[315] Curd (2013) suggests that the *logos* is divine and that the divine *logos* is foundational.

other. In other words, all things hold in virtue of the one (i.e. God), and the one holds in virtue of all things. What might this mean? On my reading, Heraclitus used ἐξ ἑνὸς πάντα to mean that all things are explained by the one divine thought plan that orders the universe. Specifically, the orderliness of all things is dependent on ἓν (God). But Heraclitus used ἐκ πάντων ἓν to mean that God is dependent on all things. How? In the same way, I propose, that a helmsman is dependent on a ship; while we could conceptualize a shipless helmsman, a helmsman in a shipless world is no helmsman at all.[316] A ship explains in part what a helmsman is and it is in this way that I think πάντα explain ἕν. B41 states that "The wise is one: knowing the thought/plan that steers all things through all." I argued in Chapter 3 that Heraclitus' God is merely a principle of order for the cosmos. Hence Heraclitus' wise and orderly divine being would not be what it is without that which is wisely ordered (i.e. all things). I do not mean to suggest that Heraclitus' God couldn't exist if the world didn't exist; rather, what God is seems to be dependent on all things. πάντα explain in part what the divine being is: something that steers *all things*. In this way, ἕν accounts for all things and all things account for ἕν: steerer and thing steered are mutually dependent and stand in a relationship of reciprocal explanation.

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[316] The helmsman illustration is Heraclitus' own. B64 states that "Thunderbolt guides (οἰακίζει) all things." Recall that the verb οἰακίζει derives from the noun οἴαξ which is a ship's rudder. In B41 Heraclitus states that "The wise is one: knowing the thought/plan that steers (ἐκυβέρνησε) all things through all." Recall that the verb ἐκυβέρνησε derives from the noun κυβερνήτης, which means the helmsman who steers the ship with the οἴαξ.

From this analysis I believe it makes good sense to interpret Heraclitus' scheme of explanation as following a principle of Non-Well-Foundedness, whereby "for all *x*, *x* is neither grounded by something fundamental, nor is itself something fundamental."[317] This does not mean that the world cannot be explained; the world always has been the way it is and always will be that way, and various parts of it make sense of other parts via Reciprocal Explanation.

What might this all mean? If I am right, we can draw a few conclusions about Heraclitus' interactions with his predecessors. First, as described above, it seems as though Heraclitus is criticizing his predecessors for treating certain pairs of opposites as explanatory principles for the whole cosmos. Why? Because there are many oppositional pairs to choose from and it isn't obvious why one pair might be preferred over others. Furthermore, I take it that Heraclitus intended his reader to see that oppositional pairs aren't obviously explanatory. They are themselves *problemata* in many instances, and thus *explananda.* This does not mean that they cannot explain things. Nevertheless, I take it that Heraclitus' point is that we cannot treat them as explanatorily *fundamental* for the world. This seems to introduce a further point of disagreement between Heraclitus and his predecessors: on Heraclitus' account, there does not seem to be any fundamental explanatory principle. Thus, as I read him, Heraclitus criticizes his predecessors for thinking that the world can be explained by a fundamental explanatory principle and a

[317] I do not mean to argue that Heraclitus consciously asserted this claim. Rather, I believe his fragments show evidence of denying a principle of Well-Foundedness and his fragments seem to admit of a principle of Non-Well-Foundedness. Thus it seems most probable to me to think of Heraclitus as espousing a principle of Non-Well-Foundedness.

strict partial order of explanatory relations following from it. The world always has been the way it is, and various parts of the world explain other parts, but there is no fundamental principle of explanation.

This is a long answer to the question asked at the beginning of this chapter: what exactly is Heraclitus' interest in opposites, such that his fragments seem to convey three distinct, philosophically interesting theses? The short answer is that Heraclitus, in the first place, saw opposites as requiring explanations. His theses provide these explanations. But there is more: the opposites can also serve as explanations of certain things in the world (e.g. the nature of elements, the nature of objects, and the nature of objects of value).

VII. Conclusion

Heraclitus treats opposites as *explananda* and offers three philosophically interesting theses serving as their *explanantia.* The result is an interesting, and unique, philosophical account of the world. Heraclitus is interested in opposites, in part, because he saw the need to criticize the use of opposites in his predecessors, Anaximander and Anaximenes. For them, the opposites were explanatorily fundamental to the physical world. By providing many examples of problematic cases of opposites, Heraclitus is implicitly criticizing them for thinking that we can so simply take opposites as *explanantia* for the physical world. Instead, he treats opposites as *explananda* and his opposites theses operate as *explanantia.* This connects with Heraclitus' interest in the orderly unity of the cosmos, as discussed in Chapter 4. Heraclitus deals with difficult cases of opposites (opposites changing into opposites, opposites collocating and opposing

values being held by the same object) in order to demonstrate that the world is in fact orderly and therefore unified. Interestingly, Heraclitus seems to subscribe to several principles of explanation that are of interest even to metaphysicians today: the principle of Reciprocal Explanation and the principle of Non-Well-Foundedness. Heraclitus denies explanatory fundamentality, but promotes the idea of a cosmos whose various parts explain its other parts.

Conclusion

In this dissertation I have argued for a novel interpretation of Heraclitus' use of opposites. In the introduction I identified what I called the problem of opposites for Heraclitus. The problem of opposites is that it is hard to understand the motivation behind Heraclitus' use of opposites, since the pairs of opposites he provides are both numerous and varied. Most scholars have attempted to formulate a single thesis under which to subsume all of Heraclitus' use of opposites. I have argued that this approach fails since it does not appreciate the variety of examples and uses of opposites in Heraclitus. Furthermore, formulating a single thesis seems to have the unfavourable result that Heraclitus' philosophical insights become quite banal. In sum, there are two assumptions made in the scholarship: 1) scholars have assumed that Heraclitus was attempting to say precisely one philosophically interesting thing by formulating a single thesis under which to subsume all the opposites fragments. And 2) scholars have assumed that Heraclitus was attempting to explicate something about the formal relation between opposites (i.e. opposites are essentially connected). Against the first assumption, I have argued in this dissertation that Heraclitus was attempting to say several things concerning opposites. Against the second assumption, I have argued that Heraclitus was attempting to convey philosophical insights concerning opposites that extend beyond the formal relation between opposites. On my interpretation Heraclitus' opposites turn out to be *problemata.* Heraclitus cites them because they are, for him, *explananda.* He seems to advance three

distinct theses concerning theses problematic opposites. On my interpretation these theses turn out the be the *explanantia* for these *explananda.*

In Chapter One I attributed to Heraclitus the first opposites thesis. This thesis states that *the world contains opposing stuffs which transform into one another in such a way that they are transformationally equivalent, and therefore unified.* I also argued that this opposites thesis can only account for some of the instances of opposition cited by Heraclitus. Hence, it can only be one opposites thesis among several. In Chapter Two I argued for a second opposites thesis that could account for more instances of opposition in Heraclitus. This thesis states that *objects are ontologically dependent for their* existence *(i.e.* that *they exist) and their* identity *(i.e. their 'nature' or* φύσις*) on opposing, yet essential properties which are necessarily inherent in them*. This thesis is able to account for many additional instances of opposition in Heraclitus. In Chapter Three, I offered an account of Heraclitus' theology, since he seems to associate God with the opposites in some way. I argued that Heraclitus' God is merely a principle of order permeating the cosmos, rendering it unified and intelligible. Hence Heraclitus' God orders the opposites, rendering them intelligible. I argue that Heraclitus' opposites are philosophical *problemata,* and humans are able to understand them because there is a divine orderer at work in the cosmos. In Chapter Four I attributed to Heraclitus the third and final opposites thesis: *it is possible for one and the same object to have opposing values* (*i.e. to be both objectively good and objectively bad*). This is so since what is good is always good *for* a kind of respondent, and what is good for one kind of respondent is

possibly not good *for* another kind of respondent. The only exceptions to this are the orderliness of the cosmos and our apprehension of it. Finally, in Chapter Five I argued that Heraclitus cited many examples of problematic cases of opposites because he was implicitly criticizing his Ionian predecessors for thinking that we can adequately explain the physical world by appealing to pairs of opposites as *explanantia*. Instead, Heraclitus treats opposites primarily as *explananda* and his opposites theses operate as *explanantia.* This connects Heraclitus' interest in opposites with his interest in the orderly unity of the cosmos, as discussed in Chapter 4. Heraclitus deals with difficult cases of opposites (opposites changing into opposites, opposites collocating and opposing values being held by the same object) in order to demonstrate that the world is in fact orderly and therefore unified. While opposites are primarily *explananda* for Heraclitus, he does recognize that opposites can serve as *explanantia.* Opposites seem to account for the nature of certain objects (e.g. fire is "need and satiety"). Opposites also seem to account for the nature of the elements insofar as they are distinct from one another. Hence opposites serve both as *explananda* and *explanantia* for Heraclitus.

My interpretation of Heraclitus as a whole advances our understanding of him in several ways. First, it provides a new and better understanding of Heraclitus' use of opposites in the extant fragments. I argued in the Introduction that scholars have not taken sufficiently seriously the fact that Heraclitus' opposites are *numerous* and *varied.* My interpretation is capable of explaining this feature of the fragments: Heraclitus used numerous and varied instances of opposites to show that opposites cannot so easily be

taken to be explanatory principles. Rather, they are features of the world that require different explanations. Hence, on my view, Heraclitus offers several opposites theses to explain the different kinds of opposites in the world.

The second way in which my dissertation advances our understanding of Heraclitus is that it offers a new way of understanding how Heraclitus relates to his Ionian predecessors. While there have been a few attempts to do this, I have examined a new aspect which connects these thinkers: the precise role of opposites in their schemes of explanation. Hence, this dissertation offers a new understanding of how Heraclitus fits into the history of philosophy: he argued against Anaximander and perhaps Anaximenes, that opposites cannot so simply be taken to be explanatory principles; opposites require explaining.

The third way in which this dissertation advances our understanding of Heraclitus is that he appears to be even more recognizably a proper philosopher. I don't mean to suggest that others haven't considered Heraclitus a philosopher (though some might not consider him a philosopher). Rather, I mean that the interpretation I offer of Heraclitus portrays him as having a particularly philosophical project. Some have complained that Heraclitus does not offer arguments in the fragments, and for this reason have held that Heraclitus isn't a proper philosopher, or at least not a very good one. However, if I am right that Heraclitus treated opposites as *problemata* requiring *explananda*, then Heraclitus' explanation of opposites appears to be a proper philosophical project. For one, he seems to have a distinctly philosophical method: identifying conceptual problems and

offering solutions. For another, his interest in the explanatory role of opposites suggests that he is interested in some of the formal features of explanatory schemes. Since this is a subject matter much discussed in contemporary philosophy, this dissertation gives evidence that Heraclitus was interested in a topic which today we call "philosophical." These are the main ways in which this dissertation, as a whole, advances our general understanding of Heraclitus.

In addition to these general ways in which this thesis as a whole advances our understanding Heraclitus, each chapter of this dissertation advances our understanding of a specific part of Heraclitus' thought. Chapter 1 advances our understanding of Heraclitus' elemental philosophy. Chapter 2 advances our understanding of Heraclitus' use of φύσις and his characterization of mid-sized objects. Chapter 3 advances our understanding of Heraclitus' theology and its relation to the opposites. Chapter 4 advances our understanding of a dimension of Heraclitus' ethical thought concerned with value. Chapter 5 advances our understanding of Heraclitus' relation with his Ionian predecessors and the precise role opposites play in Heraclitus' scheme of explanation for the cosmos. In this way, each chapter advances our understanding of a specific part of Heraclitus' thought.

Finally, the conclusions of this dissertation, if they are accepted, suggest potentially fruitful further lines of inquiry in the study of early Greek philosophy. Chapter One should have some ramifications for future research on the development of early Greek elemental theory and its development into the elemental theory of Aristotle. There

is some difficulty in understanding the nature of early Greek elements. Are they powers? Are they stuffs? If Heraclitus held the elemental theory I think he did, we might be able to understand better how earlier and later thinkers on the presocratic timeline conceived of their elements.

More significantly I think this dissertation calls for a new look at the philosophical use of opposites in early Greek philosophy. G. E. R. Lloyd's *Polarity and Analogy* is a significant contribution to this area of early Greek thought, but it is largely a work of classics, not philosophy. I believe more philosophical sense can be made of the use of opposites in early Greek thought by determining the precise function opposites play in their systems of explanation. While I have attempted to do this in Chapter Five, more work remains to be done on Anaximander and Anaximenes and the proper role of opposites in their philosophical thought. Furthermore, if my interpretation of Heraclitus' use of opposites in Chapter Five is correct, we might be able to learn something about how later philosophers like Anaxagoras and Empedocles used opposites. Exploring how opposites function in the explanatory schemes of the early Greek thinkers will undoubtedly show us new connections between the many and varied figures that stand at the beginning of a long tradition of explaining the cosmos.

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