7.

THE HARMONY OF OPPOSITES
Heraclitus and the Logos of the Divine Fire

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ABSTRACT
The profoundly Musical philosophy of Heraclitus is put under the spot-light. We witness the continuity of his *astronomy* and *meteorology* with that of the Milesians. The doctrines of '*exhalations*' and the *transmutation of the Elements* are compared with the ideas of Anaximenes. The notion of **fire** as an *arche* is examined. The relation of **fire** to the other Elements within the structure of the ***kosmos*** is explored. The controversial question of the ***ecpyrosis***, the notion of the *Great Year*, and his relations with the Stoics are clarified. The influential doctrine of *flux*, in both its moderate and extreme forms, is outlined, along with its considerable impact on Plato. The various controversies surrounding his famous '*river-statement*' are reviewed. His continuity with Pythagoras is observed in the modelling of the inter-relations between the *opposites* as a ***harmonia*** or conflict ('*war*') between alternative archetypes. The '*unity of the opposites*' and the whole question of the relations between *the One and the Many* is examined, showing his essential continuity with Anaximander. The various common and metaphysical meanings of his key term ***logos*** are compared, and the reasons why this term is absolutely vital to Music. His commentaries on *psychology*, the *senses*, *politics*, and *ethics* are put into the context of earlier Presocratic philosophy. We explore his relations with *Orphic thought* and the religious orientation of his philosophy. His comments on the *soul*, *immortality*, *reincarnation*, the place of popular cults, and his *Theology* in general are put into perspective. His obscure *oracular* writing style and his focus on *paradox* are related to Xenophanes and the prophetic impulse. Heraclitus is shown to be an amazingly eclectic writer who syncretized the essential core of the philosophies of Anaximander, Anaximenes, Pythagoras, and Xenophanes. His genius consisted not in the invention of new doctrines as such, rather in his powerfully 'dense' expression of a common Musical paradigm (the Resonance Paradigm). His important place in the very center of the Presocratic movement is thereby clarified.

*'listening not to me but to the **logos**,*
*it is wise to agree that all things are **one**.'*
-Heraclitus, fr. 50 (in Hippolytus *Ref.* Ix 9, 1)

'the beginning and the end are common on the circumference of a circle'
-Heraclitus, fr. 103 (in Porphyry, *Quaestiones Homericae* xiv 200)

'I believe Heraclitus says that all things move on and nothing remains
at rest, and likening existing things to the flow of a river
he says that you could not step into the same river twice.'
-Plato, *Cratylus* 402a

*'Descrying who thou art, O **Zeus**, is something hard to puzzle out.*
*Be thou **Necessity** of **Nature**, or mankind's intelligence—*
I invoke thee, none the less!'
-Euripides, *Trojan Women* 886-7

HIS DATE AND LIFE

One of the greatest of all the Greek philosophers, Heraclitus was born around 540 B.C. in the old and wealthy Ionian city of Ephesus. Although he probably travelled to other places at some points during his life, he nevertheless continued to live there until his death around 480 or a little later. According to Apollodorus' *Successions*, he 'flourished' (i.e. he was about 40) during Olympiad 69 (i.e. 504-501 B.C.) and died at the age of 60. Aristotle reported that Anaximenes and Empedocles also died aged 60, and we suspect that this number was chosen simply because it is of such musical importance. He may actually have lived a little longer than his 'official' 60 years. Yet there is little reason to doubt that Apollodorus' dating is essentially correct, since Heraclitus mentioned Xenophanes, Pythagoras, and Hecataeus in fragment 40. He was thus at his prime in the middle of the reign of King Darius; indeed, he was a subject of the Persian Empire.

Attempts have been made to date Heraclitus' activity a little later since, in fragment 121, he mentioned the expulsion of Hermodorus from Ephesus. Some speculate that this event occurred after 478, but there is no factual basis for it. Apparently Hermodorus went to early Rome, where he was involved in the legislation of the Roman Twelve Tables which were framed on a Greek model. He was definitely a historical figure and, according to Pliny (*H.N.* xxxiv 642), a statue of him was erected in the Comitium. But the dating of his emigration is impossible to prove, and could well have been earlier than 478.

Heraclitus was born just after the deaths of Thales and Anaximander, so that he could not have actually met them. Also, Anaximenes died when Heraclitus was still a teenager, so that there is little chance of a direct connection there. The situation is different with Pythagoras and Xenophanes, who were both about 30 years his senior. Here a personal interaction was certainly possible. Pythagoras died when Heraclitus was in his prime (around 500 B.C.). Interestingly enough, Xenophanes (who lived to such an old age) died around the same time as Heraclitus. We can safely conclude that the possibilities for 'collusion' with teachers was greatest with Xenophanes, then Pythagoras.

According to Apollodorus, Parmenides was also born in 540, making Heraclitus and Parmenides exact contemporaries. However, there is less certainty over the dating of Parmenides. An alternative tradition (found in Plato's *Parmenides*) points to his birth at around 515. If so, then Parmenides was around 25 years younger than Heraclitus. Some scholars have found oblique references to Heraclitus in the writings of Parmenides, promoting the theory that he must have been a bit younger than Heraclitus. At any rate, they were near contemporaries. Parmenides also had potential contacts with Xenophanes and Pythagoras. The Pythagorean philosopher Hippasus of Metapontum, with whom Heraclitus had many doctrines in common, was also about 20 years younger than him, and may have been a student, although this is controversial.

Very little of any certainty is known about his life. We know that he came from a wealthy aristocratic family, a descendant of the family that founded Ephesus. According to Strabo (xiv, 632) Ephesus was founded (probably mythically) by Androclus son of

Codus the king of Athens. Ephesus became the central city of Ionia, and was famous for its gigantic temple of Artemis. As part of this 'royal clan,' Heraclitus was entitled to certain privileges, which were probably religious and ceremonial, such as front seats at the games. Presumably Heraclitus was 'head' (***basilius***) of this clan and entitled to the 'kingdom,' but ceded it to his brother out of 'pride.' Apparently he wanted no part in practical politics. Various fragments attest to his contempt for the political establishment in Ephesus.

Since Heraclitus and Pythagoras were undoubtedly the most influential (in the long term) of the Presocratic philosophers, many stories were told about both of them. However, they are largely spurious and based only on direct inferences from fragments. As is also the case with Pythagoras, many of these stories have a musical componant hidden within them. Heraclitus was subject to religious veneration by the Stoic school of Hellenistic philosophy, and many biographical anecdotes were likely invented in order to justify Stoic ideas. Other stories were satirical or even malicious, invented by opponants of Stoicism. As is the case with Pythagoras, few of these stories have any real credibility.

The most comprehensive collection of such stories is found in Diogenes Laertius' *Lives* (ix, 1-3). It is worth an examination, since it reveals how these early philosophers were treated late in Greek philosophical history. The text is amenable to division into short segments. We are using the translation by J. Barnes:[1]

'Heraclitus, son of Bloson (or, as some say, of Heracon), from Ephesus. He flourished in the sixty-ninth Olympiad. He was uncommonly arrogant and contemptuous, as indeed is clear from his treatise itself, in which he says [fr. 40]*: "Much learning does not teach sense—otherwise it would have taught Hesiod and Pythagoras, and again Xenophanes and Hecataeus." For he says that the wise is* ***one*** [fr. 32], *grasping the knowledge how all things are steered though all* [fr. 41]. *And he said that Homer deserved to be thrown out of the games and flogged—and Archilochus too'* [fr. 42].

Diogenes has correctly reported the dating of Apollodorus, then proceeded to make various comments based on assumed interpretations of his fragments. Heraclitus had a reputation as an aristocratic hater of 'the mob,' and humanity in general. In various fragments he also criticized his predecessors. Diogenes continues:

'He also said [fr. 43]*: "You should quench violence more quickly than arson." And* [fr. 44]*: "The people should fight for the law as for the city wall." He also assails the Ephesians for expelling his friend Hermodorus. He says* [fr. 121]*: "The Ephesians deserve to be hanged to the last man, every one of them; they should leave the city to the young. For they expelled Hermodorus, the best man among them, saying: 'Let no one of us be best: if there is such a man, let him be elsewhere and with others.'" When they asked him to write laws for them, he refused on the grounds that the city had already been mastered by a wicked constitution. He retired into the temple of Artemis and played dice with the children. When the Ephesians stood round him, he said: "Why are you staring? Isn't it better to do this than to play politics with you?"*

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[1] J. Barnes, *Early Greek Philosophy* (Penguin Books, 1987), p. 105-106.

Although such stories probably have no factual basis, they nevertheless tell us something about his character and lifestyle. Heraclitus was counted among those religious and philosophical figures (which also included, for example, the Buddha Gautama) who were born into privilege but rejected it in favour of a life of contemplation. He repudiated practical politics in favour of a more esoteric 'musical politics.' Diogenes continued with more details on his life history:

'In the end he became a misanthrope, leaving the city and living in the mountains where he fed on plants and herbs. Because of this he contracted dropsy and returned to the town. He asked the doctors in his riddling fashion if they could change a rainstorm into a drought. When they failed to understand him, he buried himself in a byre, hoping that the dropsy would be vaporized by the heat of the dung. But he met with no success even by this means and died at the age of sixty... '

This section looks like it was mainly intended as a satire or malicious jibe, in order to make him appear ridiculous. His extreme misanthropy is extrapolated from his fragments which criticize his forebears and contemporaries. One implication here is that he may have lived a life of contemplation and vegetarianism. Vegetarianism comes from fragment 5 which criticizes blood-pollution. But he may in fact have been vegetarian like Pythagoras (with whom he has many resonances), since many fragments show the influence of Orphism. The story about dropsy is decidedly malicious. Dropsy is caused by an abnormal accumulation of fluid. Hence this tale is derived from his fragment 77: *'It is death for souls to become wet.'* The image is one of him trying to 'dry out' like an alcoholic. He was famous as an obscure propounder of riddles and this is made out to have cost him his life. The doctors, whom he appears to criticize in fragment 58, do nothing to save him. He buried himself in a dung pile echoing fragment 96 which states: *'Corpses are more fit to be thrown out than dung,'* one of his most offensive statements to normal sensibilities. In trying to 'exhale' or vaporize the moisture by *heat*, the writer is referring to the cosmological theory of *exhalations* from the **sea** by **fire**. All of these anecdotes must be regarded as apocryphal.

The same goes for other descriptions which were also quite familiar and widespread. For example, Sotion (quoted by Stobaeus *Ecl.* III, 20, 53) called him *'the weeping philosopher'* in contrast to Democritus, who was *'the laughing philosopher.'* The one wept, while the other laughed at the follies of mankind. This story may have originated in Theophrastus (ap. Diogenes Laertius ix, 6) who claimed that Heraclitus had *melancholia.* Then again, it may have arisen from the famous 'river-statement' (all things flow or change like a river)—hence the 'weeping.'

Diogenes continued: *'He was remarkable from an early age; as a young man, he used to say that he knew nothing, and when he had become adult that he had learned everything. He was no one's pupil, but said that he had inquired into himself* [fr. 101]. *Sotion reports that some say that he was a pupil of Xenophanes, and that Aristo, in his book* On Heraclitus, *says that he was actually cured of the dropsy and died of another disease. Hippobotus too says this.'*

Heraclitus was, indeed, a remarkable person. Possibly he had had a mystical experience or some other unique gift which set him apart from normal people. However, his 'anti-social' qualities were increasingly exaggerated by later generations, so that he came to be seen (at worst) as a people-hating loner who had no connections with anyone. Amongst the ancients, this was perhaps only an 'ironic' sign of respect—a way of saying that his uniqueness set him apart from the mass of 'average' humanity. Modern scholars have been quick to seize this dubious evidence in support of their erroneous theory that Heraclitus was an isolated figure whose philosophy had absolutely *no connection* to any of his predecessors or contemporaries. We will see that this theory is a fiction. Not only is his philosophy heavily indebted to the Milesians, Pythagoras, and Xenophanes, but he was also (justly) famous during his lifetime, and had many followers. Far from being an isolated eccentric recluse, Heraclitus fell squarely into the mainstream of the tradition initiated by the Milesians.

SOURCE MATERIALS ON HERACLITUS

Heraclitus wrote short statements of incomparable density, balance, and ambiguity. Often they involved riddles or paradoxes, with several alternative explanations. As a result, he has always provided a challenge to the ingenuity of interpreters. Very few could resist him; consequently, there is a large body of historical commentary, although much of the ancient material inevitably has been lost. Some commentators have been careful scholars, some have been original philosophers inspired by him, some have been religious teachers who found some fragment or other to be an anticipation of their own beliefs. In spite of this army of commentators, very little universal agreement about what the writings were all about has emerged. Indeed, accounts of Heraclitus' ideas often differ wildly from each other. Heraclitus himself has remained somewhat of a riddle, increasing the modern fascination in his work.

It is quite likely that he already achieved fame (or notoriety) during his lifetime. Certainly after his death and throughout the 5th century he had a lively band of followers who were naturally called 'Heracliteans.' They inevitably came under the sceptical influence of the Sophist movement at the end of the century. The only such follower to be known to us was Cratylus, an older contemporary of Plato. However, Cratylus presented only a debased or distorted picture of Heraclitus, focussing on an exaggerated or extreme version of the 'Heraclitean flux' doctrine as a justification for epistemologica skepticism. We only know of Cratylus through the Platonic dialogue *Cratylus*, and there exists an endless debate over how much of Cratylus' extremism is actually a fabrication of Plato's. At any rate, the Heracliteans form an unreliable source of quotes from Heraclitus.

Plato discussed Heraclitus openly in several dialogues, such as the *Cratylus* mentioned above, and the *Theaetetus*. But he dealt only with the 'flux' doctrine, and gave it only in its extreme form. Perhaps he did this because it would then be easier to refute, since the context usually involved a defense of the Pythagorean position on various matters. Plato rarely ever gave a verbatim quote of Heraclitus, and mentioned him mostly in humorous, ironical, or satirical contexts. He never attempted a serious penetration of Heraclitus' ideas or anything like an objective assessment of him. In spite of all this, he

was profoundly affected by aspects of Heraclitean philosophy. As usual, Plato is a complex case in his relations to his predecessors, and we will examine the Platonic perspective of Heraclitus later in this essay. Suffice it to say here that Plato was also a poor source of Heraclitean quotes and analysis.

Aristotle happily accepted the Platonic version of 'Heraclitean flux,' and extended it further. Hes irritated by Heraclitus, and accused him of not fulfilling his own standards of logic. Specifically, he attacked him for denying the law of contradiction in his assertion that opposites are 'the same.' Aristotle felt that Heraclitus was altogether too close to Xenophanes, who also *'made nothing clear.'* His follower Theophrastus also claimed that Heraclitus' work must be either unfinished or inconsistent. Consequently, Aristotle largely ignored him and his massive output of writings also constitutes a poor source for reliable information on Heraclitus. Yet Aristotle also found it convenient to classify Heraclitus as a 'naïve physical monist' whose conception of **fire** functioned like Thales' **water** and Anaximenes' **air** as a purely *'material cause.'* He squeezed Heraclitus into his convenient mold for 'understanding' early philosophy. Unfortunately, this analysis is still surprisingly influential among modern scholars, who want to interpret Heraclitus' **fire** simply as another *material substance*. Aristotle thus further damaged any hope of coming to an adequate understanding of Heraclitus' philosophy.

The founder of Stoicism, Zeno of Citium, and his chief disciples Cleanthes and Chrysippus, were quite influenced by Heraclitean philosophy. Heraclitus became a religious figurehead and authority for matters of cosmology for the Stoic school of thought. The Heraclitean term ***logos*** was supremely important to them. Thus Stoicism was a spiritual descendent of the earlier 'Heracliteans.' However, the Stoics interpreted him according to their own system, which also embodied elements from Aristotle totally foreign to Heraclitus. They were fond of syncretically 'accommodating' the views of earlier thinkers to their own. That being said, there was still a lot of Heraclitus within Stoicism. Unfortunately, the problem then arises concerning which aspects are authentically Heraclitean and which are Stoic mutations. This inevitable problem has allowed modern scholars to deny many Heraclitean doctrines to Heraclitus himself, because they are judged to be 'Stoic projections.' The importance of Heraclitus within the Stoic school had therefore further complicated modern efforts to understand Heraclitus himself. Yet, in spite of these problems, Stoicism helped to preserve certain Heraclitean doctrines and attitudes, and kept alive discussion over various Heraclitean fragments. Because of Stoic influences, the ideas of Heraclitus were still influential within the Hermetic literature late in ancient history.

Heraclitus continued to be 'all things to all people.' Justin Martyr included him along with Socrates, Abraham and others, among those who lived with the ***logos*** and hence deserved the status of 'almost Christian.' The term itself was adapted to Christian theology, under the influence of late Roman Stoicism. Meanwhile, the Christian apologist Hippolytus, bishop of Rome in the third century, used Heraclitus in his efforts to demonstrate that various Christian heresies were in fact resuscitations of the pagan philosophers. He thought that the heresy of Noetus was rooted in the philosophy of

of things [the ***logos*** or the ***harmonia***] *has a tendency to conceal itself.'* The seeker must make an effort in order to extract the 'nugget' from within the cryptic statement. Thus we have fragment 22 (found in Clement, *Stromateis* 4.4.2): *'Those who seek **gold** dig up much **earth** and find little.'* Note the play on Musical symbolism. Here the '*gold*' is a proxy for **fire**, '*digging up much earth*' is a musical description of the functioning of the DYAD, and '*finding little*' refers to the One which is itself the '*gold*' sought after and is itself in special relation to the DYAD. In this example, we can see that the fragment is amenable to a number of interpretations. Although on the surface it is ethical in import, it also 'hides' a musical meaning that is always consistent with the traditional Musical symbolism. Heraclitus is a master at displaying (while concealing) this symbolism.

Heraclitus is the only early philosopher who is 'allowed' a symbolic expression by the modern scholarly community. All of the other early philosophers are interpreted in a one-dimensional literalistic manner, and a few have even attempted to treat Heraclitus is this way, especially when they discuss his cosmology. By this approach, they can justify their over-riding paradigm for Presocratic philosophy—Heraclitus must be *isolated* from his compatriots. His philosophy must be 'in competition' with his fellow cosmologists. The issue of music is used in the same way to isolate Pythagoras. By permitting a symbolic expression to Heraclitus alone they set him apart from the other 'rational scientists.' However, all of the early philosophers used a symbolic expression; indeed, they all used the same Musical symbolism based on the Elements, the Forces, and related images. Heraclitus, by the very power and adroitness of his expression, forces us to realize this, and gives us a deeper insight into the Musical symbolism itself.

A good example of Heraclitus' use of grammatical ambiguity is found in a commentary by Aristotle. He is complaining that Heraclitus does not express himself clearly in a 'logical' manner:[3] *'It is difficult to punctuate Heraclitus' writings because it is unclear whether a word goes with what follows or with what precedes it. E.g. at the very beginning of his treatise, where he says* [beginning of fragment 1]*: "Of this account* [***logos***] *which holds forever men prove uncomprehending," it is unclear which 'forever' goes with.'* The term '*forever*' (***aiei***) could refer to the ***logos*** itself, or to the notion that people '*always*' (***aiei***) prove uncomprehending, or to both. Also, the verb translated '*holds*' also means '*is true*' and comes from the participle of the verb '*to be*' (***eontos***), so that ***eontos aiei*** could also be translated as '*is everlastingly existent*,' an epithet used by the Stoics to describe their metaphysical ***logos***. Was this the intention of Heraclitus, or was he simply speaking of the ***logos*** as his own account of the story (another meaning of the term ***logos***)? These are the sorts of issues that 'plague' Heraclitus' writings, and arise through wordplay and syntactical ambiguities.

Sometimes his puns are rather obvious. A famous example is fragment 48 (found in the *Etymologicum Magnum*, sv. bios): *'The name of the bow* [***bios***] *is life* [***bios***], *but its function is **death**.'* An accent on the final syllable means '*bow*,' while the accent on the first syllable means '*life*.' Sometimes the puns are less obvious, and require an involved explanation. The overall meaning of this fragment is by no means obvious, and will be explored later. It is this sort of obscure expression that earned Heraclitus the common

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[3] Aristotle, *Rhetoric* 1407b14-18, translated by J. Barnes.

nickname of '*the Dark One*.' The satirist Timon of Phlius (ap. Diogenes Laertius ix, 6) called him '*the Riddler*.' Cicero (*de finibus* ii, 5, 15, etc.) called him '*obscurus*.' Theophrastus complained that *'he sets out nothing clearly,'* the same complaint that was lodged against Xenophanes. Plotinus complained:[4] *'He seems to speak in similes, careless of making his meaning clear, perhaps because in his view we ought to seek within ourselves as he himself had successfully sought.'* As is sometimes the case, Plotinus is expressing a valid insight into Heraclitus' psychology. He is forcing us to look below the surface.

Heraclitus' wordplays and oracular style must have influenced his younger contemporary Aeschylus whose choral style, especially in the *Oresteia*, has affinities with him. He touched all of the famous 5th century dramatists. Sometimes his obscure writing style became the butt of jokes or malicious humour, especially in 4th century Plato. Diogenes Laertius (ii, 22) related the apocryphal story of how Socrates was asked by Euripides what he thought of Heraclitus' book. He replied: *'What I understood was fine, and no doubt also what I didn't understand; but it would need a Delian diver to get to the bottom of it.'* The mention of the Delian diver is an oblique reference to Heraclitus' famous 'river-statement.' Such ambivalent sentiments of admiration yet irritation have been echoed throughout history.

The usual contemporary explanation for Heraclitus' obscure style contends that he was forced to express himself this way because his own doctrine was so obscure and subtle that it exceeded the capacity of his language to explain it. Consequently, he had to use symbol and paradox as his only recourse. This widely held theory (which can be read in any modern text on ancient philosophy) assumes that Heraclitus' doctrine was absolutely unique, totally different from his contemporaries and antecedents, and an *evolutionary advance* so striking that only symbol or simile could express it in any decent manner. The theory conveniently allows Heraclitus to be fundamentally *separated* in doctrine and expression from his forebears. Yet, as we will see, his doctrine was *the same* as his predecessors. Only his expression of it was unique and wonderfully appropriate. Heraclitus was an eclectic figure, not a heroic lone inventor of revolutionary new doctrines. He did not discover the *'inter-relatedness of the opposites,'* which was the concern of all the philosophers since Anaximander. Rather, he made particularly profound commentaries on the same cosmological doctrines which were common to all of them.

The other commonly seen modern explanation for his cryptic and symbolic style claims that his contempt for mankind was so great that he wrote his book in a manner such that most people will be perplexed by it. He would be demeaning himself if he had written it in a style that fools could understand. This explanation is based on the usual extreme exaggeration of his character as 'hater of mankind.' But this exaggeration is itself a product of late ancient history and generations of the misinterpretation of his fragments. He may never have been such a misanthropist as he was later made out to be (almost mythically by later writers). And yet there is a certain element of truth in it. Like the Delphic oracle, he was to give 'signs' and leave it up to the interpreter to discern the

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[4] Plotinus, *Ennead* iv, 8.

truth. If the reader was advanced in awareness of the Musical paradigm, he or she would see great depth, meaning, and even clarity in the fragments. If not, the staements would tantalizingly conceal their 'truth' so that the reader would be forced to 'do more homework.' This attitude was not unique to Heraclitus. Various Pythagorean philosophers, such as Philolaus, used the same approach. Such a method would 'separate the wheat from the chaff,' and allow that the deepest truths (which were profoundly religious in nature) would not fall into inappropriate hands. The same attitude generated a separation between the Greater Mysteries and the Lesser Mysteries. Not everyone was ready for 'the big one.'

Perhaps the most truthful remark on Heraclitus' extra-ordinary style comes from Diogenes Laertius (ix, 7) upon remarking on his obscurity: *'Occasionally in his treatise he fires off something of brilliant clarity, such that even the dullest can easily grasp and experience an elevation of spirit; and the brevity and weight of his expression are incomparable.'* Note the pun on Heraclitus' *arche* **fire**. It is true. Heraclitus manages to say more with fewer words than any other philosopher.

HIS BOOK

Controversy surrounds the issue over whether Heraclitus did or did not write a book. Both sides of the argument have reasonable grounds for their view, and it must be admitted that we will never be able to prove the matter one way or the other. Most skeptical is Kirk, who was following Diels. He wrote:[5] *'I hazard the conjecture that Heraclitus wrote no book, in our sense of the word. The fragments, or many of them, have the appearance of being isolated statements, or* ***gnomai****: many of the connecting particles they contain belong to later sources. In or perhaps shortly after Heraclitus' lifetime a collection of these sayings was made, conceivably by a pupil. This was the 'book:' originally Heraclitus's utterances had been oral, and so were put into an easily memorable form.'* If this is indeed the case, then it puts Heraclitus closer to the Pythagoreans, since Pythagoras taught by the same method and did not write a book. This oral method is, of course, highly musical in conception and process. We will see throughout this essay that Heraclitus had much in common with Pythagoras. The concise, striking writing style may have been aimed primarily at making the statements easier to memorize. Certainly these 'oral apophthegms' do not give the appearance of forming parts of a discursive treatise.

Plato and Aristotle mentioned that the 'Heracliteans' were devotees of the book, but perhaps this book was merely a haphazard collection of sayings of the master. Heraclitean issues were argued amongst his followers, as indicated by Plato:[6] *'The battle is far from being a slight one, but in the region of Ionia it is even greatly increasing. For the companions of Heraclitus minister to this argument with might and main.'* But the whole passage is intentionally humorous: note the reference to the '*battle*' as a take-off from Heraclitus' fragment (53) that *'war is king and father of all.'* Plato is assuming that anyone making a Heraclitean arument must be an Ephesian; yet the passage in question

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[5] G. S. Kirk, *Heraclitus: The Cosmic Fragments* (Cambridge University Press, 1954), p. 7.
[6] Plato, *Theaetetus* 179d.

deals with the ideas of Cratylus, who was neither Ephesian nor even Ionian. Plato is certainly not a reliable information source concerning Heraclitus; book. Similarly, Aristotle only gave it a passing mention.

Those who contend that Heraclitus did not write a book must explain away fragment 1 (given later), which is a structurally complex sentence, the only long fragment in existence, and *does* look very much like the introduction or prooemium of a book. Perhaps his followers wrote it as a prologue, but it gives every indication of being an authentic fragment of Heraclitus. Plato and Aristotle certainly believed that they were dealing with a book by Heraclitus and not his followers. Aristotle's full and direct knowledge of the text has already been demonstrated above by the passage from his *Rhetoric*. Many ancient writers referred to Heraclitus' book. Weighing the evidence, it seems that Heraclitus *did* write a book. Perhaps the first part of it was a continuous discursive text, followed by the famous cryptic statements. Even though the book is itself somewhat of a riddle, we will assume that it was *his* book.

We are given some information on the enigmatic book by Diogenes Laertius (ix, 5-6). Here is the relevant passage, with a commentary following:

'The book of his which is in circulation is, as far as its general tenor goes, on nature [***physis***]*; but it is divided into three accounts—one on the universe, one political, one theological. He deposited it in the temple of Artemis (having, as some say, written somewhat unclearly) in order that the powerful should have access to it and it should not easily be despised by the people. Timon gives a sketch of him as follows: "Among them Heraclitus the mocker, the reviler of the mob, the riddler, rose up." Theophrastus says that because of has impulsive temperament he wrote some things in a half-finished style and others in different ways at different times. As a sign of his arrogance Antisthenes says in his* Successions *that he resigned from the kingship in favour of his rother. His treatise gained such a high reputation that it actually produced disciples, the so-called Heracliteans.'*

It *is* possible to group the fragments into the classification Cosmology, Politics, Theology, but this ordering is rather forced and artificial. This division into three sections is unlikely to be original and its suggests a typical Stoic classification of philosophy into three compartments: Physics, Ethics, and Logic. Diogenes may have been following a late edition or compilation of his sayings, probably made in Alexandria, and exemplifying a Stoic analysis of his philosophy. Nevertheless, Heraclitus did make commentaries on all of these topics, and the three-fold division of philosophy into these subjects was certainly older than the Stoics. The original book may have been divided up into portions dealing with different issues, such as the soul, the transmutation of the Elements, the ***logos***, and so on. However, many attempts to group the fragments unambiguously into tight compartments by subject matter have been made, and none have been entirely successful. The classification into three subjects is certainly simplistic.

The story that he deposited it in the temple of Artemis is a way of saying that the treatise was essentially religious in nature, and not for the profane to handle. *'The powerful'* were those who were advanced enough to gain benefit by it. The book was not

for 'the mob' who were to be given a more meager fare. It was a common belief among ancients that the religion of the 'educated' was not the same as that for the general run of humanity. The average person would only misunderstand it and not gain the spiritual benefits. This is the most likely explanation, and not that he did it simply because he hated humanity.

Theophrastus asserted that Heraclitus had an impulsive temperament (which was described in the ancient medical practice as *melancholia*), but this judgement was made not on any evidence, just on his own opinion that the fragments are unclear and *'half finished.'* The accusation of impulsiveness may be derived from the Heraclitean fragments on *'war,'* on **fire**, and on change. He is then accused of arrogance, even though different reasons for his refusal of the kingship may actually have been more accurate. It is this sort of tenuous evidence, based on fanciful extrapolations from his fragments, which built up the picture of Heraclitus as an extreme misanthropist. The truth was probably not near so exaggerated.

Diogenes Laertius gave more information on the mysterious book later in his treatise (ix, 15). He relates:

'The story about Socrates and what he said when he looked at the treatise (having got it from Euripides, according to Aristo), I have recounted in the Life *of Socrates. Seleucus the grammarian, however, says that Croton relates in his* Diver *that a certain Crates first brought the book to Greece and that it was he who said that it would take a Delian diver not to get drowned in it. Some entitle it* Muses, *others* On Nature; *Diodotus calls it "a certain steerage to the goal of life;" others* Judgement, Manners, Turnings, One World for All…

Demetrius in his Homonyms says that he despised even the Athenians, though he had the highest reputation among them, and that though he was scorned by the Ephesians he preferred what was familiar to him. Demetrius of Phaleron mentions him too in his Apology of Socrates. *Very many people have offered interpretations of his treatise: Antisthenes, Heraclides of Pontus, Cleanthes, Sphaerus the Stoic, Pausanias (who was called the Heraclitean), Nicomedes, Dionysius—and of the grammarians, Diodotus, who says that the treatise is not about nature but about Politics and that the remarks on nature are there by way of illustrations. Heironymus says that Scythinus the iambic poet attempted to put his account into verse.'*

This passage shows that Heraclitus was the subject of lively debate, especially among Stoic circles. The opinion that the book was mainly about Politics and not Nature is a bit surprising, considering Heraclitus' traditional refusal to take part in practical politics. Yet it must be said that he was the earliest philosopher to write a number of statements concerning Politics: that is, of course, amongst the existing evidence of surviving fragments. His remarks on Politics have a decidedly Musical slant—Politics as an illustration of *'the unity of opposites.'* He was the ancestor of Plato's highly developed musical Politics, as witnessed in *Republic* and *Laws.* The *polis* (city, community) is a natural 'vehicle' for metaphors of musical relatedness.

The alternative titles for his book are also interesting. Besides the usual *On Nature,* which was a stock title given to all of the Presocratics, several other titles are given which all have musical associations. The most obvious is *Muses,* a title which could well be given to the other early philosophers as well. Diodotus' title *'a certain steerage'* is quite Stoic, and derived from Heraclitus' fragment 41: *'Wisdom is one, to be skilled in true judgement, how all things are steered through all things.'* The terms 'steerage' and 'judgement' are ultimately references to Anaximander, who used these terms in a most profoundly musical way. The title *Turnings* (***tropai***) refers to the musical cosmology which is derived from Anaximenes. *One World for All* sounds peculiarly Xenophanean. Diogenes also called it *On the Whole* (***Peri tu Pantos***). The title *Manners* is less clear; perhaps it refers to the musical process so strongly emphasized by the Pythagoreans. In these titles we can see the many influences on the philosophy of Heraclitus.

Assuming that the collection of fragments was once compiled together in some order as a book, an intriguing question arises over the sequential ordering of the fragments. Here again Heracitus has left us a riddle. Non on has ever managed to reproduce the correct sequence of the statements; indeed, the nature of the statements themselves makes it all but impossible. True, the first and second fragments are definitely in the correct positions, but after that it becomes a free-for-all. The numbering of the fragments used in this study follows the example of Diels (as do most other 20th century interpreters). Diels doubted that there ever was a book, and he arranged the statements in the alphabetical order of the ancient sources. Thus the numbering has nothing to do with any sequencing followed by Heraclitus himself. We continue to use this numbering system largely because it avoids the whole question of the original order, and because it is familiar to most modern interpreters.

It *is* possible to arrange the statements according to subject matter, and this has been done by interpreters throughout history. Burnet renumbered them according to topics after the work of Bywater (influenced by the old Stoic three-fold division) in his *Early Greek Philosophy* (first published 1892). For an example of a recent effort as good as any of them, see Richard D. McKirahan Jr., *Philosophy Before Socrates* (1994). In order to make any decent analysis of the fragments, it is first necessary to group them into relevant topics. Many scholars have drawn up such categories, and these 'lietmotifs' have tried to be a lot more faithful to the fragments themselves than the somewhat simplistic three categories envisioned by the Stoics. Such 'associations' of fragments are also employed in this study. Thus we have fragments on the soul, on politics, on religion, on ethics, on the Elements, on the ***logos***, on **fire**, on the senses, on sleep and death, on the relations between the *opposites*, on transmutation, on eternal motion, on his contempt for the lack of understanding of the many, and more. Some categories can be sub-divided into parts. Thus a general category of cosmology could include fragments on the sun, on the Elements, and so forth. Roughly a third of all the fragments (the largest single grouping) can be classified under a grand and 'oh so Musical' category: comments on *'the interrelation of the opposites.'*

At first this process of grouping seems fairly straightforward. However, three problems invariably arise which prevent any final 'rational' ordering from taking hold. Firstly, there is considerable variation between scholars about just where to draw the boundaries between categories. Different interpreters see different subject matter in the fragments. Secondly, no matter how many categories one makes and where we put the boundaries, one always seems to end up with a few fragments which are simply unclassifiable according to our well-intentioned schemes. For example, where do we classify fragment 97: *'Dogs bark at everyone they don't know.'* The classification is peculiarly dependent upon the particular interpretation.

Thirdly, and most importantly, a given fragment tends to belong to several categories *at once*, so that it is impossible to place it unambiguously in a given sequence. The statements form a complex whole which is more than the sum of its parts. Kahn expressed it well when he spoke of the 'linguistic density' of the writings,[7] *'the phenomenon by which a multiplicity of ideas are expressed in a single word or phrase'* and the 'resonance' between them, that *'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.'* In other words, the fragments form a *whole* in a manner which beautifully reflects the underlying assumptions of Music. Various parts taken together and separately form wholes within wholes. This intensely Musical nature of the statements prevents us from making a purely unambiguous linear sequence.

Consequently, my approach to this study makes no such attempt at a single, linear or discursive order. Rather, various groups of statements are considered together under a topic heading, but may are also repeated under different headings. In this way, the decidedly 'chameleon' nature of the fragments is better highlighted. We will commence the examination of his fragments with his views on religion, the divine, and his fellow humans. Slowly the various topics will wind their way toward the center of 'world.' Heraclitus' amazing book is truly a little 'cosmos' of self-referential statements about *inter-relatedness*—metaphorical expressions of the classical Presocratic-Orphic language of Music. Surely these writings must be numbered amongst the precious jewels of ancient philosophy.

COMMENTS ON RELIGIOUS PRACTICES

Heraclitus believed himself to be in possession of an absolute truth. This belief helps account for his mode of expression, which has been described as Delphic, oracular, prophetic, and inspired. He certainly was *not* writing 'rational dialectical argument' or 'scientific' philosophy. As we have seen, his fragment 93 ties him to the Delphic Apollo in giving 'signs' (similes, metaphors) rather than bluntly stated 'facts' about some hidden or revealed doctrine. He often *suggests* a thing by an ambiguous image rather stating its name outright, speaking in symbols so that the *profani* would not understand. Heraclitus is first and foremost a writer of religious philosophy (or teachings) rather than a

[7] C. H. Kahn, *The Art and Thought of Heraclitus* (Cambridge 1979), p. 89.

'scientist,' although such labels are largely irrelevant for this perios of history when science and religion were not yet in competition.

His religious preoccupations may help explain the enigmatic fragment 92 (found in Plutarch, *De Pythiae oraculis* 397a): *'The Sibyl, (according to Heraclitus), uttering with raving mouth words mirthless, (unadorned and unperfumed, reaches us with her voice up to a thousand years later, thanks to the god.)'* The brackets indicate parts of the fragment that are paraphrases perhaps more Plutarchean than Heraclitean, although this is controversial. The Sibyls were oracular priestesses of the god Apollo, human mediums for the 'voice' of the god which took possession of them. In the same way, Heraclitus acted as an inspired voice of the ***logos***. He also showed support for other religious or traditional figures. For example, his fragment 39 (found in Diogenes Laertius I, 88): *'In Priene was born Bias, son of Teutames, who is of more account* [***logos***] *than the rest of his compatriots.'* Bias was one of the Seven Wise Men of antiquity, and he lived a couple of generations before Heraclitus in Priene, a town near Ephesus. He was legendary for his sense of *justice*, an important concept in Heraclitus' writings (inherited from Anaximander). In this statement, the term ***logos*** is used to mean 'esteem' or 'value.' We shall see in a later section that the term ***logos*** had a variety of different meanings in ancient Greek, all of which were used or implied by Heraclitus.

Another example of his support for the Mysteries comes from fragment 68 (found in a testimonium and reputedly containing only one actual word of Heraclitus: 'cures'): *'(Things **seen and heard** in sacred rites are introduced for the tendance of the **soul** in us to keep within **bounds** the evils which **birth** has caused to **grow** about it, to set us free and release us from bounds. Hence Heraclitus rightly called them) cures (as tending to cure our troubles and the **disasters** attendant on **generation**.)"* This late testimonium shows various words (in bold) which display typically Presocratic concerns. What happens to the *soul* is a microcosm of the universe, i.e. it is born, dies, and is reborn. It is kept within bounds or *limits*, which define its growth upon generation. The disasters which accompany growth refer to the potential complexity ('war') which emerges out of the One. The 'cure' for this condition of the *soul* is its liberation from the endless round of reincarnation by certain rites, taboos, and participation in the Mysteries. All of this is quite Orphic and also quite compatible with Heraclitus' views.

Sometimes he appears to criticize the Mysteries, but only because the people themselves are unworthy. For example, we have fragment 69 which is held by many scholars to be spurious: *'Sacrifices held by people who are wholly purified might take place in just **one** case. (So few are there who are not impure.)'* Sometimes the Mysteries are criticized for not being performed properly or in an impious or unaware manner, as in fragment 14 (found in Clement, *Protrepticus* 22.2): *'(For whom does Heraclitu of Ephesus prophesy? For) night-wandering wizards, Bacchants, Lenaeans, initiates. (These are the ones he threatens with the things that come **after death**; for these he prophesies **fire**. For) the initiation-rites accepted among mankind they perform (are initiated into?) in an impious manner.'* Of course, as the brackets show, Clement has adapted the fragment to his own Stoic-Christian bias, including the notion of **fire** as the 'last judgement' (related to ***ecpyrosis***—world conflagration). But the fragment also shows

Heraclitus' concern for the proper handling of the Mysteries, and the sort of 'audience' who would be attracted to them (and him). It is *not* a general attack on initiation rites, as implied by some modern interpreters (Kahn and Marcovich).

Another ambivalent statement is fragment 15 (also found in Clement, *Protrepticus* 34.5): *'If it were not in Dionysus' honour that they make a procession and sing a hymn to the shameful parts* [phalloi], *their deed would be a most shameful one. But Hades and Dionysus, for whom they rave and celebrate the festival of the Lenaea, are* ***one*** *and the same!'* The various acts which may at first sight seem disgusting (the Lenaean festival was orgiastic, frenzied, and drug-induced) are vindicated because they are in honour of Dionysus, god of life, sexual vigour, and exhuberance. Heraclitus also shares their '***enthusiasmos***' (the god within). The next sentence, however, is more darkly Heraclitean. Hades was god of the underworld and *death*. In saying that *life and death* are *'the same'* he is emphasizing the *interconnectedness* of apparent opposites. One cannot exist without the other. Through 'drunkenness' the *soul* approaches death, since fragment 77 says that it is death for *souls* to become wet. But also through the process of drunken coupling the festival is seen to be productive of *life*. The fragment plays on the common image of orgasm as a 'little death' that generates life. The fragment also uses some subtle word-play, between genitals (***aidoia***), shame (***aidos***), shamelessness (***anaidestata***) and Hades (***Aides***). Also associated is the image 'un-seen' (***a-ides***). The fragment is however not a damnation of the Lenaean rites.

Sometimes he criticizes current religious practices in a way reminiscent of Xenophanes, who noted that the simplistic anthropomorphism of his contemporaries indicates an ignorance of the real nature of the *divine*. In fragment 5 (found in Aristocritus, *Theosophia* 68 and Origen, *Contra Celsum* 7.62) he used the same techneque of *reductio ad absurdum* that Xenophanes used so effectively: *'They vainly (try to) purify themselves with blood when they are defiled (with it)!—(which is) as if one who had stepped into mud should (try to) wash himself off with mud! He would be thought mad, were any man to notice him so doing. Furthermore, they pray to these statues!—(which is) as though one were to (try to) carry on a conversation with houses, without any recognition of who gods and heroes (really) are.'* His criticism of blood-sacrifice (which accompanies vegetarianism) is another of the many resonances between Heraclitus and Orphism. Like Xenophanes, he criticized aspects of the Olympian religion and espoused reformist (Orphic) tendencies. This fragment should in no way be interpreted to mean that he was in any way anti-religious. Like Xenophanes, his religious commitment and vision was *deeper* than the average person.

Although these outpourings may seem rather arrogant, he also shows a certain humility along with his usual pride. Fragment 50 (found in Hippolytus *Ref.* 9.9.1) says: ***'Listening*** *not to me but to the* ***logos****, it is wise to agree that all things are* ***one****.'* Many of his fragments emphasize *listening*, a musical orientation. They also emphasize a 'going inward' to find a spiritual experience of new level of consciousness which connects us with the divine. Thus he says in fragment 101 (found in Plutarch, *Adversus Coloten* 1118c): *'I searched myself.'* This statement is arguably only a variant of the ancient maxim *'Know thyself.'* It indicates that an inward inspiration is of great value in the

spiritual quest. By this meditative approach one can come to a wisdom at least as useful as any outward knowledge. Heraclitus could claim to be self-taught (***autodidaktos***) by his inner inspiration, just as Phemius the Homeric bard described himself thus precisely because a god had breathed the songs into his heart (*Odysseus* xxii, 347). The inspired poet, writer, prophet or teacher of the Mysteries must succumb to the 'enthusiasm' of the Muses. He must become a servant of the god within. Heraclitus, along with the other Presocratics, shared this attitude.

In the 5th century, Pindar echoed Heraclitus' contrast between a knowledge that comes from one's inner nature and mere 'polymathy,' outer knowledge of secondary importance. In his *Ol.* II, 83-6 he used the classical metaphor of knowledge as *'arrows in his quiver,'* an image derived from musical Apollo, the *'far shooter.'* Plato, in his malicious satire on the doctrine of *'eternal motion,'* used the same image to describe the style of Heraclitus' followers, and, by proxy, Heraclitus himself. In this translation, various words are marked in bold to show connections to Heraclitean fragments:[8]

'In Ionia indeed it [the Heraclitean controversy over flux] *is actually* ***growing*** *in* ***violence*** [re. war]. *The followers of Heraclitus lead the quire of this persuasion with the greatest* ***vigour*** [re. intolerance]... *There is no discussing these principles of Heraclitus—or, as you say, of Homer or still more ancient sages* [i.e. Orpheus]—*with the Ephesians themselves, who profess to be familiar with them: you might as well talk to a* ***maniac*** [re. his arrogance]. *Faithful to their own treatises, they are literally in* ***perpetual motion****; their capacity for staying still to attend to* [i.e. listen to] *an argument or a question...amounts to less than nothing...When you put a question, they pluck from their quiver little* ***oracular aphorisms*** *to let fly at you; and if you try to obtain some* ***account*** [***logos***] *of their meaning, you will be instantly* ***transfixed*** *by another* [re. transmutation], *barbed with some newly forged metaphor...there is no such thing as a master or pupil among them...Each one gets his inspiration wherever he can, and not one of them thinks that another understands anything.'*

This was intended as a caricature, but it shows one of the sources for the erroneous but prevalent modern notion that Heraclitus had *no teachers* and that his philosophy is totally unconnected to his predecessors. The high status of Plato in the history of philosophy assures that his warped humorous distortions of Heraclitus are given serious play, even when Plato is obviously being satirical. Plato is also (perhaps purposefully) confusing Heraclitus with the extreme Sophistic skepticism about knowledge which was the mark of Cratylus. Above all, he is making fun of Heraclitus' inner inspiration. Most modern scholars take all this too seriously and assume that Heraclitus' philosophy was created in an Ephesian vaccuum with absolutely no input from Xenophanes, Pythagoras, or the Milesians. Heraclitus' religiosity is then contrasted with the 'rational scientific' outlook of the Milesians. But anyone who has read the essays on Anaximander and Anaximenes should realize that a similar religious impulse animated *all* of the early philosophers. This impulse can best be called Orphic, since these early philosophers produced doctrines which were 'reformist,' and completely compatible with what little we know of Orphism.

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[8] Plato, *Theaetetus* 179d. Translated by Cornford.

Heraclitus' religious attitude was probably a major source for the stories about his misanthropy. 'The many' do not understand the significance of what they experience. Thus we have fragment 107 (found in Sextus Empiricus *Math.* 7.126): *'Eyes and ears are poor witnesses for people if they have* ***souls*** *that understand not the language.'* The fragment literally uses the image *'barbarian souls'* (***barbaros***), meaning souls which are not civilized and have not experienced the Mysteries. Fragment 19 (found in Clement *Stromateis* 2.24.5) says: *'Rebuking some for their unbelief, Heraclitus says: Knowing neither how to* ***hear*** *nor how to* ***speak****.'* Hearing is the dominant sense in most of the fragments. Again, fragment 34 (also from Clement *Stromateis* 5.115.3): *'Fools when they* ***hear*** *are like the deaf. They saying describes them: though present they are absent.'* He is describing people who have not acquired the awareness to truly understand the ***logos***. These people are (from fragment 1) *'unaware of what they do while awake, just as they forget what they do when asleep.'* The image of 'waking and sleeping' was often used by Heraclitus to distinguish people who have 'spiritual insight' and the vast majority who do not have it.

It is this mass of unevolved humanity that raised his ire. Heraclitus' disappointment in the bulk of humanity reminds us of the traditional Orphic fragment:[9] *'Many are the wand-bearers, but few the Bacchoi.'* The sentiment was also expressed in the biblical fragment: *'Many are called, but few are chosen.'* From his own high pinnacle of understanding (***gnosis***), the average level of religious awareness must have seemed crude indeed. Heraclitus took the traditional stand of a true aristocrat (***aristos*** means *best*) and maintained (fragment 49, found in Theodorus Prodromus, *Letters* 1): *'One person is ten thousand to me if he is the best.'* We must put Heraclitus himself in this category. He certainly was one of the very best!

ON HUMAN AND DIVINE KNOWLEDGE

Heraclitus displays a rather obvious continuity with Xenophanes. This is best seen in the paradoxical and ambiguous writing style. After all, it was Xenophanes who wrote the enigmatic fragment:[10] *'It is neither limited nor unlimited, neither in motion nor at rest.'* Heraclitus wrote in prose rather than poetry, but he took the Xenophanean way of expressing ambiguity and refined it into a high art. He also shared with Xenophanes (and Pythagoras) an essentially religious orientation.

Another way in which we see the continuity between Xenophanes and Heraclitus lies in the issue of human versus divine knowledge. In his famous fragment 34, Xenophanes contrasted the realm of human *opinion* with divine *knowledge*. This dichotomy was carried on by Heraclitus (and Parmenides). A number of fragments highlight this difference.

Fragment 28 (found in Clement, *Stromateis* 5.9.3) is a complex statement which some scholars claim is two separate fragments artificially juxtaposed by Clement. Hence

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[9] Kern, *Rhapsodic Theogony*, numbered as in *Orphicum Fragmenta*. #235, source, Olympiodorus. Found in W. K. C. Guthrie, *Orpheus and Greek Religion* (Princeton University Press, 1952), p. 142.
[10] Reported by Simplicius, *in Phys*. 22, 26.

they write about 28a and 28b. Burnet translated the whole thing as:[11] *'The most esteemed of them knows but fancies, and holds fast to them, yet of a truth justice shall overtake the artifiers of lies and the false witnesses.'* McKirahan tranlated it:[12] *'The knowledge of the most famous persons, which they guard, is but opinion. Justice will convict those who fabricate falsehoods and bear witness to them.'* Robinson translated it more literally, which will bring out the underlying word-play:[13] *'The most esteemed (of people) 'ascertains'—and holds fast to!—what (merely) seems (to be the case). (The goddess) Justice will catch up with fabricators of falsehoods and those who bear witness to them.'* In fact, the sentence reads literally: *'The most esteemed ascertains—holds fast to—things seeming.'* The word-play, which cannot be paralleled in English, juxtaposes ***dokein*** (to seem) and ***dokimotatos*** (most reputable or esteemed). The world of 'seeming' or 'appearance' (***doxa***) is contrasted with that of genuine knowledge or 'ascertainment' (***gnosis***). The word ***ginoskei*** (ascertains, recognizes) is thus used ironically. Some think that the criticism of 'esteemed people' refers to Pythagoras who he criticizes in some other fragments. However, he is mainly pointing to the difference between opinion and true knowledge.

The second part of the statement refers to *Justice* or *Necessity*, the Orphic goddess who assists ***Zeus***. This assertion is a member of a group of fragments that treat *Justice* and display Heraclitus' close continuity with Anaximander. For example, we have fragment 94 where the 'ministers' of *Justice* operate within the ***kosmos*** in order to keep it in balance. The relations between *Justice* and ***Harmonia*** in balancing the *opposites* will be the main topic of another group of fragments.

Fragment 78 (found in Origen, *Contra Celsum* 6.12) goes: *'Human nature does not have right understanding* [or insight]*; divine nature does.'* Here the contrast is more straightforwardly expressed. Fragment 70, which some scholars think to be spurious and derived from the 'temple-story' in Diogenes, also belittles human knowledge. *'(Heraclitus judged human opinions to be) children's playthings.'* Then we have fragment 83 (found in Plato, *Hippias Maior* 289b) which is also considered questionable: *'Compared to a god, the wisest of men will appear an ape, in wisdom, beauty and all else.'* Fragment 82 (also found in the same Platonic dialogue) repeats the same thing. A similar sort of sentiment is expressed in fragment 79 (found in Origen, *Contra Celsum* 6.12): *'A man **hears** himself called silly by a **divinity** as a child does by a **man**.'* The term 'silly' denotes a lack of insight. The implication is that a child is to an ordinary man as an ordinary man is to a god. This is one of the fragments which is laid out in the form of a *proportion* (***logos***).

The contrast is also illustrated by fragment 102 (found in Porphyry, *Quaestiones Homericae* on *Iliad* 4.4): *'to a god all things are fair and just, whereas humans have supposed that some things are unjust, other things just.'* Justice for Heraclitus, as for Anaximander, involves the harmony or 'balanced tension' between *opposites*. Humans

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[11] John Burnet, *Early Greek Philosophy* (Meridian, 1892), p. 141.
[12] Richard D. McKirahan, Jr., *Philosophy Before Socrates* (Hackett, 1994), p. 118.
[13] T. M. Robinson, *Heraclitus Fragments,* Text and Translation with Commentary (U. of Toronto Press, 1991, reprint 1996), p. 25.

judge one ***harmonia*** to be 'correct' or just, another to be undesirable or deviant. But in the divine perspective, 'all things' or *the whole* is an expression of *Justice*. 'War and peace' (***harmonia***) is an inevitable componant of the universal balance between *opposites*. One is reminded of the Orphic fragment found on a 5th century bone tablet from Olbia. On one side was scratched *'Dionysus,'* on the other side *'war peace truth falsehood.'* Such a statement has a peculiarly Heraclitean ring to it.

systems is though to be relevant only to a small band of 'theoretical' musicologists. The notion that this architecture could teach us something about the 'essence' of the world at large is now deemed a quaint idea *perhaps* relevant to Pythagoras, but that's all. It is thus banished from the mainstream of ancient philosophy, and most commentators on the philosophical fragments themselves have no experience at all with monochords or its mystical arithmetic. They blandly confuse this universal harmonic arithmetic with numerology and other counterfeits, then assume that such practices were only for 'puerile' minds. If Heraclitus were alive today he would be even more critical of modern humanity than the highly musical cultures of his time.

In this section we look at a few more examples of Heraclitus' contempt for the ignorance of the majority. In some ways these fragments display the much seen contrast between *opposites*—in this case, between the enlightened (awakened) ones and the unenlightened (the sleepers). Heraclitus himself acts as one of the 'ministers of the goddess Justice,' attempting to redress the balance by rousing the sleepers. A clear statement of Heraclitus' position is presented in his fragment 1, the beginning of his book. Here it is in a translation by McKirahan:

*'This **logos** holds always but humans always prove unable to understand it, both before **hearing** it and when they have first heard it. For though all things **come to be*** [or happen] *in accordance with this **logos**, humans are like the inexperienced when they experience such words and deeds as I set out, distinguishing* [lit. dividing up] *each in accordance with its nature and saying how it is. But other people fail to notice what they do when awake, just as they forget what they do while asleep.'*

This important fragment shows the essentially musical 'environment' of the ***logos***. The One is divided up into the Many through the *Emanation Table*, and the *'coming to be'* occurs in accordance with the laws of *ratio* and proportion. Each successive division demonstrates the nature (***physis***) or inherent properties of harmony and these properties are objectively demonstrable. All of this can be verified by the use of a monochord. However, most people are ignorant of the isomorphism between musical intervals and numerical ratios. Even when it is shown to them they don't comprehend its implications. Even when they have seen the monochord patterns and *heard* the related intervals, they fail to understand that the laws demonstrated by a monochord constitute a microcosm of the vibratory laws governing the macrocosm.

Although most people are largely ignorant of musical architecture, they usually think that they have a great understanding. This is especially true among musicians who often use a particular system of harmony with no idea about the basis of that system or the nature of 'systems-in-general.' As in fragment 2, *'although the **logos** is common, most people live as if they had their own private understanding.'* In my experience as a teacher of the acoustics of intonation systems, this situation is especially true nowadays. If asked what it means to be 'in tune,' most musicians offer only the particular bias of their own music culture with little awareness that alternative systems exist. There is usually little awareness about alternative norms or the underlying acoustical basis for the establishment of any norms. Each system is like a little 'cosmos,' so that the musician mistakes his own 'world' for 'worlds in general.' Each system offers innumerable

possibilities in the creation of melodies or rhythms, so that it is all too easy to mistake this ***kosmos*** for all possible ***kosmoi***. Thus Heraclitus wrote in fragment 17 (found in Clement, *Stromateis* 2.8.1): *'For many, in fact all that come upon them, do not understand such things, nor when they have noticed them do they know them, but they seem to themselves to do so.'* This situation occurs because most are not willing to make an effort to go beyond the superficial surface of the subject. They are not aware that (fragment 123): *'Nature loves to hide itself.'*

Their lack of understanding creates an artificial separation between them and the world, which is an expression of ***logos***. Thus we have fragment 72 (found in Marcus Aurelius 4.46), translated by Robinson: *'They are separated from that with which they are in the most continuous contact.'* They are thus 'absent while present.' McKirahan translated the fragment: *'They are at odds with the **logos**, with which above all they are in continuous contact, and the things they meet every day appear strange to them.'* This fragment is often judged to be only a paraphrase of fragment 17 by the Stoic Marcus, not the actual words of Heraclitus. But controversy aside, it is a typically Heraclitean sentiment. Even though most people in his time would accept that the world is vibratory in nature, they nevertheless have little understanding of the laws of vibration.

These sentiments are echoed by fragment 56 (found in Hippolytus, *Ref.* 9.9.5), one of the more curious of the Heraclitean utterances: *'People are deceived about the knowledge of obvious things, like Homer who was wiser than all the Greeks. For children who were killing lice deceived him by saying "All we saw and caught we have left behind, but all we neither saw nor caught we bring with us."'* The 'obvious things' may have been so to Heraclitus but not to others. These 'obvious things' also refer to the ever presence of the universal ***logos*** in innumerable forms. The strange relation of most people to this ***logos*** is illustrated by a traditional riddle. Homer, who was revered for his wisdom, is said to have died of chagrin because he could not solve this curious puzzle, i.e. failing to see that the answer is 'lice.' Heraclitus emphasized that the answer is obvious because it was propounded by simple children. Many scholars take this fragment to be simply a disparaging remark about Homer (in the manner of Xenophanes), but there is more to it than that. Homer is only a pretext for describing the curious relations between the 'sleepers' and the universal ***logos***. As is often the case, word-play also forms an aspect of the image. The word for *'louse'* (***phtheir***) is almost *'to destroy'* (***phtheirein***), so that the children are 'killing the killers.' Heraclitus is emphasizing that the 'truths' of the ***harmonia*** are obviously there for all to see (and hear) even though they are ignored or misconstrued.

Most people do not understand deeply because they are simply too gullible and ready to follow the current 'fashion.' Thus fragment 87 (found in Plutarch, *De audiendo* 40f-41a) states: *'A fool tends to become all worked up over every statement he hears.'* The term 'fool' could be translated as 'sluggard' or 'stupid person.' The term 'statement' is a particular translation of ***logos*** in one of its traditional meanings. The phrase 'all worked up' or 'excited' is literally 'all of a flutter,' emphasizing a vibratory image. The emphasis on *hearing* is also pointedly musical. The implication is that the uneducated person lacks the power of discrimination between 'things heard.' He has no real

knowledge of the hidden architecture of the universal ***harmonia***, and cannot distinguish the alternative norms which compete as in 'war.' He is like the person who (fragment 71, in Marcus Aurelius, usually considered spurious) *'forgets which way the road* [or path] *leads.'* He cannot 'separate out' or 'resolve' the componants within the matrix of the ***harmonia***. Thus they know *'neither how to hear now how to speak.'*

Heraclitus does not discount the presence of a universal mind or intelligence (***nous*** or ***noos***) behind the ***harmonia***, an intelligence much emphasized in the coming generation by Anaxagoras. Thus we have the important fragment 108 (found in John Stobaeus, 3.1.174): *'Of all those whose accounts* [lit. ***logoi***] *I have* ***heard****, no one reaches the point of recognizing that* ***that which is wise*** *is set apart from* ***all****.'* The term 'all' is written grammatically so that it could refer either to 'all humans' or 'all things.' It is the same *'all'* that we have already seen in Anaximander and Xenophanes. Again the term ***logos*** is used in such a way as to bring out more than one of its meanings. The adjective ***sophon*** (wise) is used as a noun. *'That which is wise'* (***ho to sophon***) is also employed in other fragments, for example in fragment 32, where it is *'willing and unwilling to be called by the name of Zeus.'* Yet *Zeus* as the One is not 'set apart' but present within the ***harmonia***. We shall see later that Heraclitus tended to identify *Zeus* with **aither**, **fire**, and *'the thunderbolt.'* Perhaps the One as *'that which is wise'* is interpreted as 'separated from the others' in being the only primal archetype which is absolutely omni-present (divisible by all numbers). This particular use of the phrase is deeply ironic since it could be more directly expressed in the Xenophanean form as *'All is one.'*

Alternatively, *'that which is wise'* as the universal intelligence could be that which is not dependant on the formation of any one particular ***kosmos***. Various implications within this important fragment must be examined later in the light of a closer look at the key terms ***logos*** and ***harmonia***. For now it is enough to realize that any particular ***kosmos*** does not exhaust the possibilities within the *'all,'* and that an intelligence based on ***logos*** underpins the various possibilities.

Most people are simply unaware of these things. Thus fragment 34: *'Uncomprehending when they have* ***heard****, they are like the deaf. The saying describes them: though present they are absent.'* They are 'sleepers,' and (fragment 73) *'One ought not to act and speak like people asleep.'* They live in their own private world of understanding and do not comprehend what is universal (or 'common'). Only those who have been 'awakened' view the universal. Thus we have fragment 89 (found in Pseudo-Plutarch, *De superstitione* 166c): *'For the waking there is* ***one*** *common world, but when asleep each person turns away to a private one.'* This fragment has been deemed doubtful by some scholars because of the use of ***koinon*** (universal) rather than the more usual Heraclitean form ***xynon*** (universal or *common*). But the sentiment is definitely Heraclitean and various other fragments contrast the state of awareness between the people asleep and those awake.

Within the Heraclitean writings we find a substantial number of fragments dealing with the contrast between those awake and asleep, the reciprocity between life and death, the use (and misuse) of the senses, and the attendant state of 'fieriness' within the *soul*.

These issues will be examined in later sections; but for now we will mark that (for Heraclitus) the world is filled with both the 'awakened' and the 'sleepers.' Unfortunately, the vast majority of people fall into the second category.

Such people, lacking in discrimination, do not know how to make enlightened preferences. Thus we have fragment 9 (found in Aristotle, *Nicomachean Ethics* 10.5.1176a7): *'Asses would choose rubbish rather than gold.'* The use of 'gold' has associations with the Heraclitean **fire**. This fragment emphasizes how the same thing can generate *opposites* from different points of view. Another example is fragment 4 (found in Albert the Great, *De vegetatione* 6.401): *'(Heraclitus said that, if happiness consisted in the pleasures of the body), we should call oxen happy whenever they come across bitter vetch to eat.'* The source is so late (and writing in Latin rather than Greek) that the fragment is viewed with suspicion, but the idea is consistent with his other fragments. What is gold to one person is rubbish to another. Two more fragments say basically the same thing. Fragment 13 (in Clement, *Stromateis* 1.2.2) gives: *'Pigs rejoice in mud more than pure water.'* Again, fragment 37 (in Columella 8.4.4): *'Pigs wash themselves in mud, birds in dust or ash.'* The average person does not know how to discriminate between the 'private' and the 'common,' the 'particular instance' and the universal law.

For this reason, Heraclitus seeks out the unusually gifted. Fragment 49: *'One person is ten thousand to me if he is the best.'* Interestingly enough, that statement was also attributed to Bias of Prienne, who claimed that most men are 'bad.' Heraclitus praised his wisdom. He maintained the aristocratic attitude that was also to be seen later in Plato. The opinions of the average person, especially concerning the deepest matters, were nothing but folly.

CRITICISMS OF OTHER PHILOSOPHERS AND POETS

Like Xenophanes, Heraclitus made disparaging remarks about other philosophers and poets. However, his motivation was also likely to be the same as that of Xenophanes. He was not condemning outright everything that they stood for or negating all aspects of their work. He was not bluntly 'anti-religious' or 'anti-Homer.' He was simply expressing his disappointment when they did not live up to his high standards. Like Xenophanes, Heraclitus sought a deeper insight into his religious heritage. This insight came not from the standpoint of a critical 'rational scientist' but rather from one who was *more committed* to a religious perspective. It is within this context that we should consider the critical comments.

Not all of his comments on his predecessors or contemporaries were negative. In fragment 121 he spoke of Hermodorus in a positive light. In fragment 39 he also praised Bias of Prienne and (by implication) the other Seven Sages. Perhaps it is only an accident of history that more of the negative comments have been preserved than his positive comments. A surplus of negative statements may have been cited because of the late general impression that he was a 'people hater.' At any rate we have a small group of fragments which can be so construed.

Already noted above is his satirical comment on the 'wise' Homer being duped by children (fragment 56). The context of that fragment was rather complex, so that it is not recommended to interpret it simply (or only) as a criticism of Homer. Such is the general nature of all the critical comments of Heraclitus. He is rarely one dimensional or direct. His fragments often reward the effort to find a hidden perspective.

Sometimes the overall context of the criticism is totally missing, so that it is very difficult to deal with it intelligently. Such is the case with fragment 42 (in Diogenes Laertius 9.1): *'(Heraclitus said that) Homer deserved to be expelled from the contests and flogged, and Archilochus likewise.'* The poets were generally looked upon (even as late as the time of Plato) as 'experts' on matters of Music (cosmology, politics, history, and so on). The 'contests' refer to the rhapsodic competitions (held along with athletic contests) in which the traditional poems were sung-recited by professional *rhapsodes*. The emblem of their profession was the poet's staff (***rhabdos***) which was no doubt held during the contests. Heraclitus is using a word-play between ***rhabdos*** and thrashed or 'flogged' (***rhapizesthai***), presenting the satirical image of the poet being whipped by his own staff for his pretensions! The implication is that the old poets did not live up to their profession and really did not know much about Music. He is contrasting the old poets with his own deeper understanding of Music. He is displaying the reforming attitude of the Orphics.

Hesiod is ridiculed in the same Xenophanean manner. Fragment 57 (found in Hippolytus, *Ref.* 9.10.2) relates: *'For many people Hesiod is their teacher. They are certain he knew a great number of things—he who continually failed to recognize (even) day and night (for what they are)! For they are **one**.'* Hesiod had said in his cosmological poem that the mythological 'night' (***Nyx***) preceded and produced 'day' (***Hemera***), just as the Orphic primordial Silence preceded the vibratory One.[14] Hesiod is satirized for missing their essential *reciprocal* (complimentary) relationship and hence their *'unity.'* His criticism seems unfair to us, but we suspect that the whole reason for the statement was not primarily to criticize Hesiod. Rather, it was to illustrate the *'unity of opposites'* which forms a *continuum* of *'things taken together.'* The ancient Greeks took sunset as the beginning of the new day; in other words, night precedes day. But they also saw the night and day together as *one* twenty-four hour period of time (the ***nykthemeron***). Heraclitus is playing with these concepts in order to illustrate the *continuum* between the *opposites.*

Closely related to this fragment is fragment 106 (found in Plutarch, *Camillus* 19.1): *'(...whither Heraclitus was right in upbraiding Hesiod...for not knowing that) the real constitution* [***physis***] *of each day is **one** (and the same)...'* Plutarch may have been quoting fragment 57 in a garbled manner. On the other hand, it may refer to Hesiod's distinction between 'lucky' and 'unlucky' days (in *Works and Days* 765). Here again Heraclitus may have been illustrating the essential *unity* of the *opposites* by using the Hesiodic notion of 'good' and 'bad' days. One suspects that the 'criticisms' of Hesiod are just a pretext for commentaries on the *opposites.*

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[14] The reference to Hesiod comes from *Theogony* 123-4: *'From Chaos came forth Erebus and black Night; in turn from Night came forth both Day and Aither.'*

Then we have fragment 40 (found in Diogenes Laertius 9.1): *'A lot of learning does not teach (a person the possession of) understanding; (could it be so,) it would have so taught Hesiod and Pythagoras, or for that matter Xenophanes and Hecataeus.'* The mere accumulation of facts or disconnected information (***polymathie***) does not automatically produce insight or understanding (***noos***). Rather, insight comes from the awareness of one unified *law* (***logos***) which pervades any multiplicity. The *one/many* (***hen/poly***) contrast emphasizes that the Musical paradigm (which relates the Many to the One) is the key to true understanding—not the possession of disparate and unconnected fragmentary information. Yet we should not conclude from this statement that Heraclitus was against the accumulation of knowledge. Fragment 35 (found in Clement, *Stromateis* 5.140.5) states: *'Men who are lovers of wisdom must be inquirers into many things indeed.'* The term 'lovers of wisdom' (***philosophos***) was often attributed to Pythagoras and his school. 'Inquiry (***historie***) was the ancient name for the Presocratic 'science.' The implication is that there is nothing wrong with the accumulation of knowledge about disparate topics, as long as one realizes that one Musical paradigm ruled by ***logos*** unifies the entire field of knowledge. This sentiment pervades the whole Presocratic movement.

It seems unfair for Heraclitus to single out Hesiod, Pythagoras, Xenophanes, and Hecataeus as representing 'inquirers' who were not aware of this *one law*. All of the evidence indicates that they followed the same Musical paradigm as Heraclitus. Anyway, the contextual basis of his criticism is lost and impossible to reconstruct. Moreover, Heraclitus used a problematic particle ***authis*** ('for that matter'?) which appears to separate Hesiod and Pythagoras from Xenophanes and Hecataeus in some significant way. It has been interpreted to mean *old* experts (Hesiod and Pythagoras) and *new* experts (Xenophanes and Hecataeus), but the distinction is artificial, since Pythagoras and Xenophanes were more or less contemporaries. The fragment seems to indicate that there was *something* in all of these persons which was not quite up to his own standards. However, we should not interpret the fragment to mean that *everything* in Hesiod, Pythagoras, Xenophanes and Hecataeus is useless ***polymathie***.

Heraclitus appears to single out Pythagoras more than others for criticism. Perhaps this is due to the fact that the philosophies of the two of them are so *very close*. Possibly he needs to clarify the ways in which they differ. Thus we have fragment 129 (found in Diogenes Laertius 8.6): *'Pythagoras, son of Mnesarchus, trained himself to the highest degree of all mankind in (the art of) inquiry* [***historie***], *and making a selection of these writings constructed a wisdom of his own—polymathy, evil trickery* [or, a disreputable piece of craftsmanship].' Again, we have fragment 81 (found in Philodemus, *Rhetoric* 1, coll. 57,62): *'(According to Heraclitus, Pythagoras is) chief captain of swindlers.'* The whole statement is problematic, since Pythagoras produced no writings from which to make selections. It has been suggested that Pythagoras selected writings from his teacher Pherecydes in order to make his *'**polymathie**.'* But the evidence seems to suggest that Pythagoras accumulated Musical information from many sources through his long years of extensive travel. It appears that Heraclitus is accusing him of using many disparate sources and then being selective over what to include and exclude in his own 'private' version of the Musical paradigm. There may be some truth to this.

The relations between Heraclitus and Pythagoras, the two most influential of Presocratic philosophers, are exceedingly complex. Essentially, both of them held the same fundamental doctrines, centered around the *inter-relatedness* or ***harmonia*** between *opposites*. Since Pythagoras was about 30 years his senior, it is reasonable to conclude that Heraclitus was very much influenced by him. Perhaps there was a 'falling out' between the two philosophers, in a similar way to the later falling out between Aristotle and his teacher Plato. Heraclitus' accusation of 'selectivity' may refer the Pythagorean conservative emphasis only on rational ratios (*'Number'*) within the ***harmonia*** instead of the more progressive inclusion of irrational ratios as well. Pythagoreans were ambivalent about the place and status of irrationals. Heraclitus, on the other hand, was much closer in spirit to the 'softened' radicalism of Anaximenes. He was by no means a cosmological conservative; rather, like Anaximenes, he occupied a fertile *middle ground*. At any rate, we can oly speculate as to why Heraclitus expressed such a dislike for Pythagoras when their doctrines were so very similar.

Aristotle had used the names of Heraclitus and Pythagoras together within the same sentence (*Met.* A, 3.984a7). Theophrastus did the same, according to Simplicius (*in Phys.* 23, 33). For some *Succession* writers, Heraclitus was considered a Pythagorean philosopher, with specific links to Hippasus. The whole thorny question of who is and is not a Pythagorean philosopher will have to wait until the next essay (on Pythagoras). For now it is enough to realize that the boundaries were not always so 'cut and dried' as is commonly believed. At any rate the relations between the two philosophers were complex. A criticism of Pythagoras does *not* mean that Heraclitus 'nixed' everything in the Pythagorean philosophy. They had much in common. The relations between Heraclitus and Hippasus will be the subject of a latter section of this essay.

Fragment 28 has also been interpreted as a criticism of Pythagoras. It goes: *'The knowledge of the most famous persons, which they guard, is but opinion. Justice will convict those who fabricate falsehoods and bear witness to them.'* It is contended that the guardianship (holding in secret) of knowledge is typically Pythagorean. Yet Heraclitus also held his own knowledge in secret by writing in a purposefully difficult style, and depositing his book in the temple away from the masses. Both figures saw their work mainly within a religious context and not for the uninitiated. The relations between them is not easy to sort out. However, we should definitely not draw the absurd conclusion which is usually seen in modern isolationist interpretations of early philosophy—the conclusion that Heraclitus' philosophy has absolutely *no connection* to that of Pythagoras.

HIS RELATION TO EARLIER THINKERS

The fragments presented in the last section are usually employed as 'proof' that Heraclitus was a lone genius whose philosophy had not connections or similarities with *any* of his predecessors. The typical modern assessment is illustrated by Guthrie:[15] *'G. Vlastos* (American Journal of Philology, 1955, 354ff.) *has propounded the thesis that to understand him we must link his thought with that of the Milesians Anaximander and*

[15] W. K. C. Guthrie, *A History of Greek Philosophy*, Volume 1 (Cambridge, 1962), p. 416.

Anaximenes. But no attempt to link Heraclitus directly and positively with his predecessors has much chance of success. In all probability he was a far more isolated thinker than such attempts presuppose. To be so was at any rate his intention, and the verdict that he learned from no man is borne out by his own statements, his universal contempt to his fellow-men, both philosophers and others, and the highly individual character of this thought.'

The appeal to 'his own statements' refers specifically to fragment 101: *'I searched myself.'* Since he had an inner inspiration it is now presumed that he could not have learned anything from anyone else! Of course, this is simply not true. The two avenues are not necessarily incompatible. In addition, we should consider the possibility that his forebears had also 'searched themselves.' Both Heraclitus and Anaximenes propounded an architecture of the *soul* which mimics the Elemental architecture of the ***kosmos***. To know thyself is to know the world. Consequently, this fragment doesn't prove the 'incompatibility' of his philosophy with his forebears. Rather, it shows his essential continuity with his predecessors and the Mystery tradition.

Modern interpreters who want to believe in the 'isolation' of Heraclitus put much faith in Diogenes Laertius 4.5: *'He was no man's disciple, but said that he had* ***searched himself*** *and learned everything from himself.'* But before we take this too seriously, he carries on immediately with the statement that (according to Sotion): *'some have said he was a disciple of Xenophanes.'* Even though modern scholars protest loudly that this statement is of no value, it is nevertheless more likely to be the case than the first statement. There are many resonances between the two, not least concerning philosophical method. A couple of Heraclitean fragments also sound like quotes from the poems of Xenophanes.

Added to this 'evidence' for the 'incompatibility' of Heraclitus with his forebears, the moderns offer an interpretation of fragment 74 (found in Marcus Aurelius 4.46): *'(He said that we should) not* ***act*** *and* ***speak*** *like children of our parents.'* Some scholars are suspicious that this fragment is only a vague reminiscence of very loose paraphrase of Heraclitus. Controversy aside, Guthrie interprets it to mean that we should not follow tradition and that we should accept no authority other than our own experience. Yet even if we accept this interpretation (which is by no means certain), it is surely not enough evidence to negate the overwhelming similarities between Heraclitus and his predecessors. In addition, 'not to act and speak like children of our parents' has further Musical associations. To *act* refers to the *process* (of change). To *speak* is itself music (the sonic vibratory heart). 'Children of our parents' refers to the monochord *Genera* (the pervasive sexual metaphor of generation). The fragment as a whole 'favours' the parents over the children, the source (Elemental) archetypes over the composites. It inevitably points to the One (**fire,** ***aither***). This fragment is a good example of how 'densely packed' are the musical associations in Heraclitus. Indeed, the fragment is capable of 'unpacking' yet more musical treasures. The point to be taken here is that Heraclitus shared the same musical 'sensibilities' as his predecessors.

Modern scholars have struggled to isolate Heraclitus because they have a preconceived notion that the early philosophers were in 'scientific competition' with each other and that each was striving to make 'progress' over his predecessors. According to this interpretive framework, Heraclitus then made a 'great leap forward' in realizing that the *unity* in the *arrangement* of the *substance* is preferable over the earlier, more 'primitive' simple *affirmation* of the unitary *substance*. Heraclitus thus moved slightly away from the *hylozoic materialism* of his predecessors, although his **fire** was nevertheless still (confusedly) materialistic. The modern scholarly community largely continues to tie Heraclitus' **fire** to an Aristotelian framework. By maintaining his isolation, they assure themselves of the myth of progress in early philosophy. In addition, his isolation absolves them of the need to understand Heraclitus in relation to his predecessors and they to him. He becomes just another 'pointer' on the road to 'mature' philosophy in Plato and Aristotle.

Some scholars are willing to allow vague connections with the Milesians, but definitely not Xenophanes and Pythagoras. For example, McKirahan wrote:[16] *'Xenophanes and Pythagoras had both left Ionia, the one probably before Heraclitus' birth and the other before Heraclitus was grown, so Heraclitus, as the only know presocratic philosopher in the Ionian regions during his time, seems to have been an isolated figure, and this fact may have something to do with his idiosyncrasies and evident arrogance.'* Here we have the strange assumption that there could be no influence because his predecessors went to the west. Yet both Xenophanes and Pythagoras were famous for their travels, and could easily have passed through Ephesus at various times. Moreover, Heraclitus may well have travelled himself at some point in his life. Even if Heraclitus had stayed in Ephesus his whole life, it still does not mean that he could have had no 'intellectual' contact with Pythagoras and Xenophanes. After all, modern interpreters are willing to concede that Melissus of Ionian Samos was influenced by Parmenides of Italian Elea. The evidence indicates that philosophical ideas and manuscripts tended to travel quite well (along with philosophers themselves). Just because Heraclitus was in Ephesus and Xenophanes in Sicily is no guarantee that there were no cross influences. Indeed, it would seem rather odd that the brilliant young Heraclitus would not investigate the older and justifiably famous philosophers Xenophanes and Pythagoras.

Robinson is willing to allow some influences even from Xenophanes, while still maintaining his essential isolation:[17] *'As a thinker he undoubtedly drew on the cosmological and cosmogonical writings of his Milesian forebears, especially Anaximander and Xenophanes, but in many significant respects it is the sheer uniqueness of his vision of things that separates him from other pre-Socratic thinkers, and perhaps accounts for the fact that it was some time after his death before the impact of writings was felt in Greek philosophy.'* This assessment presents the typical modern view that he had *no* influence on later philosophers, such as Anaxagoras and Empedocles. But this judgement is simply not true. His influence on the upcoming generation was enormous

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[16] McKirahan, *op. cit.*, p. 128.
[17] T. M. Robinson, *op. cit.*, p. 3.

and could rival even Anaximenes. Modern effort have tried to isolate Heraclitus not only from his predecessors but also from his successors.

All of the modern writers quoted above assume that Heraclitus' isolation was due largely to the sheer *uniqueness* and individuality of his thought, which was a major 'step forward' in the 'progress' of Greek philosophy. Given this assessment, they must naturally be required to set out just exactly *what it was* that was so unique to Heraclitus. However, they have invariably failed in their attempts to adequately define this 'new discovery.' We shall present a few examples of these valiant modern efforts.

John Burnet sets the stage for the attitude and argument of the modern scholarly community. Back in 1892 he gave a paragraph entitled: *The discovery of Heraclitus*. It is worthwhile to quote it in full:[18]

'Heraclitus looks down not only on the mass of men, but on all previous inquirers into nature. This must mean that he believed himself to have attained insight into some truth not hitherto recognized, though it was staring men in the face (fr. 72). To get at the central thing in his teaching, we must try then to find out what he was thinking of when he launched into those denunciations of human dullness and ignorance. The answer seems to be given in two fragments, 108 and 51. From them we gather that the truth hitherto ignored is that the many apparently independent and conflicting things we know are really ***one****, and that, on the other hand, this one is also* ***many****. The "strife of opposites" is really an "attunement" (****harmonia****). From this it follows that wisdom is not a knowledge of many things, but the perception of the underlying unity of the warring opposites. That this really was the fundamental thought of Heraclitus is stated by Philo. He says* [quoting from Philo, *Rer. div, her.* 43]*: "For that which is made up of* ***both*** *the* ***opposites*** *is* ***one****; and, when the* ***one*** *is* ***divided****, the* ***opposites*** *are* ***disclosed****. Is not this just what the Greeks say their great and much belauded Heraclitus put in the forefront of his philosophy as summing it all up, and boasted of as a new discovery?"'*

We are to conclude that Heraclitus *discovered* the relation between the One and the All, and also the ***harmonia*** between the *opposites*. Yet these issues had been the chief 'stuff' of Greek philosophy ever since the time of Anaximander. The *opposites* were central to Anaximander, and the ***harmonia*** between them had already been expressed in those very terms by Pythagoras. Philo's statement is a beautifully succinct summing up of a core Musical idea within early philosophy, but it was *not* original to Heraclitus. His 'originality' does not lie here. It is highly likely that Philo (and Burnet) got this mistaken notion from the dubious evidence of Plato. In the *Sophist* (242d) Plato wrote about the 'inventors' of the One/Many relation (translated by Burnet, p. 144): *'But certain Ionian and (at a later date) certain Sicilian Muses remarked that it was safest to unite these two things, and to say that reality is* ***both many and one****, and is kept together by* ***Hate and Love****. "For," say the more severe Muses* [Heraclitus], *"in its* ***division*** *it is always being brought together" (fr. 10); while the softer Muses* [Empedocles] *relaxed the requirement that this should always be so, and said that the* ***All*** *was alternately* ***one*** *and at* ***peace*** *through the power of Aphrodite, and* ***many*** *and at* ***war*** *with itself because of something they called* ***Strife****.'*

[18] John Burnet, *Early Greek Philosophy* (Meridian, 1892, reprint 1958), p. 143.

The relations between the *opposites* had already been described in terms of *justice* and *injustice* by Anaximander, and this is essentially the same thing as 'peace and war' between the 'many and one.' Burnet tried to get around this essential 'compatibility' by interpreting Anaximander's ***apeiron*** as a *'boundless substance'* which breaches the unity through injustice and pays its penalty by 'disappearing' back into the *one*. The *'strife of opposites'* is then always an *'injustice,'* while for Heraclitus it was *'justice.'* The reader will recognize how very contrived this whole attempt is to separate the philosophies of Anaximander and Heraclitus. In reality they are one. The *opposites* of Heraclitus (and Pythagoras, Xenophanes, and Anaximenes) are the same *opposites* as those of Anaximander. Therefore, we cannot claim that this was the great forward looking 'discovery' of Heraclitus.

Most scholars are willing to support the notion that the 'original contribution' of Heraclitus lies in his conception of the ***logos***. However, since they have purged the ***logos*** of every last vestige of Music in its meaning, and even questioned its metaphysical status, they have no decent conception of its true meaning and importance in the ancient Musical paradigm (or Resonance paradigm). Usually it is described as some vague principle, unifying formula, or[19] *'proportionate method of arrangement of things, what might almost be termed their structural plans both individual and in sum.'* The emphasis of this very modern visual conception of ***logos*** lies with 'measure,' 'reckoning,' or 'visual proportion.' Yet even here Heraclitus cannot be the 'inventor,' since emphasis on measure and proportion was the hallmark of Pythagoras. Kirk thought that his originality lay in recognizing the *form* of things rather than their *substance*. He wrote:[20] *'The discovery of and emphasis on the arrangement of things, rather than their gross material constitution (though arrangement and order were not separable, but themselves material), is perhaps the most important one in the history of archaic speculation.'* Yet it was the Pythagoreans (and later, the atomists) who were famous for emphasizing *form* and *arrangement*. Even though the notion of ***logos*** is generally presumed to be the acme 'original invention' of Heraclitus, we will show that its true Musical meaning was already implicit in earlier philosophers, and that it is not something which stands apart 'in competition' with earlier thinkers. Rather, it supports and confirms their philosophies.

The effort to find the 'isolating factor' in other issues, such as **fire**, ***aither***, *soul*, or *motion* are also doomed to failure. For example, the nature of the 'Heraclitean *flux*' is ultimately derived from Anaximander's *eternal motion*. The cyclical *process* of that change within the ***kosmos*** by 'evaporation' (rarefaction, condensation) is derived from Anaximenes. No item in Heraclitus' arsenal of cosmological metaphors does not have its predecessors.

Indeed, no modern writer has yet been able to pinpoint just exactly *what it is* that made Heraclitus' philosophy unique and totally isolated from his predecessors, even though they all believe it. In fact, there is no such doctrine! Even though he was one of the greatest of the ancient philosophers, there is essentially *nothing original* in the

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[19] Kirk, Raven, and Schofield, *The Presocratic Philosophers* (Cambridge, 1995), p. 187.
[20] G. S. Kirk, *Heraclitus: The Cosmic Fragments* (Cambridge, 1954), p. 403.

'doctrines' of Heraclitus. His greatness comes rather from his unique ability to profoundly express the essential *unity* of all his predecessors. Heraclitus shows us that the philosophies of Anaximander, Anaximenes, Xenophanes, and Pythagoras are essentially the same—in spite of the fact that some were more conservative than others. Their common Musical universe is a 'jewel' which each philosopher described from his own particular angle, bringing out certain facets while ignoring (not negating) other facets. Heraclitus, by his ability to write penetratingly perceptive 'truths' about the Musical paradigm, throws light on all the facets given by his predecessors. He is not 'in competition' with them at all; rather, he is an eclectic figure who brings them all together.

The position of this essay is diametrically opposed to the current 'isolationist' interpretation of Heraclitus (and early philosophy in general). The modern scholarly community has missed the mark totally on this one—with disasterous consequences. Not only have they forfeited their understanding of Heraclitus, but also the other philosophers as well. They do not see that the Presocratic philosophers were quite 'interactive.' Above all, they do not recognize that Heraclitus sat in the *middle* of the Presocratic movement, sharing this special place with his radical 'adversary' Parmenides 'out in left field.'

Rather than being 'influenced by no one,' Heraclitus was profoundly influenced by *everyone*. He shows every indication of having had substantial contacts (probably direct contacts) with both Xenophanes and Pythagoras. From Xenophanes he acquired his love of paradox and riddles, his satirical side, his profoundly penetrating and focussed writing style, and his interest in ethics, politics, and philosophical method. From Pythagoras he acquired the emphasis on the ***harmonia*** and *measure* in the relations between the *opposites*. From Anaximenes he inherited the focus on *soul*, the whole quasi-ecological apparatus of 'musical meteorology' with its 'pathway up and down,' and the transmutation of the Elements. From Anaximander he inherited the notion of a 'blend' between *opposites*, as well as the doctrine of *eternal motion* and more. Heraclitus 'put it all together' in such a way that our understanding of the entire Presocratic movement is greatly enhanced. He syncretized the various cosmological perspectives so that a middle ground was found—not too conservative, not too radical, very similar in spirit to Anaximenes in the former generation. Indeed, Anaximenes was probably his 'closest cousin.'

REMARKS ON PHILOSOPHICAL METHOD

So far, this treatise has been examining what could be called the 'negative' aspects of Heraclitus' philosophy—his criticisms of others, his separation of human and divine knowledge, and so on. We now begin to move into the 'positive' aspects. Looking at the material already presented, one could come to the conclusion that Heraclitus despairs for the human race, which has no hope of enlightenment. Most people are asleep within their own private reality, and they do not comprehend or even apprehend what is 'common' or universal (the ***logos*** and ***harmonia***). Yet he also insisted that the ***logos*** *is* comprehensible, and that we can escape from our private dream world into the real world. We can wake up and take our share in divinity. Heraclitus was not a sceptical pessimist.

A method of escape from ignorance is at hand. This confidence in a means of escape reflects the optimism of religious Orphism.

Heraclitus shares with his teacher Xenophanes the earliest surviving reflections on philosophical method. Xenophanes had affirmed the difference between fragile human *opinion* and certain divine *knowledge*. His famous fragment 34 stated: *'No man has seen or will anyone know / the truth about the gods and all things of which I speak. / For even if a person should in fact say what is absolutely the case, / nevertheless he himself does not know it, but belief is fashioned over all things.'* Although this assessment seems pessimistic, he is also cautiously optimistic that we can better our position. In fragment 18 we have: *'By no means did the gods reveal all things to mortals from the beginning / but in time, by searching, they discover better.'*

Heraclitus inherited this mood of cautious optimism and expressed it in various fragments. We all have the ability to better our understanding, since (fragment 113, found in John Stobaeus 3.1.179): *'Thinking is common to all.'* In a piece of typical grammatical ambiguity, the term 'all' (***pasi***) can mean both 'to/for all people' and 'to/for all things.' The term 'thinking' (***phronein***) also has the associated meaning 'to be conscious.' The implication is that all of nature potentially exhibits consciousness, and consciousness is the key to understanding and 'waking up.' Not only are we potentially capable of thinking, but also capable of self-knowledge and 'thinking rightly.' This is shown in fragment 116 (also found in John Stobaeus 3.5.6): *'It belongs to all people to know themselves and to think rightly.'* The terms 'thinking' (***phronein***) and 'thinking rightly' (***sophronein***) are closely related in etymology as well as in sense. To the extent that we can gain insight and intelligence (***noos, phren***) we can transcend the limited human condition and resemble the divine. Not only is this insight possible, it is a human birthright—it belongs to all people.

We can gain insight through various methods. One is inquiry into ourselves, our inner nature (fragment 101: *'I searched myself'*). Another is through the correct use of the senses in the comprehension of the world around us. This outer world mirrors the inner world (they have the same Musical architecture based on ***anthropos***—microcosm, macrocosm). The senses are not infallible, but if they are used properly (with ***noos***) they nevertheless give reliable information. For most people the senses are not reliable because they do not have the intelligence to use them properly (fragment 107): *'Eyes and ears are bad witnesses to people if they have barbarian souls.'* Such souls do not yet have a grasp of the universal language of ***logos***. They are lacking in consciousness and thus (fragment 19) *'know neither how to hear nor how to speak.'* However, a person can gain in wisdom and so gradually learn the proper way to use the senses. To the wise person, the senses (which give information about the 'outside' world) are quite valuable. Heraclitus praises their value in fragment 55 (found in Hippolytus, *Ref.* 9.9.5): *'All that can be seen, heard, experienced—these are what I prefer.'*

Although he usually stresses hearing over sight within the bulk of his fragments, one statement curiously extols the later. Fragment 101a (found in Polybius 12.27.1) gives: *'Eyes are more accurate witnesses than ears.'* The textual base here is somewhat

flimsy, so that the fragment may in fact be spurious, but assuming that it is genuine we must make some explanation for this statement. It may well be an ironic expression in which the context is entirely missing. Then again, it may reflect the fact that falsehoods are more likely told (heard) rather than seen. This is one of those utterances that can have very many different interpretations within different contexts. Such ambiguity is also seen in fragment 7 (found in Aristotle, *De sensu* 5.443a23): *'If all things were smoke, nostrils would distinguish them.'* Perhaps the implication here is that we should use whichever sense is most appropriate to the given situation. This interpretation is supported by another fragment (98) which is highly curious (found in Plutarch, *De facie in orbe lunae* 943e): *'(And Heraclitus said, admirably, that) souls (have the sense of) smell in Hades.'* The implication is that even in Hades where the darkness does not allow us to see, we could still distinguish things by smell. All such interpretations are quite speculative, since the context of these utterances is entirely missing. Nevertheless, we can come to the natural conclusion that the proper use of the senses has validity as a vehicle of knowledge.

Another example where the lack of context makes the statement ambiguous is fragment 46 (found in Diogenes Laertius 9.7, translated by McKirahan): *'(He said that) conceit is a holy disease (and that) sight tells falsehoods.'* Robinson translates it as: *'(He used to say that) thinking is (an instance of the) sacred disease (and that) sight is deceptive.'* Here it is sight which is at fault rather than hearing. Some scholars have stressed that this statement is not an exact quote; indeed, it may not be a quotation at all, since it is found only in the reported speech of Diogenes. The term 'the sacred disease' was a common ancient metaphor for epilepsy, but its meaning or implication within this context is not at all clear. The connection between 'sacred disease' and 'thinking' points perhaps to the sacredness of 'thinking rightly,' but such conjectures have no certainty. This fragment is undoubtedly one of the most baffling statements in the whole Heraclitean corpus. Without any corroborating context, we are quite lost.

In order to become wise, we must learn from the senses and use them with intelligence (***noos***). Moreover, we must be quite catholic in our inquiries (***historie***), as stated in fragment 35: *'Men who are lovers of wisdom must be inquirers into many things indeed.'* However, the mere accumulation of facts is not enough. We must be able to see the connecting link which ties all the sciences together (the Resonance paradigm). It is not always easy to see, since (fragment 123) *'Nature loves to hide itself.'* Nevertheless, the seeker should persevere, since only through persistent effort will he/she find the truth. Thus fragment 18 (found in Clement, *Stromateis* 2.17.4, translated by McKirahan): *'Unless he hopes for the unhoped for, he will not find it, since it is not to be hunted out and is impassable.'* Here is Robinson's translation: *'If (he) doesn't expect (the) unexpected, (he) will not discover (it); for (it) is difficult to discover and intractable.'* The verb ***elpizein*** is notoriously ambiguous and could relate both to 'hope' and 'expectation.' The term 'impassable' (***aporon***) means literally 'without a path,' and is related to ***aporia*** ('perplexity'). The implication is that the pathway to understanding is difficult but not impossible.

Those who simply give up will get nowhere. Thus we have fragment 84b (found in Plotinus 4.8.1): *'It is weariness to labor at the same things and (always) to be beginning.'* An alternative translation: *'It is weariness to labor for the same (masters) and to be ruled.'* Without an effort we will continue to be slaves of our delusions and ignorance. On the other hand, with a proper effort we can set ourselves free (or become conscious).

We must be systematic about our inquiries, as shown by fragment 47: *'Let us not make random conjectures about the greatest matters.'* Such efforts to promote right thought, speech, and action will reap benefits. Thus fragment 112 (found in John Stobaeus 3.1.178): *'Right thinking is the greatest excellence* [***arete***], *and wisdom* [lit. 'skill,' ***sophie***] *is to* ***speak*** *the truth and* ***act*** *in accordance with nature* [***physis***], *while paying attention to it.'* Notice the emphasis on *speech* and *action*, as in a number of other fragments. The term ***arete*** traditionally meant only bravery in battle, but Heraclitus has shifted the meaning in a way that will be much used later by Plato. The last phrase is a bit puzzling, but it probably means that we should take heed of the real constitution of things (***physis***), even though it is not obvious. If we follow these directives, we will gradually realize that there exists a *unity*, coherence, and cooperation between the many aspects of the universe. This unity is to be understood through the Musical paradigm. Understanding it is a mark of wisdom, as shown by fragment 41: *'Wisdom is* ***one*** *thing* [or, the One], *to be skilled in true* ***judgement****, how all things are* ***steered*** *through all things.'*

The *process* of gaining this wisdom, or the 'intellectual environment' is generally described by two terms: ***polymathie*** and ***historie***. We should assume that they meant pretty much the same thing during archaic times. However, by the end of the 5th century when the Presocratic movement was ending (or mutating), the two terms had gradually differentiated themselves. ***Polymathie*** came to be associated more with the poets, who were traditionally valued as recognized teachers in the old stories about the gods, morals, and many other matters including the arts and even crafts. On the other hand, ***historie*** came to be associated (first with Hecataeus and later Herodotus) with the sort of people who travelled all over the known world collecting information about everything (people, cultures, nature, astronomy, meteorology etc.). Hecataeus was famous for revising Anaximander's nautical map, implying that Anaximander too practiced ***historie***. In fact, the term ***historie*** implies or 'suggests' the radical trajectory of Presocratic 'science' initiated by Thales and Anaximander. Yet we should not suppose that there was any real difference between ***historie*** and ***polymathie*** in the time of Anaximander or Heraclitus.

Through various fragments Heraclitus both praised and damned both terms. Yet on the whole he leaned toward ***historie*** and away from ***polymathie***. Perhaps his criticism of Pythagoras' ***polymathie*** arose from the recognition that Pythagoras occupied the more conservative, traditional end of the cosmological spectrum. Xenophanes, on the other hand, championed the more radical perspective which was furthered by his pupil Parmenides. In his many connections to his immediate teachers (Pythagoras and Xenophanes), Heraclitus 'blended' the two ends of the ideological spectrum—conservative and progressive. Interestingly enough, this spectrum also tends to be

reflected in the terms ***polymathie*** and ***historie*** themselves. As usual, Heraclitus sits in the middle.

More remarks should be made concerning Heraclitus' method (his path toward insight), but it must wait until an exposition of his overall cosmology is outlined. His conception of philosophical method cannot be divorced from his wider doctrine of *process* (change or *flux*), which is aptly described as *'the upward and downward path.'* These ideas, in turn, are intimately involved in a conception of the active *soul* which is *'sleeping and waking'* in its relation to the ***kosmos*** and its divine **fire**. In other words, Heraclitus' fragments on method form integral aspects of a wider cosmological perspective which will unfold itself in this treatise. The different parts of his philosophy then throw light upon each other, acquiring deeper meaning.

A similar situation exists for his views on the *senses*, their role and their architecture. The doxographical literature gives valuable information here, especially Sextus Empiricus. For example, an important role was assigned to *respiration*, as in the philosophy of Anaximenes. Moreover, references to the *'pores'* or *'openings'* of the senses were also consistently attributed to him. The earliest extant fragment attesting to the existence of the theory of *'pores'* is found in the Pythagorean medical philosopher Alcmaeon, whose dates are rather shadowy but are believed to be around 30 years (?) after Heraclitus. The doctrine of *'pores'* is intimately bound up with *'sleeping and waking.'* The whole issue around *'pores'* must be closely examined in a later section. First, we need to clarify his key terms ***logos*** and ***harmonia***, and relate them to the *'upward and downward path.'* From this center, we can spiral out to the many 'corners' in the wonderful circle of his thought.

ANCIENT MEANINGS FOR THE TERM *LOGOS*

Most writers studying the Heraclitean fragments would come to the natural conclusion that an understanding of ***logos*** is vitally significant. Indeed, it lies both at the heart of his philosophy and at the center of the Musical paradigm. In this section we will examine various common ancient meanings for the august term. In the next section, metaphysical aspects will reveal the core of Heraclitus' philosophy. After that, modern interpretations of the term will be scrutinized. It is important to realize that Heraclitus did not coin this term himself; rather, it was in common use throughout the ancient period with a wide variety of different meanings. In fact, it is one of the commonest of Greek terms, and was used in a large number of idiomatic contexts. Heraclitus himself employed it in such a traditional manner as illustrated by certain fragments given below. Also, when he used it in his own rather specialized sense, he was not divorcing it from the ordinary uses. Often a given context can be interpreted in several ways, with no hard and fast line between them. For this reason it is useful to be aware of the various possible meanings of the term.

W. K. C. Guthrie has laid out the principal traditional meanings of ***logos*** in his *History of Greek Philosophy* (Volume 1, p. 419-24). However, in typically modern fashion, he has managed to suppress or ignore (probably through sheer unawareness) any

slightest connection between ***logos*** and music, even though the term is peculiarly musical in its associations. In the interest of understanding the Musical paradigm and its importance for Heraclitus, this material has been re-organized and laid out in such a way as to show that the core meanings of ***logos*** are crucial to music (and Music), and that the less musical meanings still have associations which can be derived from its musical roots. Thus the various meanings are organized starting from the most musical and moving to the less musical.

One of the most widespread and long-lived meanings for ***logos*** could be translated as *ratio, proportion, relation,* or *correspondence*. Our English term *ratio* is derived from the Latin ***ratus*** (meaning *'account'*), the past participle of ***reri*** (to think). The term is closely related to our English term *reason*, which comes from the old French ***raison***, and then from the Latin ***ratio(n)***. We will see that some meanings of ***logos*** overlap with meanings for *reason*. A *ratio* is defined in its most abstract sense as the *relation* between two different entities. We would write it algebraically as *a:b*. A *proportion* is simply the *relation* between two (or more) *ratios*, written as *a:b::c:d* or again *a:b=c:d*. A *proportion* is thus only a more complex architectonic manifestation of *ratio*. At the heart of this meaning is *relation*. A *ratio* is only possible if the two entities are at once different from each other and yet also able to be compared.

We have been expressing *ratio* in a very abstract way, but in actuality (both in ancient and modern contexts) the *relation* is practically always *quantitative* (i.e. numerical) and expressed in terms of *division*. This 'division-relation' is indicated by the colon *a:b* or a slash sign *a/b*. In these essays we generally use the colon, since it is convenient for notating a 'string' of ratios in a monochord division: say 4:5:6:8. Let's use the simplest possible *ratio*, sometimes called the *'first **logos**,'* the *ratio* 1:2. The numbers 'one' and 'two' are the different quantities, and the *relation* between them is called a *ratio*. This *relation* is itself a *unity* even though the 'entities' are separable or even *opposites*. In the context of music, this *unity* is experienced or *heard* as the octave *interval*. In other words, a musical interval is an experiential expression of a *ratio* or ***logos*** between vibrating entities. A more complex musical structure like a 'scale' or 'chord' is still a *ratio* but a more architectonically convoluted one in which various sub-components are also ratios. It embodies more diversity within its essential unity. This meaning of ***logos*** as *ratio* is very close to the ancient meaning of ***harmonia***, which signifies a 'fitting together' of unlike elements (usually numbers). There is a fair amount of overlap in meaning between ***logos*** and ***harmonia***, and we will explore the ancient meanings of ***harmonia*** in a later section. For now it is enough to realize that the two terms are almost inseparable as key aspects of one (resonance) paradigm.

Many examples of the ancient meaning of ***logos*** as *ratio* and *proportion* could be given. For example, 5th century Herodotus said that if an Egyptian's allotment of land was reduced by the Nile flood, he paid tax on the remainder (II, 109, 2) *'in (according to) the **logos** of the tax originally assessed.'* The tax was reduced in *proportion* to the amount of land lost. Again, Herodotus speaks of two ropes of flax and four of papyrus (VII, 36, 3): *'their thickness and quality were the same, but the flaxen were in **logos*** [in proportion] *heavier.'* Heraclitus used it in this sense within his riddling fragment 31: *'**Earth**...has its*

*measure in the same **logos** as existed before it became **earth.**'* We will defer an interpretation of this extremely paradoxical statement for now, only noting the clear use of ***logos*** to mean *proportion* or *ratio*. Sometimes Heraclitus organized the fragment itself in the form of a *proportion*. Such is fragment 79: *'A man is called infantile by a divinity as a child is by a man.'* Thus 'child:man = man:god' or more abstractly *a:b=b:c*. It continued to be used this way throughout ancient history, and instances of ***logos*** as *mathematical proportion* are common in Plato and Aristotle. Plato generalized it further in adverbial phrases meaning no more than *'similarly.'* Thus he said things like: *'You and I are different now from what we were yesterday, and similarly* [in the same ratio] *in the future we shall be different again.'* In all of these uses, a comparison is made between different entities or contexts. At the heart of the term ***logos*** lies this concept of *relation*.

Another meaning for ***logos*** is *measure*, full or *due measure*. Thus Herodotus said (III, 99, 2): *'Not many of them reached the **logos** of old age.'* In this idiom, a 'full measure' of a man's life is, say, 60 years, but many did not reach this number. Again, a comparison is made between two numbers, so that a *relation* is implied. The idea of *measure* obviously had important musical associations. Heraclitus used the term *measure* in place of *number* (the Pythagorean choice) in describing the ***harmonia***. It takes on special associations touched on in the next section.

Logos also meant the notion of *cause, reason,* or *argument*. Thus we have Aeschylus (*Cho.* 515): *'Why did she send libations, from what **logos**?'* Here it means, for what reason or argument. To have a *reason, cause,* or *argument* is to make some *relation* between events or issues. A *cause* implies some connection between *a* and *b*. In the 4th century, this meaning was extended to include that of *definition*, or *formula* expressing the essential *nature* (***physis***) of anything. In Aristotle, to give an *account* or description of something approximates defining it, and such a *definition* is deficient unless it stipulates its reason for existence or *cause*. This meaning of ***logos*** gained importance in Plato and Aristotle, but was not yet so prominent in the Presocratic era. Yet it is easy to understand how the notion of a *formula* could arise out of the *ratio* (*a:b*). What was once closely tied to a musical context became increasingly 'free' of it and progressively more abstract, less specifically musical. We have seen the same sort of 'evolution' in the term ***kosmos***.

Another ancient meaning of ***logos*** had to do with the notion of taking *thought*, weighing up pros and cons, usually presented as having a conversation with oneself. This is seen in Euripides (*Med.* 872) where Medea's way of saying 'I have thought it over' is literally: *'I had a talk to myself.'* Again, a comparison is made between alternative options. Parmenides sometimes used ***logos*** to refer to logical thought or *reasoning* as opposed to mere sensation. The faculty of discrimination is paramount. Close to this meaning is its use as *'opinion.'* Thus Herodotus says (VIII, 6, 2) *'in their **logos**,'* meaning in their opinion or estimation—by their own reasoning. Various idioms with are hard to translate word-for-word express similar meanings. For example, Herodotus (I, 141, 4): *'The rest of the Ionians decided by common **logos** to send'* (i.e. *agreed* to send). Another (III, 119, 1): *'Darius feared that the Six might have acted by common **logos**'* (i.e. in concert or conspiracy). Again (VIII, 68): *'those who are said to be in the **logos** of allies'* (who are called your allies). From these usages it is not hard to appreciate why ***logos***

would also be used to convey the *truth* of the matter, *'the real **logos**.'* Thus Herodotus says that true kings are (I, 120, 2) *'kings in the true **logos**.'*

Related to these usages is another widespread meaning for ***logos***. It denotes *worth, esteem, reputation,* even *fame*. To hold a man *'in **logos**'* was to honor him. Sophocles (*O.C.* 1163) said that the protection of a god was *'of no small **logos**.'* When Aeschylus (*P.V.* 231) said that Zeus had *'no **logos**'* of mortals, he meant that Zeus did not value them, care for them, or worry about them. Heraclitus used it with this meaning in his fragment 39: *'Bias...who was of more **logos** than the rest'* meaning of more *worth, value, account.* Again the implication of a comparison or *relation* is implied. In all of these meanings, an association can be drawn with the core meaning of *ratio*, or comparison between unlike entities.

Another group of meanings is perhaps even more archaic. The noun ***logos*** is related to the verb ***legein*** (*'to speak'*). Thus ***logos*** can mean *anything said,* or even written. It is an *account* of anything, an *explanation* of a situation or circumstance, even a story. It can refer to *talk*, conversation in general, or something commonly or proverbially said. The idiomatic use in Thucydides (II, 50) *'greater than **logos**'* means 'beggaring description.' It is easy to see how this meaning of *'explanation'* blends into the notion of *reason* or *cause*. Herodotus used it thus (IV, 8, 2): *'They say in their **logos** that **Okeanos** encircles the **earth**, but do not prove it in fact.'* Heraclitus used it in this same way in fragment 108: *'None of those whose **logoi** I have heard has achieved this...'* Sometimes it was used of *deceptive talk*. Here it has the implication of *rumour, report,* or even *dubious account.* Heraclitus used it in this sense in his fragment 87: *'A fool is excited by every **logos**.'* Sometimes it means the terms of a treaty or *agreement* (a relation again), a command, a section of a written work, or an account in a financial sense. This last sense is used by Herodotus thus (III, 142, 5): *'You will render a **logos** of the money which has passed through your hands.'* Here it implies facing the reckoning or paying the penalty.

Since ***logos*** relates to *speech*, it can also be translated as *Word*. Here it also has a strong sonic connection, similar to the Sanskrit ***Vac***. This translation can have various metaphysical associations which were exploited by the Stoics. It was in this sense of ***logos*** as the 'sacred word' which was used by the Stoic-influenced theological gospel of John, which begins: *'In the beginning was the Word* [***logos***], *and the Word was with God, and the Word was God.'* Such a late and metaphysical usage of ***logos*** was certainly influenced by Heraclitus' own profound use of the term. It is fair to say that after the time of Heraclitus the term ***logos*** took on even more associations and even greater depth.

Some of the later meanings for ***logos*** were probably influenced by efforts at the interpretation of Heraclitus' writings. In the 4th century, ***logos*** sometimes meant *general principle* or *rule*. For example, Aristotle spoke of *'the right **logos**'* in his Ethics. When Plato said that the universe is ordered according to ***logos***, he could have meant *'natural law'* or just 'according to *reason*' or both. Even in the 5th century ***logos*** could sometimes mean *law* or *natural law*. In his famous fragment 114, Heraclitus called it *'the one divine law.'* Such ecstatic utterances make it clear that the ***logos*** was more fraught with

metaphysical significance than merely an *'account'* or *'explanation'* of the physical *substance* **fire**.

It is often unclear which meaning (or group of meanings) for ***logos*** are dominant in a given fragment. A famous example is the single surviving fragment of the atomist philosopher Leucippus: *'Nothing comes about at random, but all from **logos** and by necessity.'* We could translate it as *'reason,'* or *'law,'* or even as '*logic.*' Such problems in the interpretation of ***logos*** are notorious in Heraclitus. Sometimes different senses are combined in the same sentence. A good example is from the atomist Domocritus' fragment 53: *'Many live according to **logos** though they have not learned **logos**.'* Here it seems to point to *general laws* or 'just the way things are.' This meaning blends into the notion of ***logos*** as 'the truth of the matter' seen above.

Finally, for some 4th century writers, ***logos*** came to mean the *faculty of reason* itself. This notion arises naturally from *cause, reason,* and *consideration,* 'weighing the options.' Inevitably the term came to have the associations of *rationality*, 'thinking rightly,' and good order. Thus for the Stoics in late antiquity the ***logos*** stood as a religious-philosophical term for the *rational principle* of the universe. The roots of this 'theological' version of ***logos*** can be found in Heraclitus himself.

In summary, we have seen the term ***logos*** interpreted as word, statement, story, account, explanation, agreement, opinion, thought, argument, reason, cause, ratio, proportion, general principle, definition, and faculty of reason. Underlying all of these associations is the ground-term *relation* or *correspondence.* The ***logos*** always involves a comparison between two or more unlike entities, components, or situations. It is this fundament attribute of *relatedness* which ties it so closely to a Musical perspective; in fact, it necessarily lies in the very center of any musical notion of order. Heraclitus used the ***logos*** not only in the common ways just outlined, but also in a special way which can only be described as metaphysical or quintessentially Musical. *Relatedness* is the central characteristic or ***physis*** of the ***harmonia***. The relation between the *One* and the *All* is a *pattern of relatedness* (a ***harmonia,*** a matrix of intervals). By acknowledging the importance of the ***logos***, Heraclitus provided an explanation for the old Anaximandrean question (fr. 41): *'how all things are **steered** through all things.'*

FRAGMENTS ON THE METAPHYSICAL *LOGOS*

In this section, a small grouping of (twelve) fragments are presented together. We could call this group the 'core fragments' since they reveal many of the central features of Heraclitus' philosophy. They also number among the most significant and enlightening utterances in the whole history of ancient western philosophy. For they disclose not only his own philosophy, but also the essential heart of the Presocratic ***kosmos***. Ancient philosophy does not get better than this![21] This section serves as a useful introductory survey of his overall system. Throughout this treatise we will need to return to these core

[21] In significance, perhaps only the fragments of Empedocles are comparable, due to the sheer beauty of his poetry. Empedocles owed much to Heraclitus, and they are both eclectic figures. However, a comparison between them will have to wait until the essay on Empedocles.

fragments in order to bring out their various ramifications within his own philosophy. They also reveal significant issues within Presocratic philosophy as a whole. Although these twelve fragments do not constitute the *only* Heraclitean statements of such over-riding importance (there are more!), they nevertheless provide a proper perspective on the fragments as a whole.

Fragment 50 (found in Hippolytus, *Ref.* 9.9.1): *'**Listening** not to me but to the **logos**, it is wise to agree that **all** things are **one**.'*

The emphasis on *listening* highlights the musical context. If we interpret ***logos*** in a traditional manner as *ratio* or *relatedness*, then it is literally true by the Musical paradigm that *'all things are one.'* Grammatically, *'all'* could refer both to things and persons. Perhaps the phrase is better translated as *'(the) All is One.'* This translation would clearly indicate the essential continuity between Heraclitus and his teacher Xenophanes. The word *'agree'* (***omologein***) is almost certainly a pun on ***logos***. *'Wise'* or *'wise policy'* is ***sophon***. The statement asserts that the *Many* relate to the *One* through *ratio* (a musical concept).

Fragment 114 (found in John Stobaeus 3.1.179): *'Those who **speak** with understanding must rely firmly on what is common to **all**, as a **city** must rely on (its) **law** and much more firmly. For all human laws are nourished by **one** law, the **divine law**; for it has as much **power** as it wishes and is sufficient for **all** and is still left over.'*

The term *'understanding'* or *'insight'* is ***noos*** (or ***nous***), a term of growing importance in the movement. In the Greek, *'with insight'* forms a pun with *'what is common.'* The sonic perspective is emphasized by *'those who speak.'* The metaphor of the *'city'* is commonly used (from at least the time of Xenophanes) as an apt description of the ***harmonia***. The *'one divine law'* refers to the central ***logos*** at the heart of the universal (*'common'*) Musical paradigm. This is the first *explicit* statement that the musical model is *divine law* in Presocratic philosophy, an idea already hinted at by his predecessors (especially Pythagoras) and also assumed by his followers. Its universality (applicability to any 'scientific' context) is affirmed by its *'power.'* The phrase *'as much power as it wishes'* reminds us of the Musical ***eros*** (desire, will). As usual, *'all'* is grammatically ambiguous and is perhaps better translated as *'the All.'* The phrase *'is still left over'* can also be translated *'overcome,'* and emphasizes the power of the ***logos*** as 'organizer.' The fragment as a whole affirms that the *'one divine law'* is universally applicable and is in fact the key to understanding all *patterns of order* within the ***kosmos***.

Fragment 10 (found in Aristotle, *De mundo* 5.396b20): *'Things taken together are **whole** and not whole, (something which is) being brought **together** and brought apart, (which is) in **tune** and out of tune; out of all things there comes a **unity**, and out of a unity **all** things.'*

'Things taken together' is notoriously controverted, and could also be translated as *'graspings,'* or *'takings together,'* or *'things in contact.'* Thus it refers to *'the All'* as any *continuum* between primal *opposites.* These *opposites* are emphasized by the use of

polar expressions: 'whole/not whole,' and 'in tune/out of tune.' The fragment describes the *relation* between the *One* and the *All* (or the *Many*) in terms of the musical metaphor: consonance (in tune) and dissonance (out of tune). *Simplicity* (in tuneness) creates an overwhelming experience of *'wholeness'* (or oneness, unity), while *complexity* (out of tuneness) creates the (illusory) experience of *'not whole'* (fragmentation, the Many). This experience is ultimately illusory because *relation* still operates even though complex relations 'mask' the underlying *unity*. In this fragment, the common Presocratic question of the *relation* between the *Unity* and the *Multiplicity* is characteristically tied specifically to the musical mode. All 'things' can be analyzed according to centrifugal forces which display its *diversity*. The musical experience (demonstrable by a monochord) is a metaphor for the diversity within the unity of the ***kosmos***.

Fragment 51 (found in Hippolytus, *Ref.* 9.9.2): *'They do not understand how, though at variance* [or differing] *with itself, it agrees with itself* [more literally: *by being brought apart it is brought together*]. *It is a backwards-turning* [or *backwards-stretching*] ***attunement*** [or ***harmonia***] *like that of the bow and lyre.'*

The *'attunement'* or ***harmonia*** of the ***kosmos*** is impossible without the establishment of a primal *opposition*. Through this establishment of *opposites*, the field of *relations* is generated. That which differs (***diapheromenon heautoi***) is also that which brings together (***palintropos harmonie***). We have seen that a *ratio* (***logos***) is impossible unless there are two *unlike* 'entities.' This *relation* between the *opposites* is explicitly described by the central musical metaphor of the *'stretched string.'* The terms *'backwards-turning'* (***palintropos***) and *'backwards-stretching'* (***palintonos***) are both found in the sources and there is no scholarly consensus over which one is correct. But in either case they both refer to the *music wire*, which must be firmly *fixed* at both ends and stretched into a *balanced tension* in order for the harmony to be generated. Again the structure of the ***kosmos*** is firmly tied to the classical musical metaphor. This fragment is the first and *clearest* ancient statement which ties Presocratic philosophy to the *monochord*; for the monochord was the primordial *'stretched string,'* said to be evolved out of the *'bow,'* and it was the mythical ancestor of all stringed instruments (such as the *lyre*). By using this simile for the universal ***harmonia*** Heraclitus is confirming the monochord base of Presocratic philosophy. The term ***harmonia*** used here could also be translated *'construction'* or *'connection,'* literally a *'fitting together,'* and is derived from the verb ***harmozein*** (to fit together). The fragment confirms the close association between ***logos*** and ***harmonia***.

Fragment 8 (found in Aristotle, *Nicomachean Ethics* 8.2.1155b4): *'What is opposed brings together; the finest harmony is composed of things at variance, and everything* ***comes to be*** *in accordance with* ***strife.'***

The modern scholarly community often suspects that this fragment is only a paraphrase by Aristotle, but the ideas (if not the wording) are surely Heraclitean. No ***harmonia*** is possible without a *balanced tension* between *opposites*. One of the recurrent images of Presocratic philosophy is the contrast between *'peace and war,'* or *'Love and Strife'* or *'justice and injustice'* within the ***harmonia***. It is derived from the musical

experience of *simplicity* (simple ratios) and *complexity* (complex ratios) within the fabric of the ***harmonia***. All patterns of complexity are ultimately derived (*'coming to be'*) from the utter simplicity of the *One*. The movement of generation towards complexity is ruled by *'strife'* (progressive condensation), and the movement back towards simplicity is ruled by *'peace'* (progressive rarefaction). In the coming generation of philosophers, Empedocles was to make all of this even more explicit, but this very appropriate image of ***harmonia*** as *'war'* was already implicit early in the movement.

Fragment 53 (found in Hippolytus, *Ref.* 9.9.4): *'**War** is the father of all and king of **all**, and some he shows as **gods**, others as **humans**; some he makes slaves, others free.'*

'War' is the principal Heraclitean metaphor for the ***harmonia***. Such *relations* will lead to *strife* if their generation is not *limited* by some means. *'War'* is king of *all* (or the *All*) because the *continuum* includes all of the conflicting archetypes of 'microtonal' harmony. Some harmonies are more 'godlike,' others more 'human.' This distinction reveals the traditional association of the primary 3-Limit ratios as *'divine'* and the 5-Limit ratios as *'human.'* The number 3 was the divine number, the number 5 the human number. This distinction is also to be observed in the traditional musical *tetrachord* (the basis of ancient scales). The two 'boundary tones' which relate by the ratio 3:4 (a musical fourth, a 3-Limit ratio) are *'slaves'* because they are *fixed* and immovable. On the other hand, the two inner tones of the tetrachord are movable or 'mutable' and hence *'free.'* These inner tones are often (though not necessarily) 5-Limit and hence *'human.'* It is apparent that his musical imagery is quite consistent with the classical Greek music theory. We will also see these same images in Pythagorean philosophy.

Fragment 54 (found in Hippolytus, *Ref.* 9.9.5): *'An unapparent **harmonia** is stronger than an apparent **harmonia**.'*

Harmonia can also be translated as *'structure'* or *'connection'* or *'attunement.'* Although we tend to speak of it as a 'thing,' it is really a *pattern of relatedness* (a field or ***logos***). The term ***kreitton*** can be translated both as *'stronger'* and also *'better'* or both. A contrast is made between what is obvious and the *hidden* (***aphanes***) structures of harmony. Both the obvious and the hidden 'connections' can be demonstrated on a monochord. It is these deep structures which have importance as the generators of *'strife.'* The hidden structures are ignored by most people who only make a superficial investigation of the musical ***kosmos***.

Fragment 60 (found in Hippolytus, *Ref.* 9.10.4): *'The upward path and the downward path are **one** and the same.'*

This fragment is generally classed among the group that displays the Heraclitean doctrine of *'the unity of the opposites.'* Apparent opposites are *one* depending upon one's perspective. The fragment points to the *relatedness* between the *reciprocals* (harmonics and sub-harmonics) and that they are *One* as *ratios* in the field. It reflects on the two possible directions on the circumference of a circle. It also refers to the process of generation (toward complexity) and its reversal (toward simplicity, ultimately the *One*).

This process is sometimes described as the path away from the ***aither*** or **fire** (the MONAD) towards complexity, and the path toward it. Such a conception pictures the path between the *opposites* as an 'outreach' (emanation) and the inward path 'taking back' (egress and ingress). But the 'up and down' path is more generally pictured as directly 'up and down' rather than 'in and out.' It is the path 'up' the monochord string using higher numbers in the approach to ***aither*** or **heaven** (the open string), and the corresponding path 'down' toward **earth** and smaller numbers. This path is also described as the *transmutation of the Elements* in the direction of **fire**: that is, the movement (evaporation, rarefaction) **earth-water-air-fire**, and the opposite movement (condensation): **fire-air-water-earth**. (See the diagram of the Elemental monochord 4:8 in the first essay). Finally, the 'pathway' also describes the cyclical destiny of the *soul* (waking and sleeping), the cycle of reincarnations, and the fate of the ***kosmos*** as a whole through the Great Year. This highly appropriate image of the ***kosmos*** as a pathway may have been inherited from his predecessor Alcman.

Fragment 84a (found in Plotinus 4.8.1): *'By changing it is at rest.'*

Change is *cyclical* and repeats itself in periodicities. This fragment ties itself to the Heraclitean doctrine of the *Great Year*. A master cycle can be found to integrate or 'harmonize' (through least common multiples) the various sub-cycles of nature. This *musical notion of time* is evident in the calendar, the periodic motion of the heavens, and so on. The phrase itself is beautifully paradoxical and reminds us of Xenophanes' statement that *'it is neither moving nor at rest.'* The context of the statement in Plotinus along with fragment 84b (*'it is wariness to labour for the same master and be ruled'*) involves a defense of reincarnation. We will see that there is another grouping of fragments which supports reincarnation. This fragment also demonstrates the notion of *balance* within the Heraclitean *flux*. Change occurs within cyclical periodicities and transmutation is not allowed to *'overstep its boundaries,'* a central doctrine of Anaximander.

Fragment 30 (found in Clement, *Stromateis* 5,103,6): *'The **kosmos**, the same for **all**, none of the gods nor of humans has made, but it was always and is always and shall be: an ever-living **fire** being kindled in **measures** and being extinguished in measures.'*

Kosmos means the 'ordered world,' and has aesthetic associations. The world is made beautiful by *order*. Hence it is a *'pattern of adornment'* or a ***harmonia***. Many ***kosmoi*** are possible, but all are expressions of the *One* (**fire**, ***aither***, the MONAD). This underlying and sacred *One* makes the ***kosmos*** *'the same for all.'* In this sense there is one ***kosmos***, and the *One* is divisible anywhere within it. All possible harmonies embody the *One* within themselves. True to traditional Musical symbolism, the *One* is described as an *'ever-living **fire**.'* It generates *life* and is akin to *soul*. The term *'measures'* is naturally understood *quantitatively* through the various possible *divisions* of the One which generate the ***kosmoi***. The divisions are *'kindled'* to generate complexity, and *'extinguished'* to restore simplicity. The use of the term *'measures'* instead of *'numbers'* indicates that Heraclitus is willing to consider irrational divisions as well as rational

divisions. As is generally the case with his predecessors, all possible divisions are included in his ***kosmos***.

Fragment 90 (found in Plutarch, *De E apud Delphous* 338d-e): *'**All** things are an exchange for **fire** and **fire** for **all** things, as goods for **gold** and gold for **goods**.'*

Again, *'all things'* can also mean *'the All.'* This fragment gives the proper and traditional relationship between the cosmic Elements in Presocratic philosophy. **Fire** stands (and always stood) for the *One* or the MONAD. The other Elements (*Roots* is a more accurate term) represent the *One* as primal generators of composites within the ***harmonia***. The DYAD, the TRIAD, and the PENTAD are powerful expressions or 'masks' of the *One* which are *'exchanged'* for the *One* through the use of least common multiples in the divisions. These archetypes are the primary ***archai*** of the 'multitudes.' *Gold* is a traditional simile for the *One* (***fire***), the most 'divine' or auspicious of the Elements, the first *One*. In a similar fashion, traditions existed in which *silver* stood for the DYAD, *bronze* for the TRIAD, and *iron* for the PENTAD. The metaphor of Elemental *'exchange'* also points to the *balanced tension* which is inherent in the ***harmonia***. A pattern of *relatedness* (***logos***) is generated which is characterized by Anaximandrean ***dike*** (penalty) and ***tisis*** (retribution) within the aesthetic *order*. **Fire** is the *source* of the *'path upward and downward.'* It is also omni-present anywhere within the path itself. **Fire** is the beginning and the end of the path, the alpha and omega. The other sacred Elements form the active expression of **fire.**

Fragment 52 (found in Hippolytus, *Ref.* 9.9.4): *'Lifetime* [or *eternity*] *is a child playing, moving pieces in a **pessoi** game; the kingdom belongs to a child.'*

'Lifetime' is a translation of ***Aion***, a term with various associations, not only a human life but also the *cosmic lifetime* or duration of the universe. We looked at ***Aion*** as a cycle of time in the first essay. This exquisite fragment thus also connects to the old concept of the *Great Year*. The game of ***pessoi*** is conjectured to be something like backgammon or checkers—a game in which one piece replaces another on the board. The image beautifully evoked is that of *Time* (***Chronos***, the 'ever-youthful' in Orphic imagery) effecting the cosmic cycles by 'shifting the pieces' on the 'board' of the ***kosmos***. Change is cyclical and ruled by *Time*. Moving pieces on the board also has apt associations with moving the movable bridge on the monochord. *'The kingom belongs to a child'* because *Time* is the ultimate everlasting power in any sonic conception of a Musical order. ***Chronos*** is the *king* of the Presocratic (and Orphic) ***kosmos***.

MODERN INTERPRETATIONS OF THE *LOGOS*

Twentieth century notions of what Heraclitus meant by ***logos*** are heavily influenced by preconceived ideas about the historical 'place' of Heraclitus. Briefly, early (6th century) philosophy is divided into two major 'schools,' which we can call *eastern* and *western*. The eastern school is labelled Ionian, or *physicalist*, or Milesian. Quite often it also includes Xenophanes. The western school is Italian, or *religious*, or Pythagorean. According to the modern view, Heraclitus, being a universal 'people hater,' apparently

said 'no' to both schools. Thus his philosophy is a form of 'protest' or *reaction against* the 'dogmatism' of the Milesians and Xenophanes as well as the 'unique' religiosity of the Pythagoreans. His concept of the ***logos*** was his own great discovery and claim to originality. However, the concept itself was so obscure and subtle that it exceeded his language ability to articulate it. Hence he spoke in riddles and symbolism, unlike his predecessors who were 'straight talkers.' Just as the two schools were carefully isolated or distinguished from each other, Heraclitus' concept of the ***logos*** must necessarily be something unique and totally divorced from earlier speculation.

This organization of early philosophy is quite indebted to Aristotle, and the prestige of Aristotle has assured that it is rarely questioned. However, it faces many problems that are difficult to address. First of all, Anaximander was always an awkward fit into this 'neat' scheme. Secondly, the religious aspects of the Milesians (especially in Anaximenes) must be denied or somehow 'swept under the rug' in order to distinguish them from the religious Pythagoras. Thirdly, Xenophanes is another 'misfit.' Although often classed as an Ionian, he nevertheless lived mostly in the west; moreover, many see him as a 'Theologian.' The usual solution to this problem has been to belittle or largely ignore Xenophanes (as Aristotle also did). Fifthly, the western school had many points of agreement with the Milesians (especially Anaximenes), which must be explained away or denied in order to emphasize their isolation from each other. Sixthly, the Italian school *must* be religious, but we also have the emergence (a little later) of the Eleatics (Parmenides), who is often described more as 'metaphysical-logical' rather than 'religious.' Also, Empedocles in the west is sometimes interpreted as 'scientific' like the Ionians. The very tidy split between an 'irreligious and scientific' east and a 'religious' west is thus a rather messy affair.

Heraclitus was himself an easterner. Inevitably, many have wanted to interpret him (like Aristotle did) as just another 'physicalist' in the tradition of Thales and Anaximenes. In this effort they attempt to 'play down' his religious sensitivities and make him a bit more 'scientific.' In order to do this, the concept of ***logos*** must have its metaphysical and religious aspects toned down or even denied. Although the extraordinary evidence of his pregnant fragments make a prosaic Milesian interpretation impossible, they do their best to fit him into this venerable Aristotelian mold. A denial (or at least a demeaning) of his metaphysical philosophy also bestows more 'glory' on the metaphysical Parmenides, whom many see as *the* Presocratic philosopher. It also supports the notion of 'progress' in ancient philosophy; that is, the metaphysical aspects of ***logos*** are denied to Heraclitus, so that they can be 'discovered' by the later Stoics. In this way, Heraclitus can be 'put into his proper place' as just another 'naïve and green' Presocratic philosopher on the road to 'true and mature' philosophy in Plato and Aristotle. For all of these reasons, and the sheer fact that they could make no sense of the ***logos***, the concept has been inordinately belittled in modern interpretations of philosophical history.

One modern solution to the '***logos*** problem' has been to largely ignore it. This approach is beautifully illustrated in John Burnet's *Early Greek Philosophy*. Throughout his long chapter on Heraclitus, he managed to mention the term ***logos*** only once, in one

footnote (p. 133). There he briefly informs us that it means *'his own account'* and not yet *'reason.'* He consistently translated ***logos*** as *'Word'* in the fragments, but he did not justify his particular translation. By reading Burnet, one gets the impression that the idea of ***logos*** was not an important issue for Heraclitus. In contrast, he spent several pages discussing his views on ***ecpyrosis*** (world conflagration). The chapter as a whole managed to picture Heraclitus as only a rather 'eccentric' exponent of traditional *'hylozoic materialism.'* Although Burnet's case is somewhat extreme, the general flavour of modern interpretations is quite similar. The most common tack, seen for example in Barnes, McKirahan, Robinson, and many others, is clearly to *restrict* the meaning of ***logos*** only to *'account'* and closely related meanings. Any further metaphysical or religious intent is usually classed as a 'Stoic projection.' The meaning of ***logos*** as *ratio* is presumed to be 'specialized;' and hardly relevant to Heraclitus. Needless to say, there is absolutely not awareness of *any* connection to music, in spite of the prominence of the term ***harmonia*** in Heraclitus. Interpretations of ***logos*** must be strictly *a-musical.*

Those writers who do make a brave attempt to define ***logos*** generally give definitions which are vague, verbose and 'general.' It is usually presumed to be a *'General Principle'* which is so 'general' as to be almost incapable of any articulation. A typical example is found in Reale:[22] *'It seems almost certain that Heraclitus called his principle **logos**, which, as many maintain, does not really mean reason and intelligence, but rather a **rule** according to which all things are accomplished and a **law** which is found in all things and steers all things and generally includes rationality and intelligence.'* The emphasis on a *rule* and a *law* are the very 'less musical' aspects of ***logos*** which came to the fore in the 4th century. The more Aristotelian conception of the ***logos*** was thus projected back onto Heraclitus himself. Although Heraclitus undoubtedly connected his ***logos*** with the notion of *law*, his conception of law was far more musical and less narrowly 'legalistic' (although the legalistic language for Music was already expressed through Anaximander). The very aspects of ***logos*** which are least musical are those most emphasized by modern writers.

McKirahan explained just why the ***logos*** must be extremely 'all-inclusive' or *general*, to the point of vapid abstraction. It must cover all possibilities, all diverse contexts. He writes:[23] *'Given the world's vast diversity, if everything happens because of a single **principle**, that principle must function or be displayed in many different ways. It must be totally **general**, and so an explanation of a phenomenon in terms of the **logos** will be at a very general level, and will link it to many other phenomena. Such **accounts** will be unfamiliar to the great majority of people who are unused to **thinking** in such ways. If Heraclitus "determined each thing according to its nature" and "says how it is" (fr. 1), it is not surprising that no one understands him.*

*The words just quoted suggest that Heraclitus believed that when properly used, language mirrors reality: the correct description or **account** of X accords with X's nature and says how X is, in that the **account** itself reflects the nature of X. This belief would **account** for Heraclitus' riddling and paradoxical expression: that is the only way to express accurately the surprising and complex **natures** of things and their **interrelations.***

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[22] Giovanni Reale, *From the Origins to Socrates* (State University of New York, 1987), p. 53.
[23] Richard D. McKirahan Jr., *Philosophy Before Socrates* (Hackett, 1994), p. 133-4.

"Nature loves to hide" (fr. 123), and ***accounts*** *that are too straightforward cannot capture this essential feature of reality. Like reality itself, a correct* ***account*** *of reality needs to be interpreted (Fr. 93--Delphi).*

The reader will observe how very often the word *account* is used in the explanation, and yet how very little is actually said about the nature of the ***logos***. Apparently it is a *'general principle'* so obscure that the obscurity itself is an important feature. According to this reasoning, the ***logos*** can mean anything to anybody. Yet McKirahan also approached a true consideration of ***logos*** when he mentioned the *'complex natures of things and their interrelations.'* Unfortunately, he did not take it up, but this is typical. The modern writers universally ignore *'interrelations'* and the whole perspective of Music.

Another typical and 'acceptable' interpretation of ***logos*** is found in Kirk, Raven, and Schofield (*The Presocratic Philosophers*), on page 187-8. Here the 4th century meaning of *formula* is emphasized: *'What they should recognize is the* ***logos****, which is perhaps to be interpreted as the unifying* ***formula*** *or proportionate method of arrangement of things, what might almost be termed their structural plan both individual and in sum... Yet 'formula,' 'proportionate arrangement' and so on are misleadingly abstract as translations of this technical sense of* ***logos****.* ***Logos*** *was probably conceived by Heraclitus at times as an actual component of things, and in many respects it is co-extensive with the primary cosmic constituent,* ***fire****.'* Here we see the typically modern (but so 'neo-Aristotelian') effort to combine ***logos*** with a Milesian-type physical *substance*. According to Kirk and his associates, the term could stand equally well for a law, a process, a god, or a substance according to the context of Heraclitus' inarticulate descriptions, because the concept was as yet too 'primitive' and obscure to be well defined. In fact, it was by nature almost indefinable!

Guthrie spent about 16 pages 'explaining' the meaning of ***logos*** in his *History of Greek Philosophy*, Vol. 1 (pages 419-435). In spite of this gargantuan effort, he largely managed to avoid any comprehensive or precise definition. A few spots come close to it, however. On page 425 he said that: *'the* ***Logos*** *is (a) something which one* ***hears*** *(the commonest meaning), (b) that which* ***regulates*** *all events, a kind of universal* ***law of becoming****, (c) something with an* ***existence*** *independent of him who gives it verbal expression.'* On page 428 it is: *'the* ***law*** *by which the world is* ***ordered****.'* He expands on this (page 429): *'That the* ***divine force*** *which brings rational* ***order*** *into the Universe is at the same time a physical,* ***material entity*** *is only what we should expect from the general climate of early fifth-century thought.'* As usual, ***fire*** is just another *material substance* as in Aristotle. On page 434 he attempts a summing up of *'the complexity of the* ***Logos-conception*** *in Heraclitus. To sum up, it is first of all the everlasting* ***truth*** *to which he is giving verbal expression, but which is independent of his utterance of it (fr. 1, 50). Next, it is the* ***subject*** *of that truth, the* ***One*** *which is everything (fr. 50). And this One is at the same time the* ***divine****, intelligent* ***principle*** *which surrounds us and* ***causes*** *the ordering of the cosmos, and that within us to which we owe whatever intelligence we possess. In us it is adulterated with lower elements and therefore with foolishness. At the same time it is* ***fire****, the hot and dry, and what corrupts it in us is its encounter with moisture and cold.'*

Gurthrie can be commended for attempting a comprehensive description of ***logos*** which also includes Heraclitus' psychology, since they *are* intimately connected. Yet, underlying his account is the same vague conception of the ***logos*** as some *abstract principle* that is inexplicably expressed through some *general law*. What all of these modern writers have in common is an overwhelmingly *visual* and *abstract-logical* notion of ***logos***, which has essentially nothing to do with the true meaning of *ratio* and *relatedness*. The sonic orientation is totally missing. The understanding of Music and its language is entirely lost. Given this handicap, they interpret Heraclitus to be intentionally obscure in his writing style because the *'logos-conception'* is itself obscure, unclear, and barely comprehensible (almost as bad as Anaximander's ***apeiron***, though less 'primitive'). As soon as one shifts perspective to the Musical, then Heraclitus exhibits not obscurity but great clarity within his cosmological language. The ***logos*** is not some vague, almost expendable 'unity-principle.' It is the *metaphysical heart* of the Resonance paradigm.

THE ANCIENT MEANING OF *HARMONIA*

The terms ***logos*** and ***harmonia*** are closely associated in ancient philosophy, and this is entirely understandable. The two terms have meanings which overlap considerably. Like ***logos***, the term ***harmonia*** has several traditional intentions. In the case of ***harmonia***, even the 'non-musical' meanings have strong musical associations. Its etymology shows that it signified primarily a *'fitting together'* of dissimilar things. Homer used it in this sense for the fitting of a peg into a stool (*Od.* V, 248). It is a *'joining'* or a *'connection.'* Hence it is close to the notion of *relatedness*. There can be no harmony without differing elements that can be related to each other. The associations with music may have come through its connection with the lyre (the traditional stringed instrument of Greece). The cross-bar of the lyre was the ***harmonia*** connecting the two arms of the instrument. A music wire itself is a ***harmonia*** because it connects the two fixed bridges of the instrument. The musical notion of *relationship* in the *'construction'* is always implied in the use of the term.

The specifically musical meanings of ***harmonia*** already appeared early in the literature, and it is difficult to say just how old they are. We see the musical purport already in the early 5th century in Pindar (*Nem.* Iv, 44) and the lyric poets Pratinas and Lasus. But a musical sense was already in use in the 6th century. Indeed, it was one of the key-words in the philosophy of Pythagoras, as well as Heraclitus later in the century. The associations between ***harmonia*** and music are long and deep. They also persisted throughout the millennium of ancient Greek philosophy.

Two traditional meanings of ***harmonia*** are *specifically* musical. Firstly, it stood for the musical *octave* (ratio 1:2). Thus, for example, the 5th century Pythagorean philosopher Philolaus said in fragment 5:[24] *'The extent of the* ***harmonia*** [octave] *is a fourth, plus a fifth. The fifth is greater than the fourth by 8:9... Thus the* **harmonia** *contains five whole tones plus two semitones.'* Obviously the octave is an extremely

[24] Taken from *The Pythagorean Sourcebook and Library*, compiled and translated by K. S. Guthrie (Phanes Press, 1987), p. 168.

special relation in music. It is the very *'first **logos**.'* It can be argued that the 1:2 ratio is the first real musical interval, since the 1:1 interval (unison) can best be judged as *unity* or the *One* itself. The octave is the first ratio to demonstrate a connection between *unlike* elements (the numbers one and two). It is the first active 'operation' in the monochord 'ritual-procedure' which symbolically 'births' the Elements. Moreover, this ratio more than any other demonstrates a connectedness between *opposites*, since the notion of the MONAD and DYAD came out of the old mythological polarity between **heaven** and **earth**. Better than any other ratio it displays the *'unity of opposites'* or the *'harmony of opposites.'* The use of the term ***harmonia*** to designate the *octave* was also prevalent throughout ancient history.

The second specifically musical meaning of ***harmonia*** is familiar to us moderns, since we still use it. It means a musical *scale* or a *pattern of harmony*. In modern times we have extended this notion to include chordal harmony as well, but the ancients did not use chordal progressions. Like most other ancient Asian music cultures, their music consisted of melody and rhythm without *vertical harmony*. Hence a ***harmonia*** was a *pattern of relatedness* or a musical scale. It is here that we see the very subtle difference in meaning between ***harmonia*** and ***logos***. Both terms refer to a pattern of relatedness, but the term ***logos*** puts the emphasis on *relatedness*, while the term ***harmonia*** puts the emphasis on *pattern*. Thus, for example, when the Pythagoreans talked of the ***'harmonia** of the spheres'* or planets, they were thinking of its *pattern* as a musical *scale*. Any scale or pattern of relatedness, for example a monochord number sequence, is an example of a ***harmonia***. Obviously, the term was closely associated with *ratios* and *numbers*. Indeed, one of the shortest accurate modern definitions of a *harmony* is still to say that *it is a ratio* or a complex of ratios.

It must be emphasized that a *harmony* requires at least two *unlike* elements in order to affect a *'joining.'* Otherwise, it is already the *One*. This aspect of the meaning is emphasized in another fragment of Philolaus:[25] *'Now since these principles* [***peras, apeiron*** or limited, unlimited associated by the Pythagoreans with MONAD, DYAD] *are not mutually similar, nor of similar nature, it would be impossible that the **order** of the world* [***kosmos***] *should have been formed by them in any manner whatever unless **harmonia** had intervened. Of course, the things that were similar, and of similar nature, did not need **harmonia**; but the dissimilar things, which have neither a similar nature, nor an equivalent function, must be organized by the **harmonia**, if they are to take their place in the **connected totality** of the world.'* It is out of this ubiquitously encountered meaning that we get the highly appropriate Heraclitean metaphor of *'war'* or *'strife'* (***eris***) for *harmony*. It consists of a 'joining' between elements which are 'at odds.' It is the complex *'construction'* of a *whole* according to principles based on *proportion* and *measure*.

Heraclitus' favorite metaphor for ***harmonia*** is well illustrated by his important fragment 80 (found in Origen, *Contra Celsum* 6.42): *'It is necessary to know that **war** is **common** and **justice** is **strife** and that all things happen in accordance with **strife** and **necessity**.'* In saying that *'war'* is *'common'* (universal) like the ***logos***, he is emphasizing

[25] *Ibid.*, p. 168.

the close connection between ***logos*** and ***harmonia***. This fragment has close affiliations with Anaximander, who also spoke of the *strife* between *opposites*. The importance of *Necessity* (the term is generally assimilated with the *mese* goddess who assists *Zeus*), and the description of *harmony* as *'justice and injustice.'* Burnet tried to distance Heraclitus from Anaximander by saying that the *strife* was *injustice* for Anaximander but *justice* for Heraclitus. This argument is rather silly, since it assumes 'the one or the other.' Yet the notion of *'justice and injustice'* was also a *continuum* between polar *opposites*. This *continuum* is also inherent in the meaning of ***harmonia***.

The *continuum* which exists between musical *consonance* (ratio simplicity) and musical *dissonance* (ratio complexity) is the paramount structural feature of the field of ***harmonia***. At one end of the extreme is the *One* itself (ratio 1:1) and such euphonious ratios as 3:5. At the other extreme are dissonant ratios such as 18:19 and beyond to the ***apeiron***. Yet these dissonances are also examples of a ***harmonia***, only dissonant rather than consonant examples. The concept of ***harmonia*** includes *both* consonance and dissonance. This is why the Presocratic philosophers used the metaphor of the *Forces* to describe the ***harmonia*** of the ***kosmos***. It was variously described as *'peace and war,'* or as *'Love* [***Kypris***] *and Hate* [***Neikos***],*'* or as *'Amity and Strife,'* or as *'blended and not blending.'*

This last description is particularly apt, since modern acoustics has shown that the experience of dissonance involves the lack of integration (fusion) between 'warring' partials and difference tones in the timbre (harmonic color) of the acoustical components. We hear this 'lack of blending' as 'beating' between partials or 'roughness' in the tone. The description of this experience as *'war* is particularly appropriate and definitely *not* based on ignorance of the nature of *harmony*. Even if the ancients did not understand the complex physics underlying consonance, they understood it *experientially* as well as us moderns. Indeed, the ancients had names for the experience: consonance was ***symphonia***, dissonance ***diaphonia***. Euclid, in his *Sectio Canonis*, defined consonance as *'the blending of a higher with a lower note.'* Dissonance is *'the incapacity to mix when two tones cannot blend, but appear rough to the ear.'* Similar definitions are found in Aristoxenus. This terminology of a *'blend'* or a *'mixture'* (***krasis***) was already attributed to Anaximander. It is highly compatible with descriptions of 'amity and strife,' or 'justice and injustice,' or 'peace and war.' The Heraclitean description of the ***harmonia*** as *'war'* (and consequently also as *'peace'* by implication) indicates an awareness of this continuum within the perceptual field of *harmony*.

Heraclitus proves his awareness of the *continuum* between consonance and dissonance in his extra-ordinary statement which is fragment 10: *'Things taken together are whole and not whole, something which is being brought together and brought apart, in tune and out of tune; out of all things there comes a unity, and out of a unity all things.'* The swing towards simpler ratios promotes 'peace' or defines the direction of 'peace.' The swing towards more complex ratios promotes 'war' and 'strife.' The more complex ratios sound *'out of tune'* to the ear, which seeks simple ratios as 'reference points' or *norms* within the field of *harmony*. The complexity can also reach the point where perceptual 'fragmentation' sets in; that is, the relation to the *One* becomes lost. At

that point, the ***harmonia*** is no longer *'a whole,'* no longer a ***kosmos***. The two inherent directions in the field of ***harmonia***, towards simplicity and towards complexity, can also be described quite well as *'the pathway up and down,'* where 'up' stands for the approach to simplicity (ultimately to the *One*) and 'down' stands for the generation of complexity (ultimately to the ***apeiron*** or the Many). The metaphorical language that Heraclitus used is thus perfectly suited to the structural features of ***harmonia***.

His acknowledgement of *both* 'war and peace' is also illustrated by fragment 67 (found in Hippolytus, *Ref.* 9.10.8): *'**God** is day and night, winter and summer, war and peace, satiety and hunger, but (it) changes the way **fire**, when mingled with perfumes, is named according to the scent of each.'* This profound statement is unusually rich in interpretive contexts and implications, which will be further explored later. For now, note that the ***kosmos*** is typified as much by 'peace' as by 'war.' As usual, we see in Heraclitus a recognition of a *continuum* bounded by *opposites*. 'War and peace' thus form a 'field of possibilities' which is a metaphor for the sonic spectrum of consonance and dissonance. This spectrum is then a metaphor for the world at large. It is this whole kaleidoscopic spectrum of *ratio variety* that is the domain of ***harmonia***.

In addition, Heraclitus' awareness of the *polarity* between consonance and dissonance within the ***harmonia*** is well illustrated by a remark found in Aristotle (*Eudemian Ethics,* H1.1235a25). Although many scholars would prefer to distance this remark from Heraclitus, it is nevertheless an insight into his thought: *'And Heraclitus criticizes the poet who wrote, "Would that **strife** would perish from amongst gods and humankind" (Homer, Iliad 18.107). For, he says, **attunement** would not exist unless there were a low note and a high note, nor living things without female and male—which are **opposites.**'* He is emphasizing that *'attunement'* (***harmonia***) is only possible at all when there are unlike elements. Note the direct use of a musical example. The whole notion of ***harmonia*** means essentially nothing unless one has a grasp of the *polarity* in the *continuum* between consonance and dissonance (simplicity and complexity). This critical polarity was universally described within the Presocratic movement by the metaphor of polarized *Forces*.

It is wise to keep in mind this notion of *'Love and Strife'* as we examine the dubious modern 'explanations' of Heraclitus' ***harmonia***. In the modern literature, the traditional meaning of ***harmonia*** is distorted in order to artificially separate the ***harmonia*** of Heraclitus from the ***harmonia*** of Pythagoras (and Empedocles).

MODERN INTERPRETATIONS OF HERACLITUS' *HARMONIA*

The meanings and musical implications of ***harmonia*** have been used so consistently throughout the history of ancient philosophy that the appearance of the term in *both* Pythagoras *and* Heraclitus poses a major embarrassment for modern interpreters. These two figures are supposed to be 'arch-enemies' with absolutely nothing in common. Later in the 5th century, Empedocles also used the term explicitly, but this is not such a problem for the moderns, since Empedocles was a westerner with known ties to the

Pythagoreans. On the other hand, Heraclitus was an easterner who even dared to criticize Pythagoras. How could they have ***harmonia*** in common?

The modern academic community has regarded it as an important challenge to *prove* that the Heraclitean ***harmonia*** is absolutely irreconcilable with the Pythagorean ***harmonia***,--that it is essentially a *reaction against* the Pythagorean use of the term. The two usages must be shown to be totally incompatible. This challenge *must* be met in order to preserve the 'isolationist' paradigm of early philosophy. Of all philosophers, Heraclitus and Pythagoras should be kept strictly apart in order to keep the orthodox historical interpretation intact. Moreover, the term is *so* important in Pythagoras (a corner-stone of his whole system) that any use of it in Heraclitus surely *must* have a completely different meaning. Above all, any musical associations *must* be denied, for only Pythagoras is presumed to have had *any* connections to music at all. For all of these reasons, a lot of ink has been spilled over this 'problem.'

One 'solution' has been to treat ***harmonia*** in Heraclitus the same way that Burnet treated ***logos***. Ignore the issue and hope that it goes away. After all, out of 130 or so fragments only three use the term explicitly—fragments 8, 51, and 54. (All three of them are listed in my 'core fragments'). Fragment 8 can be disposed of right away, since many see it only as an Aristotelian 'reminiscence' or loose paraphrase. The use of the term ***harmonia*** in this fragment could be no more than a 'later projection.' So we are justified in eliminating it from our list. That leaves only two fragments with the 'offending' term. Now fragment 54 also has its problems. It makes a mysterious comparison between the *'unseen **harmonia**'* and the *'seen **harmonia**.'* It is quite possible here to translate ***harmonia*** as *'connection'* or *'construction'* and simply avoid any musical implications. Anyway, the whole fragment is so cryptic that we are justified in sidelining it. That leaves only fragment 51 to deal with. However, here we have a major challenge, since fragment 51 compares the world or ***kosmos*** to a ***harmonia*** *'like that of the bow and lyre.'* In this fragment the musical associations are blatantly obvious and difficult to negate. It is fair to say that practically all of the modern attempts to distance Heraclitus' ***harmonia*** from Pythagoras involve commentaries on this one fragment.

Before giving a few examples of typically modern arguments, it is useful to outline the general framework tacitly accepted by all of the modern commentators. It involves the notion of *'Love and Strife,'* since these metaphors are invariably linked to ***harmonia***. It is assumed that the Pythagorean notion of ***harmonia*** is based on the usual musical meaning. However, Pythagoras allowed only simple euphonious consonances, and this 'law of proportion' manages to *neutralize* the 'warring' *opposites.* In the words, the Pythagorean concept of ***harmonia*** is all Love and no Strife. On the other hand, the Heraclitean ***harmonia*** is strictly non-musical. It means only an equilibrium of 'stress' or 'tension' or a sheer balance of power between the *opposites.* The world is a constant 'battleground' and any stability is only a temporary phenomenon within the incessant changes of 'war.' In other words, the Heraclitean concept of ***harmonia*** is all Strife and no Love. Later in the 5th century, Empedocles recognized the *continuum* between Strife and Love and developed it into his elaborate periodic cosmological scheme.

This interpretation fulfils the modern requirements. Heraclitus is seen as reacting against Pythagoras and negating his notion of ***harmonia***. The musical sense of ***harmonia*** is restricted only to Pythagoras and maybe Empedocles, since he too was a westerner. But it is definitely denied to Heraclitus. Surprise, there's also an added bonus! The truism of philosophical 'progress' is confirmed by Empedocles' 'advancement' over Pythagoras and Heraclitus. For Empedocles recognized *both* Love and Strife within the ***harmonia***. Unfortunately, this tidy scheme has its costs. It emasculates *both* Pythagoras and Heraclitus by denying them any real understanding of ***harmonia***. Pythagoras is allowed only Love, Heraclitus only Strife, so that neither of them comprehends the *continuum* within the field of ***harmonia***. As we saw in the last section, Heraclitus (and Pythagoras and everyone else) was surely aware of this *continuum*, as the evidence shows. Again we see the modern tendency to belittle the early philosophers in an attempt to make them fit into a preconceived scheme of 'progressive development.'

Many examples could be given from the modern literature, all of them variants of the above scheme. For example, Guthrie says of the relations between Heraclitus and Pythagoras:[26] *'The kernel of Heraclitus' quarrel with other thinkers seems to lie in his revolt against their ideal of a peaceful and harmonious world. This was in particular the ideal of Pythagoras, of whom, it is relevant to remember, he speaks more than once with particular harshness. For Pythagoras the best state was one in which opposite qualities were so blended by a law of proportion that their* ***oppositions*** *were* ***neutralized*** *and they produced, for example, euphony in music, health in the body,* ***kosmos****—order and beauty—in the Universe as a whole. These states of peace between elements which had been at war, brought about by the imposition of limit (****peras****) on a chaotic* ***apeiron****, he and his followers called good. Their opposites—discord, disease, strife—were evil.'...*

The Pythagoreans spoke as if the ***opposites*** *exhibited no reluctance to be blended in a* ***harmonia****, but found rest and, as one might say contentment when they were contributing to a perfect* ***krasis****, as in a musical scale or a healthy body. But that is all nonsense, says Heraclitus. By the very fact of being opposites, they must be pulling opposite ways,* ***resisting*** *all the time. Heat and cold, wet and dry, do not co-operate, they are mutually destructive. From their constant* ***strife*** *there may result a* ***temporary harmonia****, but equally well a* ***disharmony*** *like disease. The causal factors are the same in both cases. If there is a perfectly proportioned blend, it is only because the warring opposites have reached a state of* ***equal tension*** *or* ***balance of power*** *in which neither has the upper hand. Rest, cessation of effort, would mean the opposite of* ***kosmos****, for it would result in the falling apart of the opposites, whose union in an 'adjustment of opposite tensions'—locked, as it were, in an internecine struggle—is what keeps in being the world as we know it.'*

The ***harmonia*** has now apparently become a power struggle! This non-musical notion of ***harmonia*** as 'stress' they derive from fragment 51, which says that *'being brought apart it is brought together with itself; there is a back-stretching connection (or back-turning connection), as in the bow and the lyre.'* Even though the image is specifically and profoundly musical, it is interpreted in such a way as to eliminate all musical associations and emphasize only the constant *'tension'* between *opposites*. There

[26] W. K. C. Guthrie, *op. cit.* P. 448-9.

can be no real consonance in this relationship, only dissonance. Kirk wrote:[27] *'there is a* ***connection*** *or means of* ***joining*** *(the literal sense of* ***harmonia****) through opposite* ***tensions****, which insures this coherence—just as the tension in the string of bow or lyre, being exactly* ***balanced*** *by the outward tension exerted by the arms of the instrument, produces a coherent,* ***unified****, stable and efficient* ***complex*** [construction, harmony]. *We may infer that if the balance between* ***opposites*** *were not maintained, for example if 'the hot' (i.e. the sum of hot* ***substances****) began seriously to outweigh the cold, or night day, then the* ***unity*** *and coherence of the world would cease, just as, if the tension in the bow-string exceeds the tension in the arms, the whole complex is destroyed.'* According to this exegesis, the Heraclitean ***harmonia*** has nothing to do with music and ratio, only 'stress.' The *unity* of the whole is maintained by constant dissonance or 'war.' The Heraclitean notion of *harmony* has become exclusively a *disharmony*!

Kirk and his modern compatriots must find an explanation for the evident stability of the world in the face of this 'cosmic battle,' whose outcome is properly a continual *flux*. On this subject we have the following remarks:[28] *'Yet just as in a battle there are temporary local stoppages, or deadlocks produced by the exact balance of opposing forces, so Heraclitus must have allowed that temporary stability is to be found here and there in the cosmic battlefield, so long as it is only temporary and is balanced by a corresponding state elsewhere. This would not diminish the validity of the domination of strife (which, as for Anaximander, provides a metaphorical motive for change), but it allows the principle to be applied to the world of our actual experience, in which all things must eventually change but some things are for the time being obviously stable.'* Stability is only a local truce in hostilities. Note that this 'overdriven' interpretation of ***harmonia*** is derived only from the Heraclitean metaphors *'war,' 'strife,'* and *'tension,'* and assumes that their *opposites* (peace, amity, and release) do not exist. In this modern view of Heraclitus, ***harmonia*** is 'war' and nothing else.

All of these modern interpretations may have been influenced by Burnet who wrote early in the century:[29] *'We are now in a position to understand more clearly the law of* ***strife*** *or opposition which manifests itself in the "upward and downward path."...the fact that the two halves of everything are being "drawn in opposite directions," this "****opposite tension****," that "keeps things together," and maintains them in an* ***equilibrium*** *which can only be disturbed temporarily and within certain limits. It thus forms the "hidden* ***attunement****" of the universe (fr. 54), though, in another aspect of it, it is* ***Strife****. As to the "bow and the lyre" (fr. 51), I think that Campbell gave the best exploration of the simile. "As the arrow leaves the string," he said, "the hands are pulling opposite ways to each other, and to the different parts of the bow; and the sweet note of the lyre is due to a similar tension and retention. The secret of the universe is the same.* ***War****, then is the father and king of all things, in the world as in human society (fr. 53); and Homer's wish that strife might cease was really a prayer for the destruction of the world.'* Again we see an avoidance of the musical issues and an unbalanced elaboration on *one word* of the fragment, *'tension.'* Burnet's reference to Homer (*Il.* xviii,

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[27] Kirk, Raven, Schofied, *op. cit.* P. 193.
[28] *Ibid.*, p. 194.
[29] Burnet, *op. cit.*, p. 163-4.

107) comes from a fragment of Simplicius in which he was echoing a remark of Aristotle already cited (Simplicius, *in cat.* 412, 26): *'Homer was wrong in saying: "would that strife might perish from among gods and men!" He did not see that he way praying for the destruction of the universe; for, if his prayer were heard, all things would pass away.'*

All of these modern renditions have in common a lack of real understanding for the deeper musical meaning of ***harmonia***. The term cannot refer *only* to Love or *only* to Strife. Both consonance and dissonance are integral components of ***harmonia***. By isolating the two aspects from each other they essentially negate the whole import of term. Consonance and dissonance are really only degrees of *'clouding'* or *'mixing'* within one *continuum*, which stretches from the *One* to the ***apeiron***. What Heraclitus is emphasizing in his fragments is not the elevation of one pole at the expense of the other pole. It is the *interconnectedness* or *interdependence* of the two poles. Musical *harmony* (whether linear and melodic or chordal) always manifests itself as an *interplay* between consonance and dissonance, tension and release. Both are important, indeed, practically inseparable. The 'stress' on the music wire is an aspect of this interplay, but it does not follow that 'stress' alone is the essence of ***harmonia***.

In short, the moderns have put a peculiar focus exclusively on the term *'back-stretching'* (***palintonos***) while studiously avoiding the overwhelmingly musical associations of the fragment. As a result, they have generated a quirky and uncharacteristic notion of ***harmonia*** which is totally at variance to the well known classical usage. This eccentric view of *harmony* has then been inflated in order to dominate his whole philosophy and 'prove' that it is at odds with Pythagoras. Meanwhile, they have missed the rich associations contained in the fragment. The *'bow and the lyre'* are veiled references to the monochord (the archetypal stretched string). By typically denying *any* musical associations to the fragment, they have missed the key to understanding the musical basis for the Presocratic cosmic paradigm.

Far from isolating Heraclitus from Pythagoras (and Empedocles), this fragment amply demonstrates the essential similarity in their approaches. Indeed, the cosmic cycle of Empedocles is but an explicit elaboration of Heraclitus' *'pathway up and down.'* This connection with cyclical movement is also demonstrated in the fragment itself by the alternative translation of *'back-stretching'* as *'back-turning'* (***palintropos***). The term ***tropos*** has already been seen in Anaximenes in connection with his 'musical meteorology.' One of its traditional meanings was the *Solstice* (the 'back-turning' of the sun), or any other astronomical periodic cycle. Far from isolating Heraclitus, the fragment shows that the cosmologies of Empedocles, Heraclitus, and Pythagoras were profoundly influenced by the Milesian cosmological giant Anaximenes.

Although the ancients acknowledged his great significance, the moderns have consistently belittled Anaximenes and assumed that he was only a second rate thinker. As usual, the modern 'blindless' (or rather, 'deafness') toward a common Musical insight forms a critical handicap in understanding the intensively musical world of early philosophy. Pythagoras, Heraclitus, and Empedocles have more in common with Anaximenes than is normally assumed.

THE TRANSMUTATION OF THE ELEMENTS

The Pythagoreans defended a traditional, digital conception of ***harmonia***. The Elements (or, more accurately, the *Roots of harmony*) are equated with *Number* and expressed through number sequences (strings of ratios) on the monochord. The source numbers are the first few prime roots (1, 2, 3, 5) which form the basis of traditional musical harmonies. These 'hypostases' are poetically described by the four Elements **fire, earth, air,** and **water**. In no way can one become another except in a special sense: they can unite to form higher unities through least common multiples, form 'marriages' which result in more complex harmonies. Through the classical procedure of taking the *mean*, the DYAD can give 'birth' to the TRIAD, and so on, but they are not to be confused with each other. This very widespread traditional basis for the ***harmonia*** affirms the existence of the void between numbers. It also excludes irrational ratios, or at least it has some trouble dealing with them.

Beginning with Anaximander (and Thales?) we see the emergence of the radical perspective on ***harmonia***, which is decidely analog instead of digital. Through infinite divisibility, a conception of the *plenum* or *continuum* in the ***harmonia*** arises—a plenum which seeks to integrate the irrational with the rational. In this perspective, the void is no longer prominent; indeed, in the most radical of philosophers (such as Parmenides) it is eliminated altogether. The traditional Elements must be re-thought, redefined, their characteristics somewhat altered. We saw this in Anaximander's description of the continuum between **heaven** and **earth** as *'hot and cold'* and, by implication, *'dry and wet.'* Although these descriptions are characteristics of 'qualities' of the traditional Elements, they allow an analog 'flow' from one pole to the other.

Anaximenes took on this perspective and described it very appropriately as *'rarefaction and condensation.'* The 'middle ground' between **fire** and **earth** he likened to a 'quasi-element' which can transform itself into the other Elements depending on whether it is sufficiently 'condensed' or 'expanded.' Naturally (for valid musical reasons) ***aer*** **(air)** was chosen, since the conception of ***aer*** already included a variable amount of **water** within it. If it condensed more, it became **water**, then **earth**. If it rarefied, it became ***aither*** **(fire)**. After all, the 'medial Elements' were traditionally **air** and **water**, the 'divine' and 'human' Elements that actuate the multiplicity. Thus we see in Anaximenes the notion of the *transmutation* of the Elements into each other. This metaphorical language allowed the conception of the *continuum* and the possibility of irrational ratios, but it also preserved the traditional digital imagery for the ***harmonia***. Any given musical element can be seen as a *'blend'* or a *'mixture'* between Elements. Its great influence on his successors can be attributed to this 'accommodation' between traditional 'digitalism' and progressive 'analogism.' Xenophanes, for example, preserved this perspective by describing the inner continuum as *'clouds,'* an ideal image for the variable union of **air** and **water**, the medial Elements which are subject to *'condensation and evaporation.'*

Heraclitus should be placed within this mainstream. A number of fragments indicate that his conception of the Elements was in line with that of Xenophanes and Anaximenes. As usual, his profound utterances increase our understanding of his predecessors, especially Anaximenes. For example, the *continuum* between the primal *opposites* is described in fragment 126 (found in John Tzetzes, Scholia *ad Exegesin in Iliadem,* p. 126 Hermann): *'Cold things grow hot, a hot thing cold, a moist thing withers, a parched thing is wetted.'* Here he is affirming the basic *unity* between the various Elements and their motion on the *'path up and down.'* The Anaximandrean *'hot and cold'* is derived from the polarity between **fire** and **earth**, the prior and 'bounding' Elements. The description *'dry and wet'* is derived from the traditional poetic polaity between **fire** and **water**. In their movement 'up and down' the 'path' of the monochord wire, they are transmuted into each other.

The transmutation itself is emphasized in fragment 88 (found in Pseudo-Plutarch, *Consolatio ad Apollonium* 106e): *'The same thing is in both living and dead, and the waking and sleeping, and young and old; for these things transformed are those, and those transformed back again are these.'* This fragment shows that the movement of the Elements on the *'path upward and downward'* is a more comprehensive metaphor than only simple *material substance* in motion. It also contains a psychic component, as indicated by the reference to *'waking and sleeping.'* The Elements themselves also form aspects of the *soul* (***psyche***) which travels 'up and down' in the path of its evolution. Fragment 88 is one of the fragments which supports the notion of reincarnation and the evolution of the *soul* in its cyclical alterations between *'life and death.'* It also emphasizes the *unity* (**fire**) within this movement. This pregnant utterance is naturally paired with another of the fragments in support of reincarnation, fragment 62 (found in Hippolytus, *Ref.* 9.10.6): *'Immortal mortals, mortal immortals* [or, *immortals are mortal, mortals are immortal*], *living the death of the others and dying their life.'* These paradoxical fragments must be examined again when we look at the topic of reincarnation and Heraclitus' connections to Orphism. For now it is enough to realize that the Elements do not refer to simple *substances* alone as Aristotle maintained. The language of the Elements is itself a metaphor for a spiritual process, which later became the basis of alchemy.

Another example of the coupling between the Elements and the *soul* is found in fragment 36 (found in Clement, *Stromateis* 6.17.2): *'It is death to **souls** to become **water**, death to **water** to become **earth**, but from **earth** comes **water** and from **water soul**.'* Heraclitus often identified *soul* with ***aither*** and **fire**. But the term ***aither*** also has associations with **air** as well as **fire**. Many modern scholars insist that Heraclitus is here refering only to the physical *'substances'* **fire, earth,** and **water**, but *soul* is definitely also implicated. The most evolved *souls* are *'dry'* rather than *'wet;'* that is, they are closer to the 'top' of the path rather than the 'bottom.' We know from the doxographical literature that Heraclitus believed in the Anaximenean *'exhalation'* (***anathymiontai***) or *'evaporation'* of *soul* from the **earth** and *sea* (**water**). The term 'exhalation' also meant 'billowing up' as is the nature of smoke or steam. The notion is also found among the Stoics, for example in Cleanthes, after Arius Didymus (DK fr. 12): *'and souls too are exhaled (**anathymointai**) from moisture.'* The metaphorical process of 'breathing' was

already evident in Anaximenes. Aristotle said that Heraclitus identified *soul* with (*De anima,* A2 405a24): *'that exhalation of which everything else is composed.'* This is of course, the *One* or **fire.** The exhalation is the emanation. The added implication here is that souls travel the *'path up and down'* which is the Orphic 'wheel of birth,' and that only a select few escape the endless journeying. This religious interpretation is supported by the use of the term *'death,'* although *'death and life'* should also be translated metaphorically as a description of the consciousness shift (*'sleeping and waking'*) as well as the cosmic transmutation of the Elements.

What all of these fragments together confirm is that the Elements are not only 'physical *substances*' in the manner of Aristotle and prevalent modern notions, but that they also refer to metaphysical aspects of the *soul*. The *soul* also emerges as a ***harmonia*** with an architecture mirroring the vibratory nature of the world (***kosmos***). As in the philosophy of Anaximenes and Pythagoras, it is impossible to clearly distinguish a 'scientific cosmology' from a religious philosophy which is essentially Orphic. The *soul* will be the topic of a later section which will examine Heraclitus' many fragments which comment on this subject. For now it is enough to realize that there lies more to the Elements than we are lead to believe by Aristotle and his modern followers. Also, we should presume that the depth in the symbolic language was already present in Anaximenes, for whom the notion of *soul* and *exhalation* was very prominent.

The transmutation of the Elements can also be observed in a small group of fragments which scholars have numbered 76a, b, and c. All three of them have been judged spurious for various reasons. Most modern interpreters see them as only 'vague reminiscences' or garbled expressions of fragment 36 given above. It is true that these fragments say more or less the same thing as fragment 36, with one exception. They also include the Element **air** as well as the other three. Here they are together:

Fragment 76a (found in Maximus of Tyre 41.4): *'**Fire** lives the death of **earth** and **air** lives the death of **fire**; **water** lives the death of **air**, **earth** that of **water**.'*

Fragment 76b (found in Plutarch, *De E apud Delphous* 392c): *'**Fire**'s death is birth for **air**, and **air**'s death birth for **water**.'*

Fragment 76c (found in Marcus Aurelius 4.46): *'(We must always remember Heraclitus, to the effect that) death for **earth** is to become **water**, and death for **water** to become **air**, and for **air** (to become) **fire**, and so on in backward sequence.'*

One of the main reasons that modern scholars want to reject these statements is the influence of the orthodoxy that Empedocles 'discovered' the four Elements. Fragment 76 (a and c) gives *all four* in one statement. Therefore, it must be a 'Stoic projection,' since the other two 'acceptable' fragments which explicitly name the Elements (36 and 31, presented shortly) mention only *three* Elements, **fire, water,** and **earth**. They would prefer that Heraclitus did not know about the Element **air** and that the Element **air** plays no part in his cosmology. Such a theory would help isolate Heraclitus from Anaximenes. This ludicrous doctrine should be considered laughable but it is taken quite seriously by many modern scholars. In addition, most of them prefer to avoid the term 'Elements' altogether when examining Heraclitus. When referring to the three ***archai*** **fire, water,** and **earth**, they would rather use the term *'great world-masses.'* This description is

sufficiently 'physical' and vague to suit the modern paradigm of ancient philosophy. Some also attempt to distinguish 'exhalation' from the Anaximenean process of *'condensation and rarefaction,'* even though they are identical metaphors for the *emanation* of the multiplicity. In this way, Heraclitus can be removed so far as possible from Anaximenes. As usual, the standard modern interpretations supports the notion of a 'primitive' Heraclitus, an even more 'primitive' Anaximenes, and a 'progressive development' to Empedocles and beyond.

However, cracks in the armour of the modern orthodoxy have appeared. For example, Kahn (*The Art and Thought of Heraclitus*, Cambridge 1979, p. 154) is willing to assume that **air** was also one of Heraclitus' Elements, *'along with the Stoics.'* But his notion of the Elements is still strictly 'physical,' like that of the Stoics themselves who were quite influenced by Aristotle. Both Kahn and Robinson (p. 98-101) present elaborate schemes for demonstrating how the physical *mass* of the *substances* transmute into each other and whether it is synchronic or diachronic or both. Their notion of the Elements is not the slightest bit vibratory.

Notice, in fragment 76c, that the Stoic Marcus Aurelius has given us a beautiful description of the 'upward path' in the correct order **earth-water-air-fire**. This is the proper movement 'up' the monochord string to the top. The corresponding 'downward' movement is also mentioned as the *'backward sequence.'* It is quite likely that this was the original intent of Heraclitus, and it is identical to the 'process movement' already seen in Anaximenes.

One more Heraclitean fragment mentions the Elements and their transmutation explicitly. But this one is highly ambiguous and it is expressed as a multiple riddle. Everyone divides it into fragment 31a and 31b in order to help make some sense of it. Fragment 31a (found in Clement, *Stromateis* 5.104.3) goes: *'**Fire**'s turnings: first, **sea**, and of **sea** half is **earth** and half 'burner.''* The other, fragment 31b (also found in Clement, *Stromateis* 5.104.5) is: *'**Earth** is poured out as **sea**, and is measured according to the same ratio* [***logos***] *it was before it became **earth*** [or, *is measured in the same proportion as existed before it became **earth***]. ' These two statements are undoubtedly among the most difficult in the whole Heraclitean corpus. Their ambiguities may be caused by corruptions in the text, but we will assume that they are genuine Heraclitean utterances—they are purposefully expressed as a double riddle which challenges us to find the hidden meanings.

'Fire's turnings' (***tropai***) refers to the transmutations of the *One* (**fire**). Note the use of the Anaximenean term ***tropos***. This term had two traditional meanings. It was firstly a 'rout' in battle, when the enemy 'turns and runs.' Secondly, it referred to the Solstices, when the sun 'turned around' in its yearly cyclical course. From this second meaning came the common designation for the limits of the annual *oscillation*, marking the seasons of the year. By implication it meant any cyclical or oscillatory process, a very musical term. We could interpret it to mean that **fire** (the One) becomes **water** (PENTAD) and **earth** (DYAD).

The *'first sea'* may refer to **water** as the *Silence* of pre-manifestation, but this is paradoxical. In a more esoteric (geometrical) sense, the PENTAD appears *first* out of the *One* as the *Golden Proportion*. The reference to *'half is earth'* could be a veiled association between the **earth** and the DYAD. The term *'burner'* (***prastar***) is notoriously ambiguous. Specifically it forms the noun taken from the verb *'to burn.'* Hence it could be translated simply as **fire**. But it has implications of violence or violent activity. It has been translated as *'bolt of lightning,'* as *'fiery water-spout'* or even as *'hurricane,'* all appropriate images for the *vortex*. We should recall that the image was also used in the meteorology of Anaximander. Since half is **earth** and half **fire**, I take this to refer to the special relation between the MONAD and the DYAD, which is demonstrated in the monochord division 1:2. Fragment 64 says that *'the thunderbolt steers all things.'* Also, in fragment 32, the *One* (**fire**) is called by the name of ***Zeus***, who wields the thunderbolt. The Thunderbolt is the special divine *power* wielded by the MONAD in its relation of cyclical identity with the DYAD.

Finally, fragment 31a makes a comparison between **water, earth,** and **fire.** It says that half of the **sea** is **earth**, and half *'burner.'* Many modern interpreters have used this paradoxical statement in order to set up elaborate proportional schemes between the 'great world-masses' and how they transform into each other. We will spare ourselves the tortuous details. Yet a musical interpretation in line with traditional overall symbolism is also unclear. Again, an esoteric geometrical sense is consistent with traditional associations. The Golden Section is the first geometrical emanation from the *One*. Written in its traditional numerical form it equals one plus the square root of five divided by two. The numbers involved here (1, 2, 5) denote the Elements **fire, earth,** and **water**. This fragment may also allude to Xenophanes' fragment 29 which states that *'**earth** and **water** are all things that grow and come into being.'* This statement also relates **earth** and **water** to the *One* (***fire***); indeed, Xenophanes' fragment may also refer esoterically to the Golden Proportion.

Believe it or not, 31a is the easier of the two riddles—31b is even more problematic! *'**Earth** is poured out as **sea**'* or *'Sea (**water**) is poured forth from **earth**'* could mean that the PENTAD is derived from the DYAD in the monochord emanation, and that the DYAD is embodied in the PENTAD. Easy enough, but the second part of the statement is a whopper! It uses the highly musical terms ***logos***, *measure,* and **earth** in a very ambiguous way. Perhaps it says that the PENTAD uses the same process of emanation (the taking of the *mean*) that is used to generate the DYAD. This ongoing 'measuring' process is 'taking the half,' the basis of monochord work. Yet the statement is still paradoxical. *'Before it became **earth**'* (or the DYAD) it was **fire** (MONAD), but the MONAD is not yet a 'proper' *ratio* (except as 1:1). Rather, the first ***logos*** is 1:2. The very use of the term ***logos*** implies a connection with the *One* (**fire**), since Heraclitus associates them closely. Perhaps this statement also points to the Golden Proportion. However we interpret it, this fragment is one of the most paradoxical utterances in the whole history of early Greek philosophy. Such a complex multiple riddle demonstrates that there is more to the Elements than simple 'physical *substances*' or 'the material cause.'

THE TESTIMONIAL OF DIOGENES LAERTIUS

More information on the transmutation of the Elements can be gleaned from the writings of Diogenes Laertius (*Lives,* ix, 7-12). Early in this essay we already presented some of the biographical details and other information which was deemed of less value. But his summary of the Heraclitean doctrines is much more reliable. This summary is unusually thorough (for Diogenes) and shows that he had access to his book or considerable parts of it. It also shows how very important Heraclitus was judged to be in late ancient history. Finally, this testimonial confirms the many ties between Heraclitus and Anaximenes, and gives us a glimpse into his very Anaximenean astronomy and meteorology. As usual, we divide the text up into small segments with commentary. The translation is by T. M. Robinson, with amendments here and there inserted and taken largely from J. Barnes and J. Burnet.

'His doctrines can be summed up as follows. All things are composed of ***fire*** *and are resolved into* ***fire****; all things also come into being in accordance with destiny* [or *fate,* or *Necessity*], *and existent things are fitted together through the contrariety of the directions in which they turn* [or *by the transformation of the opposites*]. *All things, moreover, are filled with souls and divinities. He also spoke about all the events that occur in the world* [the *Great Year* or cosmic cycles], *and he said that the sun is the same size that it appears to be (fr. 3). He also said (fr. 45): "If you travel every path you will not find the limits of the* ***soul****, so deep is its account* [***logos***]*." "Thinking," he would also say, is a "sacred disease" and that the sense of sight deceives us (fr. 46). Sometimes, however, in his book he produces statements of clarity and lucidity, so that even the most stupid person can easily understand them, and derive from them elevation of* ***soul****. The brevity and weightiness of his expression are incomparable.'*

Diogenes' account is taken mostly from Theophrastus, so that there is a noticable Aristotelian bias. It is, however, easy to compensate for it. We know that he took the bulk of his text from Theophrastus since he used his standard format: first the primary *substance*, then the world, then the heavenly bodies, and lastly meteorology. The whole context is assumed to be strictly about 'physical' matters. Here and there we have Stoical influences which probably came from the *Vetusta Placita*. In the first paragraph, shown above, a short summary is made along with some random quotes. Note the statement that all things are full of *souls* and *gods*, a reference to Thales. That all things occur by *Necessity* (the handmaiden of *Justice*) is a reference to Anaximander. The fragment (45) on the *'limits of soul'* is quite profound and will be examined closely later. This paragraph is meant to be only a brief introductory summary. He goes on to fill out the picture:

'An account of his detailed views is as follows. ***Fire*** *is elementary and all things are an exchange for* ***fire*** *(fr. 90), coming into being by* ***rarefaction and condensation****. (His exposition of this matter is, however, not at all clear). All things come about through* ***opposites*** *and the sum of things is in* ***flux****, like a river (fr. 12); the universe is* ***finite****, and there is* ***one*** *world (fr. 30). This universe is born from* ***fire*** *and converted back again to*

***fire** in a process of cyclical alteration throughout all eternity; and this takes place in accordance with destiny* [Necessity].'

Most modern scholars deny outright that he believed in rarefaction and condensation, even though they have no good reason to doubt it. A typical reason is given by Burnet[30] *'In the fragments we find nothing about rarefaction and condensation. The expression used is "exchange" (fr. 90) a very good name for what happens when **fire** gives out smoke and takes fuel instead.'* Typically, **fire** is interpreted as only a 'physical substance' which Heraclitus chose because it was (p. 145) *'something which of its own nature would pass into everything else, while everything else would pass in turn into it.'* Burnet did not recognize that Heraclitus knew the four Elements. Yet the *'path upwards and downwards'* does not make sense without the transmutation of Elements. A denial of *'rarefaction'* also generates a need to distinguish it from Heraclitean (and Anaximenean) *'evaporation.'* These distinctions are quite artificial.

The ***kosmos*** is *one* and *finite*, as in Parmenides, Pythagoras, and Xenophanes. This doctrine recognizes that the 'space' between **heaven (fire)** and **earth** is finite, although infinitely divisible. The cosmic transformations are *cyclical* (or musical) in nature, and occur according to grand cycles (the *Great Year* concept). Such cycles can be discovered through musical means (least common multiples which 'accommodate' many important sub-cycles). They are ruled by *Necessity*, or fate, or destiny—the very nature and demonstrability of the inherent Musical arithmetic. These cycles begin with **fire** and end with **fire**, since out of the *One* comes the *Many*, which again resolves into the *One*. The movement is likened to the movement up and down the monochord string. Analogically, it became the movement between the 'Great Summer' (**fire** in ascendancy) and the 'Great Winter' (**water** in ascendancy) in the cosmic cycles. The text goes on to be more explicit about the *'path upward and downward.'*

*'Of the **opposites**, that one which leads to birth* [or generation] *is called **war** or **strife** (fr. 80), while the one that leads to conflagration* [destruction by **fire**] *is called **concord** or **peace**. The change is a **pathway** up and down (fr. 60), and the universe comes into being by a process of such change. For **fire** as it is condensed becomes moist, and as it coheres becomes **water**, while **water** on solidification turns into **earth**. This process is called the 'path downward.' Then once again, in turn, **earth** becomes liquified, from this **water** results, and from **water** the rest (of the Elements in the series), practically all of which he relates to the particular **exhalation** which rises from the **sea**. This process is the 'path upward.'*

It seems to me that this is a clear statement of the interplay between *'war and peace'* or *'strife and concord.'* It puts a lie to the modern notion that Heraclitus knew only *'war'* and no *'peace.'* Moreover, the *'pathway up and down'* is explicitly connected to the transmutation of the Elements in the two directions between the extremes **fire** and **earth**. None of this evidence is contradicted by his fragments. Diogenes goes on to five valuable information on the Heraclitean *'evaporations.'*

[30] Burnet, *op. cit.*, p. 147.

*'**Exhalations** arise from both **earth** and **sea**; the former are dark, the latter bright and pure. **Fire** is augmented by the bright exhalations, the **moist** element by the rest. He does not make clear what sort of thing the surrounding (element) is* [or *what the heavens are*]. *He does say, however, that there are in it **bowls** with their concave side turned toward us, in which the bright exhalations are collected and produce flames; these are the heavenly bodies.'*

If we are to believe Diogenes (and there is no reason not to), then there two *'exhalations,'* not one. This is consistent with Anaximenes, and also consistent with the Musical paradigm. For there are two 'medial Elements' (**air** and **water**), one of them *'bright'* and the other *'dark.'* There is a bit of confusion in the text, since the two exhalations (or evaporations) arise out of **earth** and **water** and not **fire** and **earth**. However, this is just a change of perspective, since **earth** and **water** are the 'heavy' Elements and **fire** and **air** the 'light' Elements. Consequently, on the path upward, **fire** and **air** can be said to 'evaporate' out of **earth** and **water**.

The modern scholarly community does not want to believe in two exhalations for Heraclitus (or Anaximenes). They contend that this was only a misunderstanding by Theophrastus, and that the theory of a dual-exhalation was the 'discovery' of Aristotle. They contend that Heraclitus knew only one (moist) exhalation from the **sea** (a strict and narrow interpretation of the existing fragments). Aristotle then elaborated this Heraclitean theory for his own meteorology, and considered the dry exhalation from the **earth** as his own discovery. But this is only a familiar attempt to postpone 'progress' in the cosmological theories. All of this metaphorical language of the *vortex* of fiery heavenly bodies being 'nourished' by exhalations from the **earth** and **sea** is already found in Anaximenes. W should assume that Heraclitus' astronomy showed great continuity with that of the Milesians.

The notion that the heavenly bodies are *'bowls'* of **fire** is first explicitly stated in Heraclitus, but it is entirely consistent with other theories of ancient astronomy, which saw them as boats, chariots, etc. Before we dismiss the *'bowls'* as primitive nonesense, we should consider that (in the next century) Plato also visualized the orbits of the planets as a series of *nested bowls* in his *Timaeus* and other writings. The image is not entirely worthless. Moreover, it was supported by popular mythology which pictured the sun at night sailing from west to east round the northern stream of ***Okeanos*** in a *golden bowl*. In other words, his description was meant to be understood poetically. This is also the case with Heraclitus' fragment 6 (found in Aristotle, *Meteor.* B2, 355a13): *'The sun is new every day.'* Plato (*Republic* 498a) obliquely hinted that Heraclitus' original sentence also had references in it to the sun's being *'kindled'* and *'extinguished'* every day at dawn and sunset. All of this shows the close connections between Heraclitus and Xenophanes; indeed, fragment 6 could be a quote of Xenophanes' statement that the sun is new (or reconstituted) every day. In other words, we should not artificially separate the early cosmologists into individuals with competing systems. All have the same very Musical model, with minor differences due to varying poetic expressions.

Diogenes goes on to give more astronomical details, confirming that Heraclitus' astronomy is consistent with the other early cosmologists:

*'The flame of the **sun** is the brightest and hottest. For the other stars are further away from the **earth** and for that reason give less light and warmth. The **moon**, which is nearer the **earth**, is borne through a region (of the universe) other than the pure one. The **sun**, however, lies in a translucent and pure region, and keeps a **proportionate** distance from us. That is why it affords us more warmth and light. **Eclipses** of the sun and moon occur when the **bowls** are turned upwards; the moon's monthly phases are brought about by the bowl's turning little by little in its place. Day and night, months, seasons, years, rains and winds and similar things are brought about by the various **exhalations**. Thus the bright exhalation, set aflame in the hollow side of the sun, creates **day**, while the opposite exhalations, when it gains the upper hand, produces **night**. The increase of warmth brought about by the bright exhalation creates **summer**, while the preponderance of moisture brought about by the dark exhalation produces **winter**.*

*His account of the reasons for the other phenomena (of nature) also is consonant with the above. When it comes to the **earth**, however, he give no clear account of what sort of thing it is; or for that matter what sort of thing the bowls are.*

Such are the views he held.'

In short, Heraclitus' astronomy-meteorology is entirely consistent with that of his predecessors (and successors) in the Presocratic movement. Although the term is not directly used, the movement of the heavens is explained by a *rotational vortex* which is 'fed' by the process of *'condensation and evaporation.'* Although Diogenes' account concerns only the physical world, we should assume that the *soul* also has a similar 'proportionate' architecture and is animated by the same cosmic forces. Both the system of planets and the aspects of the *soul* form a ***harmonia*** of *opposites.*

MORE DOXOGRAPHICAL EVIDENCE

We have seen that the image of the transmutation of the Elements is not confined to astronomy and meteorology. It also concerns what could be called a *cosmography of the soul*. This metaphorical language was already implicit in the fragments of the Milesians, especially Anaximenes. In this section we present further evidence in the doxography that the philosophy of Heraclitus is an elaboration of the Milesian system.

It is necessary to bolster this thesis in order to counter the modern interpretation of Heraclitus. His philosophy is almost universally assumed to have almost no relation to the Milesians, apart from an effort to react against 'Milesian dogmatism' or 'positivism.' It is also postulated that Heraclitus probably had little interest in astronomy-meteorology, and that his main concern in philosophy was only the promotion of his 'general principle.' Moreover, modern interpreters try as much as possible to separate the Elements from the *soul* and restrict them to the physical world within Heraclitus' own system. This effort is illustrated by the avoidance of the term 'elements' altogether in favor of the more 'physicalist' term 'great world-masses.' Although most modern scholars would admit that it is not possible to separate **fire, earth,** and **water** from *soul* altogether in Heraclitus, they refuse to admit that Heraclitus described the *soul* as a

harmonia of Elements, a theory which they prefer to restrict to his 'enemies,' the Pythagorean school. Finally, they assume that any talk about a compatibility with the Pythagoreans and/or Milesians is not permitted because the Pythagoreans were a 'closed' religious society and the Milesians were 'rational scientists' and thus by implication anti-religious. Heraclitus is assumed to be off on his own, a lone genius who had no use for the thought of his predecessors.

Yet the doxographical evidence by Diogenes Laertius presented above illustrates his close connections to Anaximenes. It has become popular to demean this evidence, and assume that *'condensation and evaporation'* were not important to Heraclitus. However, the rest of the doxography confirms the close ties in a consistent manner. For example, Simplicius wrote (*in Phys.* 23, 33): *'These too, Hippasus of Metapontum and Heraclitus of Ephesus, considered (the universe)* ***one, in motion,*** *and* ***limited,*** *but made* ***fire*** *the first principle, and make existent things out of* ***fire*** *by* ***condensation and rarefaction*** *and break them back down again into* ***fire,*** *on the grounds that this reality* [**fire**] *is the single underlying* ***one.*** *For Heraclitus says that all things are an exchange for* ***fire.*** *He also creates a certain* ***order*** *and bounded* ***time*** [the Great Year] *out of the universe's* ***change*** *in accordance with a certain destined* ***necessity.'*** We have here a beautifully succinct summary of the Presocratic cosmology which has its roots in the Milesians. The image of *'condensation and rarefaction'* is fundamental. Note the pairing with the Pythagorean Hippasus. The notion of a Great Year was also prevalent among Pythagoreans and Milesians; indeed, it was a common Presocratic conception.

Connections with Hippasus are also illustrated in a fragment of Aetius (1.3.11, *Dox. Gr.* 284), along with the transmutation of the Elements. *'Heraclitus and Hippasus of Metapontum say that* ***fire*** *is the first principle of the sum of things. For all things come into being from* ***fire,*** *they say, and all things finish up turning into* ***fire.*** *While this is in process of being put out, the totality of things becomes organized into a universe* [***kosmos***]. *For the denser part of* ***fire contracts*** *into itself and becomes* ***earth,*** *then (the)* ***earth*** *is* ***loosened*** *by (the)* ***fire*** *and by a natural process finishes up as* ***water,*** *and this* ***water*** *when drawn up as vapour becomes* ***air.*** *The universe and all bodies are consumed once again by (the)* ***fire*** *in the (re)-conversion (of things) into* ***fire.'*** Note the inclusion of all four Elements. The admission of **air** makes this fragment dubious for many scholars who would prefer that Heraclitus had no conception of **air** in his cosmology. However, it is again confirmed in this fragment from Galen (*De elementis secundum Hippocratem*, 1.4): *'Those who call* ***fire*** *(an element) are the same ones who reason that the element (in question) is* ***fire*** *from the fact that when* ***fire*** *comes together and* ***contracts*** *it becomes* ***air;*** *that when it is subjected even more intensely to this process it becomes* ***water;*** *and that when contracted to the maximum degree it becomes* ***earth.'*** All of this is entirely consistent with Anaximenes.

Heraclitus had much influence on later philosophy-cosmology, due to the very power of his writings. Consequently his book was quoted often. These late testimonials usually display the conceptual bias of Aristotle; yet they usually also provide an accurate window into Heraclitus' own ideas, since the bias of Aristotle is generally quite transparent and easy to counter. Sometimes we find some very appropriate summaries of

his philosophy. For example, here is Aetius (1.7.22, *Dox. Gr.* 303): *'Heraclitus held that the recurrent **fire** is everlasting, and that **destiny** is a **logos** which fashions existent things through the **contrariety of the directions** in which they tend to run.'* The contrariety of directions is the *'path up and down.'* **Fire** is recurrent because of the process of change 'up and down the path' begins and ends with the One. Its cyclical periodicity is the *Great Year*. This process is ruled by *destiny* or *necessity*, the demonstrable and non-controversial evidence of musical harmonics (canonics) and calendrics. This *necessity* (the Orphic goddess and assistant to *Zeus*) is a ***logos*** or *law* which generates the ***kosmos***. Heraclitus, like Anaximander and the other Milesians, stressed the importance of *necessity*. Thus Aetius wrote (1.27.1, *Dox. Gr.* 322): *'Heraclitus held that everything comes about through **destiny**, and that **necessity** is the same thing as destiny.'* This *necessity* cannot be isolated from ***logos*** or from *soul*. Moreover, ***logos*** is the *seed* which generates the ***kosmos*** from the One. Aetius wrote (1.28.1, *Dox. Gr.* 323): *'Heraclitus tried to show that **logos** which pervades (the) essence of the universe is (the) essence of destiny. And the essence of the universe is that body which is composed of **aither**, which is the **seed** from which the universe originates and the controlling principle of its fixed rotation.'* This rotation is the *vortex* whose cycle is the *Great Year*.

Some modern scholars prefer to negate this evidence as questionable, but it is quite consistent with the Heraclitean fragments. Moreover, Aetius was also reliable in his reporting of Heraclitus' astronomy, so that we have little reason to doubt his word on other aspects of the Heraclitean system. In fact, much of our information on Heraclitus' astronomy comes from these late sources, since the actual Heraclitean fragments themselves were mostly lost.

The fragments that do exist sometimes have lost so much of their context that the meaning is doubtful. For example, fragment 100 (found in Plutarch, *Quaestiones Platonicae* 1007d-e): *'seasons that bring all things.'* Another example is fragment 120 (found in Strabo, 1.6): *'The limits of dawn and evening are the Bear and opposite the Bear, the limit* [***ouros***, which can also be translated as watcher, mountain, or fair wind] *of bright Zeus.'* A third example is fragment 99 (found in Pseudo-Plutarch, *Aqua an ignis utilior* 957a; *De fortuna* 98c): *'If there were no sun, as far as concerns all the other stars it would be night.'* Finally, fragment 3 (found in Aetius, 2.21, *Dox. Gr.* 351) gives: *'The sun's breadth is that of a human foot.'* These fragments have always taxed scholars to make some sense of them, and forced many to conclude that Heraclitus either had no interest in astronomy or was 'primitive' in his awareness of it. Yet there is also fragment 94 (found in Plutarch, *De exilio* 604a) which is entirely consistent with Anaximander: *'The sun (god) will not overstep his measures; otherwise, the Erinyes, ministers of Justice, will find him out.'* The term *measures* (***metron***) occurs in other fragments. The *Erinyes*, or Furies, are assistants to *Dike*, goddess of *Justice* who is often assimilated with *Necessity*. They guarantee that the planets will not deviate from the eternal cycle of the *Great Year*. Here, as in other places, it is natural to assume that Heraclitus' astronomy was consistent with the Milesians.

This assumption is borne out in the evidence from Aetius. Some examples are in order. We have Aetius (2.1.2, *Dox. Gr.* 327): *'Heraclitus...said that the universe is one.'*

Aetius (2.13.8, *Dox. Gr.* 342): *'Parmenides and Heraclitus said that the stars are compressed portions of **fire**.'* Aetius (2.17.4, *Dox. Gr.* 346): *'Heraclitus...said that the stars are nourished by the **exhalation** that comes from the **earth**.'* Aetius (2.20.16, *Dox. Gr.* 351): *'Heraclitus...said that the sun is that intelligible ignited mass which comes from the **sea**.'* Aetius (2.22.2, *Dox. Gr.* 352): *'...bowl-like, hump-backed...'* Aetius (2.24.3, *Dox. Gr.* 354): *'the eclipse occurs through the bowl-shaped body's turning in such a way that the concave side points upward and the convex side downward—to where we can see it.'* Aetius (2.27.2, *Dox. Gr.* 358): *'Heraclitus said that the moon is bowl-like.'* Aetius (2.28.6, *Dox. Gr.* 359): *'Heraclitus said that the sun and the moon are affected in identical fashion. For being bowl-like in their shape, and receiving the rays from the moist **exhalation**, the stars give off an apparent light; the sun is brighter, because it is borne along in purer **air**, whereas the moon appears dimmer, because it is borne along in more muddied **air**.'* Aetius (2.29.3, *Dox. Gr.* 359): *'Heraclitus...said that the moon is eclipsed through the bowl-like body's turning and sideways-sloping.'* All of this is quite Milesian. Apparently his treatment of meteorology was also close to Anaximander and Anaximenes. For example, we have Aetius (3.3.9, *Dox. Gr.* 369): *'Heraclitus said that thunder is caused by the aggregation of **winds** and **clouds** and the crashing of masses of **air** into the clouds; lightning is caused by the act of kindling of what gets burned; and hurricanes [**prastar**] are caused by burnings and dousings (rushing) down from clouds.'*

Finally, we have the issue of the close connection between the Elements and the *soul*. Aristotle acknowledged that, for Heraclitus, the ***arche*** was not only **fire**, but also *soul* (***psyche***), and he descibed *soul* as an *exhalation*. He wrote (*De anima* A2.405a24): *'Heraclitus too says that the first principle is **soul**—soul being that **exhalation** of which everything else is composed.'* Moreover, (fragment 12), *'souls are exhaled from moist things.'* This *soul* is also equated with the ***aither*** and the *stars*. Thus Macrobius (Commentary on Cicero's *Dream of Scipio* 14.19) wrote: *'Heraclitus the philosopher of nature said that (soul) was a **spark** struck from the essential substance of the stars.'* Moreover, Heraclitus believed in the 'world-soul' already found in the fragments of Thales and Anaximenes. Aetius (4.3.12, *Dox. Gr.* 389) wrote: *'Heraclitus said that the **soul of the universe** (an exhalation from those things in it that are moist) and the **soul** in living things (an exhalation from the external exhalation and the exhalation inside them) were the same in kind.'* Finally, he agreed with the Orphic immortality of the ***psyche***. According to Aetius (4.7.2, *Dox. Gr.* 392): *'Heraclitus said that the soul is indestructible. For when it departs the body, and goes back to the soul of the universe; it returns to that to which it is identical in kind.'*

In summary, all of the doxographical evidence is consistent with the notion that Heraclitus' cosmology and philosophy is entirely consonant with that of the Milesians. The modern effort to isolate him from his forebears is entirely misguided. He did not try to 'negate' their cosmology, only make it more explicit. This section has also illustrated the value in considering the doxographical evidence. Those 'purists' who wish to 'reconstruct' Heraclitus without any input from the later literature run the risk of creating a false picture. Perhaps one of the reasons why some writers have ignored this body of evidence is the very strong links that it establishes between Heraclitus, his predecessors,

and his successors. These links run counter to the orthodox theory that Heraclitus was an isolated 'lone genius.' In the following section, the doxographical literature will again be relevant to an understanding of Heraclitus.

THE GREAT YEAR AND *ECPYROSIS*

The concept of the *Great Year* is not original to Heraclitus. We have already noted it in Xenophanes and the Milesians. It was also prominent in Pythagorean philosophy. Moreover, it was shared by his successors, such as Empedocles, Plato, Aristotle, and later pagan philosophy. What appears interesting about the theory in Heraclitus is the designation of specific numbers to the cycle, and the association of this cosmic cycle with the evolution of the *soul* as well as the universe at large.

Late in ancient history Censorinus defined the Great Year astrologically as the period of time during which all of the planets come back to their 'starting points' and begin a new cycle. Such an astrological focus was typical of the late ancient period. It was probably also present in early cosmology, but the early conception of the Great Year had other associations as well. It was pictured as the period of time in which all of the Elements went through their transformations and came back to the 'starting point.' Symbolically this was the Element **fire**, which is the ***arche*** of the other Elements. Hence the theory is quite consonant with Heraclitus' *'pathway up and down.'* The theory had relevance to the evolution of the *soul* and its cycle of reincarnations as much as to the evolution of the outer cosmos. In both cases it signified a *renewal* of the ***kosmos***.

The Great Year was generally divided into 'seasons.' During the Great Summer the Element **fire** (with its 'friend' **air**) were dominant, and the cosmos was symbolically 'destroyed' by a conflagration (***ecpyrosis***). During the Great Winter the Element **water** (and its 'friend' **earth**) were dominant, generating the 'catastrophe' of the great Flood. The world was thus periodically 'cleansed' by fire and flood. Aristotle himself believed in this great flood as written in his *Meteorology* 352a28. Whether he believed that it also occurred within the individual ***psyche*** is more questionable, but Plato surely believed it. Plato consistently made a parallelism between the periods of a man's *soul* and the world. This 'dual track' within the microcosm and the macrocosm was also a feature of Orphism and Presocratic cosmology. In Heraclitus the Great Year was as much about the cycle of reincarnations of the *soul* as it was about the outer planets.

According to various doxographical sources, Heraclitus assigned some specific numbers to the cycle. In one tradition (found by Burnet, p. 157) the period was 18,000 years. This number is intriguing since it is half of a prominent Babylonian cosmic cycle of 36,000 years. Perhaps the division in half reflects the two directions of the 'path.' These numbers were possibly derived from the very important monochord division 18:36, or division 180:360, or again division 1800:3600—all important harmonies. As usual with ancient numerical designations of the cosmic cycle, very prominent musical numbers are invariably implicated.

Most of the doxographical sources give another number for Heraclitus' Great Year. It is 10,800 years (as found in Aetius 2.32.3 and Censorinus 18.11). This number is the product of two most musical of numbers, 30 and 360. The probable rationale behind this choice of numbers is also given in the doxography. The number 360 is the classical 'ideal' year-number (the number of days in an ideal year). The number 30 is the ideal lunar number, since an actual synodic lunar cycle is 29.54 days, almost 30 days. The number 30 also came to be seen as one 'generation' if we picture it as 30 years. Thus 30 years became one 'day' in Heraclitus' Great Year. 30 years was the traditional time in which a man could become a grandparent, since he could sire a child at age 15. Plutarch wrote (*De defectu oraculorum* 1.415e): *'Those who read 'of those in the prime of life' (Hesiod, fr. 304.2) make a generation thirty years according to Heraclitus, that being the time it takes for a parent to produce offspring and for that offspring to become himself a parent.'* Again, we have Philo Judaeus (*fragments*, p. 20 Harris): *'It is possible for man to become a grandfather in his thirteenth year; he can reach maturity round about his fourteenth year and beget a child, and he in turn...in his fifteenth year begets a child like unto himself.'* Then there is John the Lydian (*De mensibus*, 3.14): *'This is why Heraclitus is not wide of the mark when he calls the month a generation.'* As a final example, we have Censorinus (17.2): *'A generation is that sizable portion of human life that is bounded by birth and death. That is why those who considered a generation to consist of thirty years seem to have been very much mistaken. Heraclitus was the one who first called this period of time a 'generation,' on the grounds that in that period a life-span completes a cycle; what he calls the completion of a life-span's cycle is the period during which nature, having started from human seed, turns back to seed.'*

What is most interesting here is that a cosmic cycle that was later mostly associated with the movement of the planets was based on a very 'human' model. The microcosm reflects the macrocosm in an Anaximenean fashion. Appropriately enough, the cycle of about 10,000 years was also used by the Orphics to describe the cycle of the 'fallen soul' in its series of reincarnations. The evidence is in Plato's *Phaedrus*, where the cycle is divided into 10 periods of 1000 years each. Each period includes one reincarnation and its attendant 'punishment.' The cosmic cycle of the *soul* was also described in Empedocles as *'thrice 10,000 seasons,'* a cycle which has been tentatively equated with about 10,000 years. Thus the Heraclitean numbers are consistent with the secret doctrines of Orphism.

Stoic philosophy was quite influenced by Heraclitus and the term ***ecpyrosis*** is a Stoic expression for the conflagration that marks the boundary between cycles of the Great Year. The Stoics themselves attributed the term to Heraclitus, even though it is not present in any of his fragments. Within very late Stoicism, there arose a debate over the periodicity of the cosmic cycle. Was it periodic, or was it 'once and for all time?' The early Christian apologists, who were influenced by late Stoicism, wanted to remove the periodic aspect of the cycle altogether, thereby transforming the concept into something consistent with the 'last judgement' in which the world ends. In something typical of late antiquity, they wanted to remove the musical aspect of the concept (its periodicity) and make it conform to a very simplistic linear view of cosmic history. Among Stoics themselves the issue was by no means settled. The controversy is illustrated in the

writings of Marcus Aurelius (10.7): *'So that all these things are taken up into the Reason of the universe, whether by periodical conflagration or a renovation effected by external changes.'* It is clear here that the cycle is still periodic, but it is pictured sometimes as a total destruction of the universe and sometimes only as a 'summer' in which the cosmic **fire** is dominant. According to Plutarch (*De def. orac.*, 415f), there was no conflagration at all in Heraclitus: *'I hear all that from many people, and I see the Stoic conflagration spreading over the poems of Hesiod, just as it does over the writings of Heraclitus and the verses of Orpheus.'*

Nevertheless, all of the later writers attributed this cosmic conflagration (***ecpyrosis***) to Heraclitus himself. It has become another controversy (like that of Anaximander's innumerable worlds) which has been argued back and forth through all of history. Some maintain that he believed the world to be physically destroyed by fire every 10,000 years, then begins anew. Others (more rightly) maintain that every ending of the cycle is just a new beginning and that there is no real destruction of the cosmos, only perpetual change. We have here another of those 'pseudo-controversies' generated by understanding Heraclitus in a simplistic and literalist way. They do not recognize that the image of **fire** stands symbolically for the *One*, and that the cycle between the *One* and the *Many* is essentially musical in origin and import. The Many arise from the One and are dissolved back into the One again, since they form 'two sides of the same coin.' The cosmic cycle of the Great Year reflects this Musical reality. The later Stoics downplayed the musical element and interpreted the cycle only astrologically or 'physically.' Only within the Mystery schools was the elevation of the *soul* still cultivated.

Those who maintain that Heraclitus believed in a late Stoic version of ***ecpyrosis*** cite mainly two Heraclitean fragments. Fragment 65 (found in Hippolytus, *Ref.* 9.10.7) says: *'(and he calls **fire**) need and satiety,'* sometimes translated *'want and surfeit.'* Fragment 66 (found in Hippolytus, *Ref.* 9.10.6) goes: *'For **fire** will advance and judge and convict all things.'* This fragment gives us strong reminders of Anaximander. However, there is nothing in these two fragments to suggest that **fire** will 'convict' everything at once, only the more traditional (and Anaximandrean notion) that **fire** will itself be limited to a certain maximum (the Great Summer). The pendulum will swing between **fire** and **water**, or dry and wet, or hot and cold within the cosmic cycles. There is nothing in Heraclitus that leads us to attribute to him a 'total destruction.' Indeed, we have the important fragment 30, which stresses the timeless periodicity and measurability of the cosmic cycles: *'This **kosmos**, the same for all, none of the gods nor of men has made, but it was always and is and shall be: an ever-living **fire**, which is being kindled in measures and extinguished in measures.'* The cosmos is born of **fire** (the One) and resolves again into **fire** as the Many relate to the One *forever*. Aristotle put it thus (*Phys.* 505a3): *'Heraclitus said that everything at some time becomes **fire**.'*

Aetius also gave an insight into the Heraclitean conception of cosmogony when he wrote (2.4.3): *'Heraclitus says that the **kosmos** is subject to generation not in time but conceptually.'* In other words, he is not to be understood literally in a simplistic manner. Many modern scholars, however, want to deny that he was capable of such subtle thinking. For example, Guthrie wrote (*op. cit.* P. 456) concerning the comment of Aetius:

'The later phrasing reflects the controversy over the genesis of the world in Plato's Timaeus*—whether Plato intended it literally or figuratively—and the difference between chronological and logical generation belongs of course to a more sophisticated philosopher than Heraclitus.'* I would contend that Heraclitus was every bit as sophisticated as Plato, perhaps more so. At any rate, the generation of the ***kosmos*** in Heraclitus is typically multi-leveled, referring to the physical world and the individual *soul* in a highly Musical manner.

As usual, part of the blame for the misunderstanding of Heraclitus in late history falls on Aristotle, who is not always clear in his commentaries on early cosmology. In his *De caelo* (A10.279b12) he is discussing the generation of the world from the *'first heaven'* which he naturally equates with the 'substance' **fire**. He wrote: *'Now all say that (the universe) is a thing that came into being, but some claim that, having come into being, it continues everlastingly, others that it is perishable like any other thing constituted by nature, and others again that it alternates, being at one time as it is now and at another time changing and perishing, and that this process continues in this fashion everlastingly. This latter opinion is held by Empedocles of Acragas and Heraclitus of Ephesus.'* Some took this to mean that the world is *totally* destroyed periodically. However, he then goes on to correct himself and not take such an extreme position (280a11): *'As for the view that the world is alternatively put together and dissolved, that is just the same as making it eternal, only changing its shape. It is as if one were to regard the coming-to-be of a man from a child and a child from a man as involving at one stage destruction and at another existence.'* This statement gives evidence against destruction in favor of a much more consistently Heraclitean 'cycle of changes.' It is eternal but changing in it form. Simplicius was also ambivalent over the question of destruction (Commentaries on Aristotle's *De caelo* 94.4): *'Heraclitus, too, says that at one time the universe is consumed by **fire**, at another time reconstituted from **fire** in accordance with particular cycles of time, as appears from his words 'being kindled in measures and being put out in measures' (fr. 30). To this doctrine the Stoics, too, later on adhered.'*

Perhaps the difference between 'destruction' and 'change' is only a matter of degree. As long as the musical notion of *periodicity* is maintained then we are not too far removed from the Heraclitean conception (and general Presocratic conception) of the Great Year. We are then back to the common ground of cyclical shift between the *'hot and cold'* or the *'wet and dry,'* also expressed symbolically as **fire** and **water**. This *'pathway up and down'* could be applied to the *soul* as well as the dance of the planets. It appears in the early medical literature that also considered the Elements within the context of the human person. A good example from this literature is found in the pseudo-Hippocratean treatise ***Peri Diaitas***, which had strong Heraclitean influences. Here the cosmic relations between **fire** and **water** are described in a way that was probably quite close to Heraclitus' own viewpoint (I. 3, translation by Burnet):

*'And in turn each (**fire** and **water**) prevails and is prevailed over to the greatest and least degree that is possible. For neither can prevail altogether for the following reasons. If **fire** advances towards the utmost limit of the **water**, its nourishment fails it. It*

*retires, then, to a place where it can get nourishment. And if **water** advances towards the utmost limit of the **fire**, movement fails it. At that point, then, it stands still; and, when it has come to a stand, it has no longer power to resist, but is consumed as nourishment for the **fire** that falls upon it. For these reasons neither can prevail altogether. But if at any time either should be in any way overcome, then none of the things that exist would be as they are now. So long as things are as they are, **fire** and **water** will always be too, and neither will ever fail.'* We see here another expression of the balance of opposing forces already witnessed in Anaximander and Anaximenes. There is no reason to believe that Heraclitus had different views. The opposition between **fire** and **water** in the Great Year was another expression of the *polarity* at the heart of the Musical symbolism.

FIRE AS THE ***ARCHE*** OF ***ARCHAI***

The relation between **fire** and **water** represents or symbolizes the relation between the *One* and the *Many*. Fragment 10 says that *'out of all things there comes a unity, and out of a unity all things.'* The Element **fire** signifies the MONAD or preliminary Element that is the open string (harmonic number one) on the monochord. The other Elements are also ***archai***, since they form the primary generators of composite complexity within the vibratory cosmos; but **fire** has special status among the Elements. It is the originator of *any image* of multiplicity. The relation between **fire** and the other Elements is perfectly described in fragment 90: *'All things are an exchange for **fire** and **fire** for all things, as goods are for gold and gold for goods.'* The other Elements form the expression of the One in action. The One is ever present within the multiplicity and all forms of multiplicity begin and end with the One. The movement between them is likened to the *'path upward and downward.'* It is also sometimes compared to a circle, whose beginning is its end. Thus we have fragment 103: *'The beginning and the end are common on the circumference of a circle.'*

Fire as the *One* has inherent directive powers, justifying fragment 64 (found in Hippolytus, *Ref.* 9.10.7): *'Thunderbolt steers all things,'* or *'thunderbolt steers the totality of things.'* The use of the term 'steerage' is a reference to Anaximander who used it so effectively. The verb is also employed in fragment 41: *'Wisdom is **one** thing* [or, the **One**], *to be skilled in true judgement, how all things are steered through all things.'* The One has a special status apart from the other Elements. Hence it is sometimes called *'that which is wise,'* as in fragment 108: *'Of all those accounts I have listened to, none gets to the point of recognizing that which is wise, set apart from all.'* The One is also presented as the high god, who is the true source of the other gods. This interpretation gives meaning to fragment 32 (found in Clement, *Stromateis* 5.155.2): *'The wise is **one** thing* [or, *the wise is **one** alone*, or *the **One**, the only wise*]*; it alone is unwilling and willing to be called by the name of Zeus.'* The first phrase is purposefully ambiguous and uses a neuter form of the One (***hen***) rather than a masculine form referring to *Zeus*. Hence it is both willing and unwilling to be called *Zeus*. Heraclitus also used a form of *Zeus* (***Zen***) which also means 'to live,' emphasizing that the One is (fr. 30) an *'ever-living **fire**.'* The designation of the *One* as *Zeus* was common among ancient Orphic circles.

The One is also called a god in fragment 67: *'God is day and night, winter and summer, war and peace, satiety and want, and undergoes change in the way that **fire**, when mingled with perfumes, is named according to the scent of each.'* The divinity is in the multiplicity as well as the primary Unity. The other ***archai*** are also divine, and the MONAD takes on the characteristics of whatever division is imposed upon it. These divisions form the 'activity' of the One. The One underlies all forms of polarity and opposition, symbolizing the DYAD in the vibratory realm. This primal polarity forms the 'house' in which the multiplicity is 'birthed' in Musical symbolism.

Fire as the *One* was also equated with the ***aither***, which was the place of the origin of *souls*. As such it 'surrounded' the cosmos and housed its 'activity.' The term ***aither*** was connected to **air** as well as **fire**, and it represented the upper atmosphere that was most pure, the home of the sun and stars. It was also assimulated with 'breath,' the essence of life and ***psyche***. Thus **fire**, breath, *soul*, and ***aither*** were closely associated with each other throughout ancient history. For example, Aristotle wrote (*De caelo* B1, 284a11): *'The ancients assigned to the gods the **heaven** and the upper region as being the only immortal place.'* It was the 'place' that formed the reference point for all change. In the 5th century Athenian document *Inscriptiones Graecae* (1.945.6) we read: *'**Aither** received their souls, **earth** their bodies.' **Aither*** was the beginning and the end-point of the cycle of reincarnations of the *soul*. It was also described in the medical literature. For example, Hippocrates (*De carnibus* 2): *'What we call 'hot' seems to me to be immortal and to apprehend all things and to see and hear and know all things, both present and future. This, then, the most of all, when all things become confused, went out to the furthest revolution, and seems to me to have been what was called **aither** by the men of old.'* Thus ***aither*** represented not only a 'physical' place 'surrounding' the ***kosmos***, but also a certain state of the *soul* in which the Elements have been 'purified' or transformed into the *One*. This dual sense of ***aither*** or **fire** is seen not only in Heraclitus, but also in various 5th century writers and poets, for example in Euripides fr. 839 and 941 or in Aristophanes' *Peace* 832f. It was common throughout the Presocratic period.

As in so much of Heraclitus, **fire** had multi-levels of meaning and association, depending on whether we consider the physical world, the social world, or the psychical world. Unfortunately, many modern scholars prefer to isolate them from each other and keep them in neat separate boxes. For Burnet, **fire** was just another 'material substance' on the 'same level' as **air** in Anaximenes. He justified this view by reference to Aristotle, who wrote (*Met.* A3, 984a5): *'Heraclitus of Ephesus holds that **fire** is of the four simple bodies most truly the basic one.'* Indeed, Aristotle was one of the most influential sources for the misunderstanding of the Presocratic Elements. He wrongly judged the early philosophers as only 'naïve materialists' and generated an orthodoxy that has lasted two millennia in the west. A good example of this orthodox view of **fire** is found in Kirk, Raven, and Schofield (*op. cit.* p. 199). **Fire** is just another archetypal form of *matter*. Why would Heraclitus choose it as his ***arche***? Their answer: *'All **fire** (even the lower, mundane sort), by the regularity with which it absorbs fuel and emits smoke, while maintaining a kind of stability between them, patently embodies the rule of measure in change which inheres in the world process, and of which the **Logos** is an expression. Thus it is naturally conceived as the very constituent of things which actively determines*

their structure and behaviour—which ensures not only the opposition of opposites, but also their unity through 'strife.' Thus the meaning of **fire** can be derived only from some aspects of the physical world. It has nothing whatsoever to do with Music.

Fire as merely a 'physical substance' is also used to 'prove' that the philosophy of Heraclitus is totally unrelated or opposed to the philosophy of Anaximenes, for whom **air** was the ***arche***. It is further maintained that Anaximenes' conception of *soul* was derived from **air** as opposed to Heraclitus who derived it from **fire**. However, there is really no conflict between them at all. *Soul* was derived from ***aither***, which had characteristics of both **fire** and **air**. The 'competition' between Anaximenes and Heraclitus is quite contrived—an effort to posit 'progress' between the early philosophers. The orthodox modern conception of these early philosophers depends heavily upon the bias whose greatest source was Aristotle. Even in Plato the Elements were not yet so simplistically conceived as they were in Aristotle. In Plato they still had many of their old Musical attributes. Within the early philosophers themselves, the Elements worked together in an integrated cosmology whose basis was Music (a sonic conception of order).

Among the modern interpreters, Guthrie was willing to concede that Heraclitus' **fire** was something more than a simplistic Milesian 'substrate,' but he still managed to demean Heraclitus in his interpretation. For Guthrie, **fire** was a symbol for the way that the world works (*op. cit.* p. 461): *'We need not expect Heraclitus's thought to be by our standards completely logical or self-consistent. From what we know of him what would be surprising. He seems to be saying that although in the cosmos as he sees it **fire** has a definite primacy, grounded in its divinity and perpetual life, yet it is not a permanent **substratum** which, in Aristotle's later formulation, remains essentially the same though changing in its modifications. Such a permanent* physis *would contradict the law of **flux**, and introduce rest and stability into a world from which he thought they should be banished. There was a **law** in the universe, but it was not a law of permanence, only a law of change, or, in something more like his own picturesque phraseology, the law of the jungle, since everything comes into being 'by way of strife' and **War** is lord of all. **Fire** was particularly well suited to embody this law.'* The reader will appreciate how heavily this interpretation of **fire** is dependent upon an orthodox view of Heraclitus' philosophy in general—Heraclitus as promoter of the 'law of the jungle.' **Fire** is chosen because it describes conflict in the physical world.

All of this betrays a certain poverty of imagination caused by the blind acceptance of Aristotle's exclusively *physical* conception of the Elements. The Musical core of early philosophy has been surgically removed and with it any hope of understanding the *integrated* basis or early cosmology. The moderns cannot understand why there should be a close connection between such concepts as ***logos***, *soul*, god, justice, law, and **fire** in the Presocratic mind. Once a Musical perspective is restored it becomes perfectly clear. The failure of the modern comprehension is illustrated by one more example, from McKirahan (*op. cit.* p. 141): *'We have seen that Heraclitus associates the **logos**, fire, soul, war, justice, God, and perhaps law. In some sense they are the same, the ruling element in the universe, but precisely how they are the same is not clear. When I strike a*

match and create some fire, I am surely not bringing the eternal ***logos*** *or God into being. It will not do to demand strict conditions of identity in this context any more than it does when Heraclitus says that day and night are one (fr. 57). In different settings these concepts take on a variety of relations to one another, sometimes being virtually identical and sometimes almost separate. For example, the burning match is not God, but is related to the cosmic* ***fire*** *(as a part? by resemblance? as an imperfect specimen? as a copy?), and in its small area of active existence it performs functions that both symbolize and are a part of the war and justice that rule the world. Heraclitus, like the Pythagoreans, lacked the conceptual tools and analytical techniques for analyzing such assertions.'*

As in so much of the modern interpretation of early philosophy, a narrow visualist and logical paradigm has prevented the comprehension of the very integrated and *aural paradigm of order* that infused ancient thought. The ancients had a name for it—it was called *Music*, something that was progressively lost through history as our western culture became more and more visual. A musical conception of order is inherently integrative. Diversity is a mirror of Unity, two sides of the same coin. Unfortunately, the modern visual perspective promotes *fragmentation*, isolation, and a negation of relatedness. Unless a Musical perspective is entertained, there can be no reasonable connection between the ancient concepts of *soul*, **fire**, ***aither***, justice, law, and ***logos***. Once we shift into the ancient perspective, then it becomes clear that all of these conceptual images have their meaning in relation to the *One*.

THE UNITY OF OPPOSITES

A large number of Heraclitean fragments, many already presented, can be grouped under a common heading: the 'unity' of *opposites*. Sometimes this 'unity' is also described as an 'identity,' or 'sameness.' It is variously described as a connection between the *opposites*, an inter-connectedness, a co-relation, an inter-relatedness or a *harmony*. We must stress that Heraclitus did not invent this concept. It was already present in Anaximander. In the generation previous to Heraclitus, Pythagoras (or early Pythagoreans) had already drawn up a *table of opposites*. His table was restricted to ten pairs (for various numerological reasons that may not even have been original to Pythagoras), but Heraclitus did not restrict himself in this way. Nevertheless, the motivation was probably the same: to illustrate the 'truth' of a Musical law in the workings of the world. As usual, Heraclitus was not inventing a new doctrine; rather, he was creating powerful literary expressions of a common Musical motif.

Thinking in *polarity* or *reciprocity* pervades early Greek writing from at least the time of Hesiod. Such an intellectual framework is consistent with the all-pervasiveness of reciprocity in the architecture of musical harmony. Perhaps the most powerful example of the unity (or special relation) between apparent *opposites* is the relation (***logos***) between the MONAD and the DYAD. This peculiar relation of identity within diversity forms the initial example of a generalized musical law: Unity exists within the diversity, and diversity exists within the Unity. All 'things' are simultaneously (fr. 10) *'wholes and not wholes.'* The Heraclitean fragments express this Musical 'truth' using various metaphors

or similes consistent with traditional Musical symbolism. Hippolytus confirmed this aim in his interpolation of fragment 67: *'God is day and night, winter and summer, war and peace, satiety and hunger—(all the opposites: that is the meaning)—but he changes just as* ***fire****, when mingles with perfumes, is named according to the scent of each.'* The various examples illustrate workings of this Musical law.

Modern scholars have eliminated the musical perspective; consequently, they have lost the thread of connectedness between the fragments. In the usual analytical approach, they have classified the fragments into separate 'compartments' which are unconnected to each other. These compartments are organized according to 'logical' criteria in blissful disregard for the old Musical symbolism-language. It is useful to reproduce these criteria here if only to show that they still have a common Musical thread which unites the many vivid Heraclitean images of *inter-relatedness*.

The first grouping of fragments illustrates opposite qualities that occur *successively* as if within a *continuum*. To the reader who is familiar with the essays on the Milesians, the Musical relevance is obvious. In addition to this short list below we could add all of the fragments which describe the transmutation of the Elements and the nature of cyclical change. Three examples are given:

Fragment 57: *'Most men's teacher is Hesiod. They are sure he knew most things—a man who could not recognize day and night; for they are* ***one****.'*

Fragment 126: *'Cold things grow hot, a hot thing cold, a moist thing withers, a parched thing is wetted.'*

Fragment 88: *'The same thing is in both living and dead, and the waking and the sleeping, and young and old; for these things transformed are those, and those transformed back again are these.'*

The second grouping of fragments illustrates *opposites* that are contrasted by each other. In other words, each is necessary for the recognition of the other. They form two sides of one process and can only be appreciated by their opposites. Like the first group, placement within a continuum or primal and necessary polarity is implied. The first fragment has already been given (in the list of core fragments). The others are presented for the first time and thus require some comment.

Fragment 84a: *'While changing it rests.'*

Fragment 111 (found in John Stobaeus 3.1.177): *'Disease makes health pleasant and good, hunger satiety, weariness rest.'* This co-relation of opposites can be connected to the Musical notion that harmony-disharmony, or simplicity-complexity, or 'peace and war' are equally necessary components of one unitary reality. Both sides must be recognized in order for the concept to make any sense at all.

Fragment 23 (found in John Stobaeus 4.9.7): *'They* [people in general] *would not have known the name of* ***justice*** *if these things* [unjust things] *did not exist.'* The import here is exactly the same as above. The pair 'justice-injustice' forms an analogue to the musical 'harmony-disharmony' which goes back to Anaximander. This fragment is another of a group of statements which demonstrates that Heraclitus is entirely consistent with Anaximander. Their philosophies are totally compatible and Heraclitus uses the 'legalistic' language of Anaximander in a number of his utterances.

Unnumbered fragment: *'Good and evil are one.'* This fragment is unnumbered because it is almost universally assumed to be spurious, except by Burnet who included it in his list of Heraclitean fragments. It was nevertheless attributed to Heraclitus by Aristotle (*Top.* 159b30 and *Phys.* 185b20). Although generally ignored, this fragment is consistent with the others in this group if the context is similar. The one requires the other. It also seems pointless to reject this statement when we accept fragment 102: *'To God all things are beautiful and good and just, but humans have supposed some unjust and others just.'* We also have fragment 110 (found in John Stobaeus 3.1.176): *'It is not better for humans to get all they want.'* Moderation is the key to the traditional Musical notion of ethics.

The third group of statements is rather large, twelve fragments, and about half are presented for the first time in this treatise. The others are already familiar. These statements display *opposites* that have contrary properties to the same observer simultaneously but in different respects. In other words, different aspects or qualities of the same thing justify opposite descriptions. In this sense they are 'identical.' As such, they demonstrate the Musical notion that a unity exists within the diversity. Apparent contraries form aspects of a greater *whole*. The fragments that we have already encountered are given first, followed by the new statements that require more comment.

Fragment 60: *'The road up and the road down are **one** and the same.'*

Fragment 103: *'The beginning and the end are common on the circumference of a circle.'*

Fragment 8: *'What is opposed brings together; the finest **harmony** is composed of things at variance, and everything comes to be in accordance with **strife**.'*

Fragment 10: *'Things taken together are whole and not whole, something which is being brought together and brought apart, in tune and out of tune; out of all things there comes a unity, and out of a unity all things.'*

Fragment 50: *'Listening not to me but to the **logos** it is wise to agree that all things are **one**.'*

Fragment 51: *'They do not understand how, though at variance with itself, it agrees with itself* [more literally, *how being brought apart it is brought together*]. *It is a backwards-turning* [or *backwards-stretching*] ***harmony** like that of the bow and lyre.'*

Fragment 48: *'The name of the bow is life, but its work is death.'* This fragment plays upon the double meaning of the Greek ***bios*** as bow and as life. The use of the term 'bow' reminds us of fragment 51 just given. The bow was traditionally associated with the monochord, or stretched string. Its function is 'death' meaning the transmutation of the Elements—one becomes the 'death' of the other. Yet the laws of this Musical transformation are central to 'life.' At the same time the bow as a weapon of the hunt was the instrument of death. The death of the hunted animal (say, a boar) meant the life of the hunter. The theme of life and death also relates to his doctrines on the *soul* and reincarnation. This fragment is a great example of the conscious density of Heraclitus' wordplay—the ability to derive multiple meanings from very few words.

The following three fragments are instances of the famous 'river-statement,' perhaps his most discussed doctrine. It will be the subject of a later section in which the

various implications are explored. Here they are presented only as instances of the third group of contraries:

Fragment 12 (found in Arius Didymus, fr. 39.2, *Dox. Gr.* 471, 4): *'As they step into the same rivers, different and (still) different waters flow upon them...and souls are also exhaled from moisture.'*

Fragment 91 (found in Plutarch, *De E apud Delphous* 392b): *'(For, according to Heraclitus, it is not possible to step twice into the same river, not is it possible to touch substance twice in so far as its state* [***hexis***] *is concerned. But, thanks to the swiftness and speed of change,) it scatters and again comes together (simultaneously), it forms and dissolves, and approaches and recedes.'*

Fragment 49a (found in Heraclitus, *Quaestiones Homericae* 24): *'We step and do not step into the same rivers; we are and are not.'*

Finally, we have two more fragments that also belong in this group.

Fragment 59 (found in Hippolytus, *Ref.* 9.10.4): *'The track of writing* [or, *the path of carding wheels*] *is straight and crooked.'* The same object (writing) is both straight (as in a line of writing) and crooked (as in the shapes of the letters). The fragment uses a pun on the term for writing (***gnapheon***), which also means an instrument used in the weaving process. The image of weaving is also prevalent in much early mythology and has strong musical associations for obvious reasons. The 'fabric' of the ***kosmos*** consists of a 'warp and woof' of unlike Elements. It is 'woven together' by the goddess in order to generate life and it 'unravels' at death.

Fragment 58 (found in Hippolytus, *Ref.* 9.10.3): *'Doctors who cut and burn (those who are sick, grievously torturing them in every way), complain that they do not receive an appropriate fee (from the sick) for doing these things.'* The text of this fragment is notoriously problematic in its grammatical construction. It has also been translated as: *'Physicians...demand pay, but deserve nothing.'* In any case, the meaning is clear enough. Pain, when caused by the doctor, is good and healing, but pain caused by the illness is bad and harmful. Hippolytus concluded from this statement that, for Heraclitus, *'good and evil are one and the same thing.'* However, it is not really a simple identity statement; rather, it claims that the same type of event is evaluated differently in different circumstances, a very musical viewpoint. Aristotle also concluded that Heraclitus identified good and evil, and moreover castigated Heraclitus for denying the law of contradiction—a cornerstone of his own system of logic. It forms the basis of his criticism of Heraclitus in *Physics* A2, 185b19, in *Topics* 5, 159b30, and in *Metaphysics* 7, 1012a24. Apparently Aristotle was particularly disturbed by this fragment.

The fourth and last group of fragments reveals *opposites* that have contrary properties from different points of view. The same 'thing' can have different and opposite effects on different critics. In other words, these statements demonstrate *relativity* to the experiencing subject. This group of ten fragments had a marked influence on the growth of late 5th century Scepticism and Sophism. Protagoras championed relativity in his famous statement: *'Man is the measure of all things.'* Cratylus and other 'Heracliteans' proclaimed the uncertain relativity of knowledge itself. Although these writers often used Heraclitus as the 'authority' for their views, it is doubtful whether Heraclitus himself ever espoused such extreme doctrines. Rather, he sought only to distinguish the differences

between certain divine knowledge (Music) and uncertain human opinion. Most of these fragments have already been encountered in this essay.

Fragment 9: *'Asses would choose rubbish rather than gold.'*
Fragment 4: *'We would call oxen happy when they find bitter vetch to eat.'*
Fragment 13: *'Pigs rejoice in mud more than pure water.'*
Fragment 37: *'Pigs wash themselves in mud, birds in dust or ash.'*
Fragment 82: *'The most beautiful of apes is ugly in comparison with the human race.'*
Fragment 83: *'The wisest of humans will appear as an ape in comparison with a god in respect of wisdom, beauty, and all other things.'*
Fragment 79: *'A man is called infantile by a divinity as a child is by a man.'*
Fragment 78: *'Human nature has no insight, but divine nature has it.'*
Fragment 61 (found in Hippolytus, *Ref.* 9.10.5): *'The sea is the purest and most polluted water: to fishes drinkable and bringing safety, to humans undrinkable and destructive.'*
Fragment 124 (found in Theophrastus, *Metaphysics* 15): *'The most beautiful **kosmos** is a heap of sweepings, piled up at random.'* Here we have one of the most notoriously difficult of his statements, quite baffling in its import. Some scholars have made sense of it by assuming that the text is only partial—it should be preceeded by *'for the uninitiated.'* Yet this added phrase is only conjectural. Some claim that it must be spurious. The term 'sweepings' (***sarma***) is sometimes taken to mean 'flesh.' Perhaps Heraclitus is emphasizing that the ***harmonia*** consists not only of simplicity and consonance but also complexity and dissonance. At any rate, this fragment appears to negate the whole import of early philosophy, which always maintained that the ***kosmos*** demonstrates an inherent *order* and not randomness. Here we have another fragment in which the lack of a context makes interpretation all but impossible.

THE SOUL AS MICROCOSM

Like Anaximenes and Pythagoras, Heraclitus put great emphasis on the concept of *soul* (***psyche***) in his philosophical fragments. Many of his statements use the term directly, or else infer it in some way. In the next few sections of my treatise, we will look more closely at the Heraclitean *psychology*.

Even fragments that seem to concern only 'physical' processes, such as meteorology and astronomy, still have strong associations with *soul*. As with the other early philosophers, it is impossible to decide whether Heraclitus is explaining the world (the macrocosm) by man (the microcosm) or the other way around. The two realms are closely linked by an integrative Musical model. Both the world and the individual soul travel along the 'pathway' and take part in a great cycle of natural change. Heraclitus is quite content to substitute *soul* for the cosmic **fire** or ***aither*** in his cosmology. A good example is found in fragment 36: *'It is death to souls to become **water**, death to water to become **earth**, but from earth comes water and from water **soul**.'* In a similar way, **fire** is substituted for *soul* in fragment 31. This dual usage indicates that the meaning of the Elements is not restricted to the physical world or 'matter' in some Aristotelian sense.

The Elements also describe inherent aspects of the inner being. Just as the cosmic **fire** directs the course of the universe by acting as its source and its end-point (fragment 64: *'Thunderbolt steers all things'*), so the *soul* directs or 'steers' the individual person and acts as the source of life and movement. When a person dies, the *soul* is separated from the body, the heat turns to cold, and respiration (a vital aspect of *soul*) stops. In the same way, the ***kosmos*** as a whole is surrounded by the ***aither*** and breathes it in to generate life and the eternal motion of the planets.

The *soul's* directive power is illustrated by fragment 67a, found in a scholiast on Chalcidus (Hisdosus, *On Plato's World-Soul* 17v). Although this fragment is probably only a paraphrase or reminiscence, it shows the relationship of the soul to the body—a relationship which is proportionate, as it already was in Anaximenes and will be later in Plato. The soul is compared to a spider that cares for its web: *'As a spider standing in the middle of its web notices as soon as a fly breaks any of its threads and quickly runs there as if grieved by the breaking of the thread, so the* ***soul*** *of a man, when any part of his body is harmed, rushes there quickly as if unable to endure the harm of the body, to which it is joined firmly and proportionately.'* The soul and the body are intimately linked, and the soul takes on the cognitive functions. It is the seat of consciousness. *Soul* or **fire** is *rational* (***logikos***, derived from ***logos***). Consequently, it is also equated with ***nous***, mind or intelligence.

The four Elements are naturally divided up into two groups: light or rising, and heavy or falling. The light Elements, **fire** and **air** are closely aligned with *soul*, while the heavy Elements, **water** and **earth**, are aligned with *body*. Yet they cannot be easily separated except at death. Within the human person, the Elements transform into each other so that sometimes the light Elements predominate (as during the waking state) and sometimes the heavy Elements rule (as during sleep). The term 'death' is also used metaphorically by Heraclitus, rather than restricting its meaning only to biological death. Philo confirmed it in his commentary on fragment 36 (found in *De aet. Mundi* 21): '*What he calls death is not utter annihilation, but* ***change*** *into another element.'* The Elements as parts of the *soul* are not fixed entities or 'adresses.' They change positions and proportions within the person's evolution. This change is described metaphorically as the 'battle' between **fire** and **water**, or *'waking and sleeping'* or life and death. The flux exists within us as well as in the wider cosmos. It moves in *'measures'* conforming to the traditional musical model. Everything is subject to the transformations of the Musical Elements. This doctrine is not restricted to Heraclitus—it permeates the whole Presocratic movement. We see it well expressed in the Stoic document *Peri Diaitas* (I, 5) which is heavily indebted to Heraclitus: *'All things are passing, both human and divine, upwards and downwards by exchanges.'* All things are subject to the transformations of the primary Elements, just as all musical harmonies are subject to the changing patterns of its underlying ratios (its ***logos***).

Human health was conceived as an equilibrium or balance between the Elements. Disease results when this equilibrium is seriously disturbed. This very widespread doctrine is well illustrated by a passage in Plato's *Symposium* (186d, here translated by W. Hamilton). In this segment, which refers directly to Heraclitus, the doctor

Eryximachus is praising ***Eros*** (*love*, the will to unite) who joins the *opposites* together into a ***harmonia*** whose musical characteristics are made explicit:

'A good practitioner must be able to bring elements in the body which are most hostile to one another into mutual affection and love; such hostile elements are the opposites hot and cold, wet and dry, and the like; it was by knowing how to create love and harmony between these that our forefather Asclepius, as our poets here say and as I believe, founded our craft...

That the same is true of music is plain to everyone who gives the smallest attention to the subject, and this is presumably what Heraclitus meant to say, though he is not very happy in his choice of words, when he speaks of a unity which agrees with itself by being at variance, as in the stringing of a bow or lyre (fr. 51). It is, of course, quite illogical to speak of a concord being in discord, or of its consisting of factors which are still in discord at the time when they compose it, but probably what he meant to say was that the art of music produces a harmony out of factors which are first in discord but subsequently in concord, namely treble and bass notes.'

This passage makes a close connection between Heraclitus and the Pythagorean notion of a ***harmonia*** of the Elements. Thus it is embarrasing for those many modern scholars who want to believe that Heraclitus and Pythagoras have nothing in common. The usual modern interpretation is that Plato was not serious here—he was satirizing the doctor by putting a misunderstanding into his mouth. Yet the notion of the *soul* as a harmony of Elements is common to *all* of the early philosophers right up to Plato. The moderns want to restrict the doctrine *only* to the Pythagoreans. They support their claim by using another famous passage of Plato (*Sophist* 242d) which artificially separates Heraclitus and Empedocles: *'Later, certain Muses in Ionia and Sicily perceived that safety lay rather in combining both accounts and saying that the real is both many and one and is held together by enmity and friendship* [strife and love]. *The stricter of these Muses* [Ionian, i.e. Heraclitus] *say "in drawing apart it is always being drawn together." The milder* [Sicilian, i.e. Empedocles], *relax the rule that this should always be so and speak of alternate states, in which the Universe is now one and at peace through the power of Love, and now many and at war with itself owing to some sort of Strife.'* The modern argument here (compounding Plato's misrepresentation) is that Empedocles believed the All to be One and Many *only by turns* (one or the other over time), while Heraclitus believed the All to be One and Many *all at once.* Strangely enough, this interpretation denies any cyclical change to Heraclitus, only allowing an 'eternal struggle.' Also, it assumes an either-or situation in Empedocles. The distortions of Plato are aggravated by the modern interpreters in order to isolate their doctrines from each other.

This misunderstanding comes from the adoption of a completely non-musical (modern) notion of the relation between One and Many. Meanwhile, Plato himself was taking a polemical stand, as he often did, concerning the early philosophers. In reality, the distinctions between Pythagoras, Heraclitus, and Empedocles are far too sharply drawn. All three believed in a cyclical change or evolution of the Elements within the *soul*. This cyclical change was described in various ways, using metaphors that were sometimes meteorological, sometimes psychological. A good example of the 'physical' metaphor is

found in fragment 39 of Arius Didymus, which was quoted by Eusebius *Preparation for the Gospel* 15.20.2): *'On the subject of the soul, Cleanthes sets out the doctrines of Zeno* [the Stoic] *in order to compare them to those of the other natural scientists. He says that Zeno, like Heraclitus, holds the soul to be a percipient* ***exhalation****. For, wanting to show that souls as they are exhaled always become new, he likened them to rivers, saying: "On those who enter the same rivers, ever different waters flow—and souls are exhaled from the moist things" (fr. 12). Now Zeno, like Heraclitus, says that the soul is an exhalation; but he holds that it is percipient, for the following reasons.'* We have seen the theory of exhalations from at least the time of Anaximenes, but many want to restrict the theory to the physical world of 'matter' or 'substance.' Instead, it is clear that the descriptions of the 'material world' and the inner world of the soul mirror each other. Both are based on the principles of Music: the Elements, the Forces, and transformation through Time.

SLEEP AND DEATH

The *soul* is the seat of directive powers, cognition, and consciousness in the individual, as the cosmic ***aither*** also functions for the universe. It is the *soul* that understands and interprets (rightly or wrongly) the senses. The evolutionary state of the *soul* conditions how well the senses can be trusted. Thus we have fragment 107: *'Poor witnesses for people are eyes and ears if they possess uncomprehending* [literally *barbarian*] *souls.'* People with a high state of consciousness or intelligence are described as more *fiery*, closer to the ***aither*** of the stars. Macrobius wrote (*S. Scrip.* 14, 19): *'Heraclitus said that the* ***soul*** *is a spark of the essential substance of the stars.'* The stars (which include the planets) direct the cosmos astrologically in a similar manner to the *soul's* direction of the individual life. The continuum between an evolved and an unevolved consciousness is described by the metaphor of the *opposites* **fire** and **water**, or hot and cold, or dry and wet. The advanced *soul* is hot and dry, full of **fire** and life. Thus we understand fragment 118 (found in John Stobaeus, 3.5.8): *'A gleam* [or *ray*] *of* ***light*** *is a dry* ***soul****, wisest and best* [or *most noble*]*.'* It is thus most rational (***logikos***) and 'enlightened.' It is closest to the nature of the gods, who are composed of **fire** or ***aither***. The term ***xere*** (dry) could refer both to *souls* and *light*. The ancients associated *light* with *life*. For example, the Homeric phrase *'to see the rays of the sun'* meant essentially *'to be alive'* (*Iliad* 16.188, *Odyssey* 11.498, etc).

A corollary to this widespread doctrine is the notion that the unevolved consciousness is more 'wet' or 'dark,' more influenced by the moist, dark exhalation from the the body. This metaphor makes sense of Heraclitus' fragment 117 (found in John Stobaeus, 3.5.7): *'Whenever a man is drunk, he is led along, stumbling, by a beardless boy; he does not perceive where he is going, because his* ***soul*** *is wet.'* He has lost rational control and must be directed by his junior. The balance between the *opposites* **fire** and **water** is lost and he can no longer function. In the worst case scenario, the life itself is lost. Thus fragment 77: *'It is death for* ***souls*** *to become wet.'* However, we should not understand this statement exclusively and literally as biological annihilation. Death also referred to the transformation of one Element into another. If a portion of **fire** became **water**, it could symbolize merely a diminution of consciousness, perhaps the shift from a waking state to the sleeping state. It need not be 'total.' This

metaphor is entirely consistent with the underlying Musical model. The One (**fire**) emanates the Many (**water**). The Many have less 'hierarchical status' than the One, since complexity inevitably generates dissonance, simplicity consonance. The shift from **fire** to **water** is a movement in the direction of vibratory complexity. The One is associated with the source of life, which is expressed through the Many; but the Many have the potential of dissolving the Unity, if the generation is not limited in some manner by a ***logos***. Yet both the One and the Many are mutually interdependent; they form one continuum, a ***harmonia***.

The state of *sleep* signifies a diminished contact with the *fiery* or enlightened element of the *soul* and an increased predominance of 'the moist.' The *'moist dark exhalation'* originates in the downward-tending Elements **water** and **earth** that dominate the body. The state of sleep naturally also signifies ignorance or lack of ***nous***. During this state of consciousness, we have less contact with the 'common' or universal ***logos***, the rational aspect of the world. We retreat into a subjective realm, the realm of 'seeming' or the *dream world*. It appears to be real but actually has less validity than the waking state. In a similar manner, the normal waking state is assumed to be less 'real' than the higher states of consciousness achieved through certain practices (the Mysteries). All of the ancient cultures (in the east and the west) used the metaphor of *'waking and sleeping'* to contrast normal consciousness with what could be called the 'mystical state.' We find the same notion expressed as a contrast between the 'cave' and the 'sunlit world' in Empedocles and later Plato. The initiation into this higher state of consciousness always involves the 'death' of another state. The use of the metaphors *'waking and sleeping'* as well as *'living and dying'* often have these associations just below the surface.

To be awake is a superior state than to be asleep. Thus we have fragment 73: *'One ought not to act and speak like people asleep.'* Sleeping people have less contact with the universal aspects of the cosmos. Fragment 89: *'For the waking there is one common world, but when asleep each person turns away to a private one.'* Indeed, one who inhabits mystical states of consciousness 'sees' the inherent connectedness (***logos***) of all things. It is an essentially 'musical' experience and best described using musical metaphors. Everyone has had such experiences to a greater or lesser degree. Sometimes they occur spontaneously, but usually they are 'cultivated' by rigorous spiritual practices (fasting, the use of power plants, and so on). Everyone has some connection to this state of consciousness, even the person who is entirely 'normal' or 'asleep.' This is the import of the beautiful fragment 26 (found in Clement, *Stromateis* 4.141.2): *'A person in the night kindles a light for himself when his vision has been extinguished. In his sleep he touches that which is dead, though himself alive, and when awake touches that which sleeps.'* The light that is kindled refers to his dreams or his private 'reality.' He touches that which is dead because sleep is traditionally a 'mini-death.' The cycle of waking and sleeping is a microcosm of the cosmic Great Year cycle in which the Elements **fire** and **water** oscillate in supremacy. He is still alive since he breathes, maintaining the minimal connection to the cosmic **fire-air**. His body feels heavy, and there is a reduction of organic heat. When he awakes he touches that which sleeps because he now understands the difference between the two states. All higher states of consciousness 'embody' or

comprehend lower states. This fragment uses wordplay on the term ***haptesthai***, meaning both to 'touch,' to 'kindle,' and to 'strike for oneself.'

Closely allied to this fragment is his obscure fragment 21 (found in Clement, *Stromateis* 3.21.1): *'(Even Heraclitus does not call birth death, when he says:) Death is those things we see once we are awake; sleep those things (we see) while we are sleeping.'* Another less literal translation is: *'What we see when awake is death, what we see asleep is sleep.'* The waking state allows us to contrast the difference between waking and sleeping. Since sleeping is a 'lower' state of consciousness, it does not allow this possibility (except, perhaps, during 'lucid dreaming'). The import is that the waking state is 'higher' or more comprehending than the sleeping state. In a similar way, the mystical state of consciousness is assumed to be 'higher' yet and more integrated. During the higher states one can come to understand 'death,' but during lower states one is less comprehending.

Nevertheless, both higher and lower states exhibit some contact with the ***logos***. Even sleepers share some degree of 'reality.' Thus we have fragment 75 (found in Marcus Aurelius 6.42): *'(Those who are asleep I think Heraclitus calls) labourers and co-producers of what happens in the universe.'* Though separated off in their own private ***kosmos*** they nevertheless participate in the world. Many scholars are suspicious that this fragment is spurious or only a loose paraphrase, but it is nevertheless consistent with his other fragments. Those who are asleep and those who are awake share a common cosmos; indeed, they exchange places with each other. Fragment 88: *'The same thing is in both living and dead, and the waking and the sleeping, and young and old; for these things transformed are those, and those transformed back again are these.'* Even the distinction between immortal gods and mortal men is malleable (fragment 62): *'Immortal mortals, mortal immortals, living the death of the others and dying their life.'* Life and death are flip sides of the same coin, a belief common to those who support reincarnation.

Thus each of us has a 'higher' aspect of *soul* and also a 'lower' aspect, symbolized by the Elements. The different aspects are not fundamentally 'good and bad.' All are necessary for the workings of the *whole*. Nevertheless, we are meant to strive for the highest. This sentiment is illustrated in fragment 85 (found in Plutarch, *Coriolanus* 22.2): *'It is difficult to fight against* ***desire*** [or *appetite, one's heart*], *for whatever it wishes it buys at the price of* ***soul.***' The term ***thymos*** is somewhat ambiguous, and could also be translated 'anger.' The term originally meant the seat of our intellectual and emotional selves, located in the lungs; but it came to be more associated with the 'sensual desire' for food, drink, sex, and so on. A desire for 'drink' leads to the 'drowning' of the *soul*. The fragment implies that over-indulgence has its price in our spiritual development. Limits must be established. Perhaps we have here an Orphic defence of asceticism. It is interesting just how well this doctrine accords with the teachings of Heraclitus' contemporary in India, the Buddha. The understanding and regulation of desire generally acts as the main focus of spiritual practices. This sentiment is supported by another statement, fragment 110 (found in John Stobaeus, 3.1.176): *'It is not better for people to get all that they want.'* Again, we have fragment 95 (found in Plutarch, *An virtus doceri possit* 439d): *'It is better, (says Heraclitus), to conceal ignorance; but it is*

hard in times of relaxation, over our cups.' Probably Heraclitus, like the other early philosophers, supported moderation rather than indulgence as best for the *soul*.

Fragment 85 illustrates that Heraclitus 'divided' the *soul* into at least two parts, thereby anticipating Plato's tripartite division of the *soul* in his *Republic* (book 4). We see here a distinction between a 'rational' part embodying ***logos***, and a 'spirited' part. The Greek word for 'anger' (***thymos***) is closely related to the word for 'spirited.' In truth, the *soul* was divided into four parts symbolized by the Elements, or else three parts symbolized by the triad of Elements that are expressions of the One (**fire**). As is often the case, a doctrine which is supposed by moderns to be 'original' to Plato actually has its roots in the Presocratic philosophers. The architecture of the *soul* and the ***kosmos*** derived their structure and rationale from the Musical notion of vibratory 'being.' We can also see the Musical model behind fragment 115 (found in John Stobaeus, 3.1.180a): *'Soul possesses a **logos*** [ratio, measure, proportion] *which increases itself.'* The *soul* is divisible into as many aspects as we wish to pursue, like the monochord. It is comprised of a Multiplicity within a Unity.

One more fragment combines the terms *soul* and ***logos***. The exquisite fragment 45 (found in Diogenes Laertius 9.7) states: *'You would not discover the **limits** of the **soul** although you travelled every **pathway**: it has so deep a **logos**.'* Such talk of the soul's 'boundlessness' is highly reminiscent of Anaximander. Note the use of the 'pathway' metaphor as in fragment 60 (*'the pathway upward and downward'*). The implication is that the 'measure' of the *soul* is infinitely divisible, like the radical analog division of the ***harmonia***. Above all else, this fragment is a justification or support for Anaximander. Yet modern commentators prefer to see no connection at all. For example, McKirahan (*op. cit.* p. 147) gives: *'Fragments 115 and 45 describe the **soul** as having a "self-increasing **logos**" and "so deep a **logos**" that its **limits** cannot be discovered. These fragments may say much the same thing, but what it is is unclear. They may refer to the problem of self-consciousness in which it is possible to generate an infinite regress by regarding mind as both the subject and the object of thought. Or they may associate our **soul** with the vast amount of **fire** (i.e. the **logos**) that governs the universe while itself being a part of the universe.'* He is correct in associating some aspect of consciousness with *soul*, but note how devoid this interpretation is of *any* musical sense. At the end he hints that it may relate to the vast 'mass' of physical **fire** in the ***kosmos***. The orthodox physical interpretation is stressed even more by Kirk, Raven, and Schofield (*op. cit.* p. 204): *'probably the thought here is not so much of the problem of self-consciousness as of the **soul** being a representative portion of the cosmic **fire**—which, compared to the individual, is obviously of vast extent.'*

The typically modern approach to *soul*, **fire**, and *mind* is further illustrated by Guthrie (*op. cit.* p. 432). He wrote: *'**Fire** represents for Heraclitus the highest and purest form of **matter**, the vehicle for **soul** and **mind**, or rather soul and mind themselves, which in a more advanced thinker would be distinguished from any matter whatsoever. It must not therefore be imagined as a visible flame or glow, but rather a kind of invisible vapour...'* Above all, we see an attempt to 'physicalize' the Heraclitean metaphors within a totally *visual* conception of the context. If Heraclitus connects the physical **fire** and the

non-physical *soul* it must indicate simply that he was still a 'primitive' philosopher who had trouble distinguishing the two. He was not yet able to separate the 'material and spiritual worlds.' He wrote (p. 428): *'Much of the obscurity of Heraclitus results from the fact that his more subtle thinking had really brought him to a stage when matter and spirit, or equally the concrete and the abstract, require to be thought of as separate, but he is still too much in the groove of previous thinking to effect the separation consciously. Before this could be achieved philosophy had to suffer the intellectual jolt which it received from Parmenides. As Kirk observes (HCF, 53), Heraclitus would have been unable to define any other type of 'being' than corporeal being.'* It is just this sort of reductionist, 'philosophico-babble' that irritated me into writing this book. It does not do justice at all to the subtlety and sophistication of Heraclitus' Musical thought.

THE TESTIMONIAL OF SEXTUS EMPIRICUS

We learn more about the interrelated subjects of ***logos***, *soul*, sleep, and the senses in an extensive piece of doxography by the Sceptic writer Sextus Empiricus. In his *Against the Mathematicians* (7.126-34) he claims to reproduce the account of Heraclitus given by Ainesidemos, who combined Heracliteanism with Scepticism. Modern interpreters are quick to point out that much of this material is suspect and 'contaminated' by a large admixture of Stoic and Sceptic ideas which were not yet present in the more 'primitive' Heraclitus. It is true that some of the terminology is Stoic, but modern scholars are reluctant to accept the huge influence of Heraclitus on later Stoic philosophy. At any rate, Sextus gives a number of direct quotes from Heraclitus' book, and shows every indication of exhibiting a thorough knowledge of the master. Rather than rejecting this material outright, it should be valued as a source of insight into the Heraclitean philosophy. As usual, the text (translated here by T. M. Robinson, *op. cit.* p. 176-8) is divided into segments with commentary.

(126) *'And Heraclitus—since he again supposed that man is furnished with two organs for gaining knowledge of truth, namely* ***sensation*** *and* ***reason****—held, like the philosophers of nature previously mentioned, that of these organs sensation is untrustworthy, and posited reason as the standard of* ***judgement****. (The claim of) sensation he expressly refutes with the words, "Poor witnesses for people are eyes and ears, if they possess uncomprehending* ***souls****" (fr. 107), which is equivalent to saying, "To trust in the non-rational senses is a mark of uncomprehending souls."'*

No doubt there is a Sceptic influence here, in the doctrine that the senses are entirely untrustworthy. Whether Heraclitus himself was totally negative about the evidence of the senses is not likely. We also have fragment 55: *'All that can be seen, heard, experienced—these are what I prefer.'* Yet there is also something of value in the testimonial. The talk of 'two organs' reminds us of the division of the *soul* into 'rational' and 'spirited' segments. Of these two, reason (***logos***) is the most valued. In addition, the two organs for gaining knowledge of the truth remind us of the traditional division of Canonics into *practica* and *theoretica*. The former includes the manipulation of the monochord and the sensory *listening* to the results. The latter includes the associated arithmetic attendant upon investigations into Canonics. Both aspects of Canonics were

(and are) necessary in order to gain any higher understanding of the musical 'truth' that underlies the musical model of the world. These two aspects of Canonics are well described by the terms *'sensation and reason.'* The doctrine of *practica* and *theoretica* was quite widespread in Presocratic philosophy and in the Mystery School traditions.

(127) *'**Reason**, on the other hand, he declares to be the **judge** of truth—not, however, any sort of reason you might care to mention but that reason which is 'common' and **divine**. What this latter is needs a brief explanation. A favourite tenet of the philosophers of nature is that what encompasses us is **rational*** [***logikos***, the adjective derived from ***logos***] *and **intelligent*** [or endowed with consciousness].'

Reason and the rational are derived from ***logos***, ratio and proportion. Again we sit in the heart of the Musical paradigm. It is not any sort of reason that is valued, but rather the 'universal' or 'common' divine ***logos*** that can be unambiguously demonstrated by Canonics. That which 'emcompasses' us or 'surrounds' us was generally held by the Stoics to be the ***aither***, having characteristics of *both* Elements **fire** and **air**. Burnet used this Stoic notion of ***aither*** and ***logos*** to 'prove' that this material cannot be Heraclitean. For Heraclitus knew nothing of the Element **air** which was for him nothing but a form of **water**! Due to the prestige of Burnet, such ludicrous ideas have had a great influence on modern scholarship, and they are often used to support the isolation of Heraclitus from later Stoic philosophy. Many Heraclitean doctrines are deemed to be Stoic, Heraclitus himself being more 'primitive' and incapable of such subtlety. The orthodox theory that Heraclitus was not yet aware of the 'physical' Elements has only recently been questioned. We should assume that the Stoics took much more from Heraclitus (and other Presocratics as well) than the moderns will admit.

(128) *'Homer too had indicated such a view a long time beforehand, when he said, "The **mind** possessed by men that dwell upon the **earth** is like the **day** brought to them by the sire of gods and men" (Odyssey 18.136-7). Archilochus as well says that men have thoughts "such as the day **Zeus** brings them" (fr. 115). The same thing has also been said by Euripides: "Descrying who thou art, O Zeus, is something hard to puzzle out. Be thou **Necessity** of Nature, or mankind's **intelligence**—I invoke thee, none the less!" (Trojan Women 8885-7)'*

The notion of the ***aither*** as 'that which surrounds us' and as that divine aspect of the ***kosmos*** that we breathe in through the **air** is a doctrine older than Presocratic philosophy. The ***aither*** was deemed to be the source for *mind* and *intelligence* (***nous***). Our 'day,' the existence of the ***harmonia***, is brought about through the agency of the *One* (**fire**, ***aither***, ***Zeus***). Heraclitus was willing to call the *One* ***Zeus***, as shown in his fragment 32: *'The **One** alone is (the) wise; it is unwilling and willing to be called by the name of **Zeus**.'* The *One* is the source of our capacity to think and reason, since, fragment 113: *'Thinking is common to all.'* The *One* is not only called ***Zeus***, but also *Necessity of Nature*, traditionally pictured as a goddess who is the consort of ***Zeus***. As the *One* is derived from the Musical MONAD, *Necessity* is derived from the Musical DYAD, the goddess of the *mese*. Both figures stand for the epitome of the cosmic *judge* of truth, and they are very prominent in Orphic mythologies.

(129) *'According to Heraclitus, by drawing in this divine* ***logos*** *through our breathing we become* ***intelligent****; we are also forgetful (of it) when we are asleep, but rational* [conscious] *again upon awakening. For since, in sleep, the sense-passages* [***poroi***] *are closed, the mind* [***nous***] *within us is cut off from its natural union with the surrounding (substance) (the only attachment that is preserved is by way of* ***respiration****, like that of a* ***root****), and cut off (in this way) it loses the power of* ***memory*** *that it previously possessed.'*

The doctrine of *pores* or sense-passages is also used by modern scholars to 'prove' that this material is not Heraclitean. The first explicit fragment referring to ***poroi*** is found in the Pythagorean medical philosopher Alcmaeon, who probably lived about one generation later than Heraclitus. Therefore (especially since Alcmaeon was a Pythagorean) Heraclitus could not have known about it! The translator uses the term 'surrounding *substance*' for 'that which surrounds,' introducing an Aristotelian bias into the text. Burnet was sure that this doxographic material cannot be Heraclitean because Heraclitus was still too 'primitive' to make a clear distinction between body and mind. Note that a connection between the individual *soul* and the cosmic ***logos*** was still possible through *breathing*, through the medium of **air**. When sleeping, both literally and metaphorically through ignorance, we exist in a 'lesser' state of consciousness, but we are still tenuously connected to the *One*. The *One* is the *root* of consciousness altogether. This term, the *Root*, was used later by Empedocles to describe the Elements themselves, a highly appropriate and Musical use of the term. Our modern term 'Elements' was later coined by Aristotle. While asleep, or in a lower state of consciousness, we lose our *intelligence* or *mind* (***nous***) through a loss of *memory*. If Heraclitus associated intelligence with memory, we have the earliest instance of a doctrine that is universally associated with Plato.

(130) *'When one awakes, however, it peeps out again through the sense-passages—through windows, as it were—and by linking itself with the surrounding (substance) becomes invested with the power to reason. Thus, just as cinders, when placed near* ***fire****, become ignited by the alteration (of place), but die out when placed at a distance, so too the portion of the surrouning (substance) to which our bodies are host is rendered near-irrational by the* ***separation*** *(from that substance,) but by its continuity (with it) via the multiplicity of passages it is made like in kind with the* ***whole****.'*

The senses are like 'windows' through which the individual *soul* glimpses the universal ***logos***. The 'sense-passages' form the 'conduit' between the microcosm (the *soul*) and the macrocosm (the cosmic Unity within Diversity). A higher, more integrated state of consciousness is aptly compared to ashes that glow when brought closer to the **fire**. This beautifully appropriate image was also used by Heraclitus' teacher Xenophanes, where it had much the same meaning. The different 'levels' of consciousness are metaphorically described 'hierarchically' as gradients of *'separation'* from the *One*, which is the highest consciousness or mystical state. Within a relatively higher state of consciousness more 'passages' are made available in which we can connect to the *whole* or the *All*, which is *One*. During sleep less passages are available;

whereas, in the waking state more passages become operative. Complete unity with the *One* involves all of the passages being 'cleared of debris or obstruction.' Such a cleansing was the object of spiritual practices, as defined within Orphism and various other Mystery traditions.

(131) *'Heraclitus says, then, that this 'common' and divine* ***logos****—by participation in which we become* ***rational****—is the yardstick of truth. So that which appears (such-and-such) to all in* ***common*** *is trustworthy (for it is grasped by the 'common' and divine* ***logos****), but that which strikes only an individual as (such-and-such) is—for the opposite reason—untrustworthy.'*

The ***logos*** is the 'yardstick of truth' because it is the 'measure,' the means whereby the truth can be found. It was held to be universal or applicable to any context—the physical world, social interactions, the makeup of the individual *soul*, and so on. One 'common' musical model was universally applied to all of the 'sciences.' In as much as we recognize and understand this universal framework, we gain in intelligence and mind. Alternative explanations that are peculiar only to the individual have no value for Heraclitus.

(132) *'Thus the aforementioned man begins his work* On Nature, *and in a certain fashion points out (the existence of?) the surrounding (nature) with the words: "Of the* ***logos****, which holds forever, people forever prove uncomprehending, both before they have heard it and once they have heard it. For although all things happen in accordance with the* ***logos****, they are like people without experience when they experience words and deeds such as I set forth, distinguishing (as I do) each thing according to its real constitution, ie, pointing out how it* ***is****. The rest of mankind, however, fail to be aware of what they do after they wake up just as they forget what they do while asleep" (fr. 1).*

Sextus has given us here the context of fragment 1. It concerns 'the surrounding nature' or ***aither***, which is equated with ***logos*** by Heraclitus. I have changed Robinson's translation slightly. Where he has translated 'this account' I have substituted 'the ***logos***' as some other translators have also done. Robinson is keen to reduce the meaning of ***logos*** *only* to 'my version of the story' or 'my account.' Like other modern scholars, he would prefer to assign any metaphysical associations for ***logos*** to later generations who were more 'evolved' than Heraclitus.

(133) *'For having in these words expressly stated the view that we do and apprehend everything thanks to our participation in the divine* ***logos****, he goes on a little further, then adds: "That is why it is necessary to follow that which is (common). Though the* ***logos*** *is common, however, the many live as though they had a private understanding" (fr. 2). This* ***logos*** *is nothing else than an explanation (exposition, articulation, exegesis) of the* ***mode of arrangement*** *of the universe. That is why we speak truly whenever and in so far as we share in the recollection of it, but are invariably mistaken on matters of private opinion.'*

(134) *'So here and in these words he states clearly that the common* ***logos*** *is the yardstick (of truth); the things that appear such and such in common are trustworthy, as*

*being judged by the common **logos**, whereas those that appear (such and such) to each person privately are false.'*

Sextus' definition of the ***logos*** is interesting, and much closer to the ancient musical sense than modern attempts at an abstract, a-musical definition. The 'mode of arrangement' could also be described as the 'way' that the arrangement is made. It is the way that one 'thing' is *related* to another—how the ***kosmos*** 'hangs together.' In other words, the ***logos*** defines how *'all things are steered through all things,'* how they relate to each other, and how they relate to the originating *One*. Although this account of Sextus certainly has Stoic sentiments behind it, it nevertheless displays the huge debt that the Stoics owed to Heraclitus.

REINCARNATION AND JUDGEMENT OF THE SOUL

Most modern scholars would prefer to deny reincarnation and the immortality of the *soul* to Heraclitus, since such a stand furthers the distance between his philosophy and that of the 'arch-enemy' Pythagoras (and the Orphics). However, the evidence in the fragments and the doxography is difficult to negate. Consequently, most scholars maintain an attitude of ambivalence. For example, Guthrie wrote (*op. cit.* p. 476): *'Whether Heraclitus believed in the immortality of the **soul** and in posthumous rewards and punishments, or whether such ideas must be excluded as incompatible with the process of **flux**, is an almost insoluble question on which diametrically opposite views have been held. **Soul**, it has been said, is subject to continuous change into the other elements, and at death turns to **water** (fr. 36). How then can it have the permanence necessary for the preservation of identity after death, still less through several lives as the Pythagoreans taught?'* Again, Robinson wrote (*op. cit.* p. 189): *'If such was his belief, however, it remains a problem how he reconciled this drift in his thought with the more materialistic drift of the rest of his ideas.'* The general orthodox view is that the *soul* literally turns to **water** at biological death, and that only a select few are united with the cosmic ***aither***.

This interpretation is illustrated by Kirk, Raven, and Schofield (*op. cit.* p. 208): *'It seems plausible, then, that the latter* [the select few] *avoid the **soul-death** of becoming **water**. They leave the body and, we may guess, are reunited with the aitherial **fire**. Before this happens they probably remain for a time as disembodied **daimons** after the Hesiodic pattern. But there can be no idea of individual survival apart from this, or indeed of perpetual survival as aitherial **fire**; for measures of that **fire** are constantly being drawn into the cosmological process, and undergo the changes of fragment 31. Thus Heraclitus does not appear to be indebted here to Pythagoras.'*

As usual, the intent is to isolate Heraclitus from and oppose him to Pythagoras. In addition, most modern interpreters prefer to distance him from the Orphics, since the Presocratic movement is to be 'rational and scientific.' Hence fragment 77: *'It is death for **souls** to become wet'* is interpreted in a simplistic literal manner, ignoring the likely metaphorical usage of the concept *death*. Yet a good number of the fragments are totally supportive of the Orphic stance. Others are admittedly obscure but only make sense if we

adopt the Orphic conception of reincarnation and judgement of the *soul*. In this section we group together these fragments. Although none of them say *directly* that reincarnation is a true belief, they nevertheless support the doctrine when seen as a group.

Let us begin with Heraclitus in top oracular form, fragment 62: *'Immortals are mortals, mortals immortals, living their death and dying their life.'* In the Orphic doctrine, humans are potentially immortal if they lead moral ascetic lives, partake in various mystery rites, and so on. By these practices they can eventually escape the 'wheel of rebirth' and unite with the aitherial *One*. On the other hand, in Orphic mythology, the god ***Dionysus*** (who is immortal) was killed by the ***Titans*** and hence partakes in mortality. He experiences human suffering so that he can be resurrected again, thus showing the way to 'salvation.' The Orphic myth confirms that both gods and men are subject to the *'path up and down.'* The *soul* is the participant of this process. It enters a body in order to atone for the sins of past lives and in order to learn the techniques of salvation. Even gods and heroes need to re-enter the human 'stream' if they want the ultimate escape from the 'hateful round.' The body then is the 'cage' or 'prison' of the *soul*. At the death of the body, the *soul* is potentially free, depending on the evolution of the person's consciousness at the point of death.

The Orphics believed in a moral imperative equivalent to the Indian law of *karma*: what you sow is what you reap. This law is supported by Heraclitus' fragment 25 (found in Clement, *Stromateis* 4.49.2): *'Greater deaths win greater destinies.'* This statement plays on the etymological origin of ***moros*** (death) and ***moira*** (destiny, fate). The logic of reincarnation is pointless without an underlying moral justification. Other fragments about the value of the ascetic life also imply this doctrine. For example, fragment 29 goes: *'The best renounce all for one thing, the eternal fame of mortals, but the many stuff themselves like cattle.'* Fragment 110: *'It is not better for humans to get all they want.'* The law of karma is also implied in fragment 119 (found in John Stobaeus 4.40.23): *'(Heraclitus said that) a man's character is his fate* [or divinity, ***daimon***]*.'* The term ***daimon*** can mean fate or 'guardian-divinity' leading one to good fortune or doom. It signified a 'guardian angel' or personal genius responsible for the person's individuality, character, and moral sense. Not surprisingly, popular belief often equated ***daimon*** with *soul*. The souls of good men were said to become ***daimones*** for others. For example, Hesiod wrote (*Works and Days* 121-3) that noble souls (of the Golden Race) who *'lived like gods became, as their reward,* ***daemones*** *after death and guardians of mortal men, roaming everywhere over the earth clad in darkness.'* This belief is supported by Heraclitus' fragment 63 (found in Hippolytus, *Ref.* 9.10.6): *'They arise and become vigilant guardians of the living and the dead.'*

The round of rebirths is also consistent with such cosmological fragments as fragment 88: *'The same thing* [soul] *is in both living and dead, and the waking and the sleeping, and young and old; for these things transformed are those, and those transformed back again are these.'* The wheel of rebirths is a likely referent for fragment 103: *'The beginning and the end are common on the circumference of a circle.'* Survival after death is suggested in fragment 27 (found in Clement, *Stromateis* 4.144.3): *'Things unexpected and unthought of await humans when they die.'* Then we have fragment 98:

*'**Souls** use the sense of smell in Hades'* which assumes some form of existence after death. Another fragment that can be interpreted as implying reincarnation is fragment 49a: *'We step into and we do not step into the same rivers. We are and we are not.'* The whole process of cosmological transformation implies the alteration of *'life and death'* or *'waking and sleeping.'*

It should also be noted that the doxographical literature consistently assumes that Heraclitus followed the Orphic doctrine. For example, Sextus Empiricus wrote (*Pyrrh. Hyp.* 3.230): *'Heraclitus says that both life and death are in both our living and our dying; for when we live our **souls** are dead and buried in us, but when we die our **souls** revive and live.'* Sometimes Orpheus and Heraclitus are mentioned together in the same passage. For example, from Clement we have (*Stromateis* 6,2,17): *'Orpheus wrote: "**Water** is death for **souls**...but from **water** comes **earth**, from **earth** again **water**, and thence **soul**, rushing to all the **aither**." Heraclitus put together the words from these lines and wrote somewhat as follows (fr. 36): "For **souls** it is death to become **water**, for **water** death to become **earth**; but from **earth water** comes into being, from **water soul**."* Clement is here attributing Heraclitus' concept to the Orphic writings. Other late writers also coupled Heraclitus and Orpheus. For example, Numenius (fragment 30, found in Porphyry, *The Cave of the Nymphs* 10) assumes that Heraclitus' doctrine is Orphic: *'Heraclitus says that for **souls** it is pleasure or death to become **moist**, and that for them the fall into mortal life is pleasure (fr. 77); and elsewhere that we live their death and they live our death (fr. 62).* This fragment shows that 'death' is not to be taken literally and that it also refers to the 'fall' of a *soul* into a new body at reincarnation.

According to the doxographic evidence, Heraclitus followed other Orphic doctrines as well, notably vegetarianism. This is shown by the context of his enigmatic fragment 96 found in Plutarch (*Table Talk*, 669a): *'(Food without salt) is heavy and nauseous to the taste; for (fr. 96) "corpses should be thrown out more readily than dung," according to Heraclitus, and meat is corpse or part of a corpse.'* In fact, all of the Heraclitean fragments *and* the doxographic literature support his belief in the immortality and the transformation of the *soul*. Only fragment 77 about the death of *souls* when they become too 'wet' adds a note of controversy, and then only if we interpret it in a narrow literal manner as physical annihilation. It is this very fragment that modern scholars seize upon in order to throw doubt into the picture. And yet this same image may itself come from an Orphic sourse, as indicated by the evidence of Clement.

Heraclitus implies that it is worthwhile to strive for a 'good death.' The state of the *soul* at the time of death is of crucial importance. This Orphic belief is expressed metaphorically in fragment 136: *'**Souls** slain in **war** are purer than those that perish in diseases.'* Ascetic effort is morally superior over dissipation and idleness. The same sentiment is expressed in fragment 24 (found in Clement, *Stromateis* 4.16.1): *'Gods and humans honor those slain in **war*** [literally, by ***Ares***]*.'* But most people are incapable or unwilling to make the effort for total liberation. These people are the ones that Heraclitus criticizes as the 'unworthy.' They are doomed to remain captives of the 'wheel of rebirth' until they learn their lessons. The fate of 'normal' people is captured in fragment 20 (found in Clement, *Stromateis* 3.3.14): *'(Heraclitus at any rate is clearly abusing birth on*

those occasions when he says): Once born, they consent to live and face their fates [or rather, *fall asleep*], *and leave behind them children to become (in their turn subject to their own particular) fates.'* This is the lot of the common man.

All of this material is consistent with an Orphic viewpoint. Indeed, later when Plato was arguing for the soul's immortality in his *Phaedo*, he used the very metaphors of *'waking and sleeping'* or *'life and death'* that Heraclitus had used. The image of *'waking and sleeping'* sits well with reincarnation. In addition, the extant fragments of the Orphic literature itself often have a Heraclitean flavor. For example, an inscription on a bone tablet from Olbia (south Italy) from the 5th century says: *'Dio(nyus),' 'Orphikoi,' 'life death life'* (***bios thanatos bios***). The alternation of life and death was broadly accepted among the Bacchic or Orphic mystery cults. The modern attempt to separate Heraclitus from this cultural context is motivated by a desire to see him as somehow anti-religious or rationally 'scientific.' The ancient writers, however, even such late commentators as the Christian apologist Clement, recognized him as essentially a religious figure. His 'science' was the science of the transformation of the *soul*.

Another characteristic aspect of the Orphic doctrine of rebirth is the notion that the *soul* is *judged* after death. The image of judgement is central to Music and to early cosmology. Anaximander put the whole issue into perspective. We should note here that the fragments of Heraclitus support the Anaximandrean notion of justice as a dynamic balance between transforming Elements bounded by *opposites*. Here is a small grouping of the fragments that employ the concept of justice:

Fragment 28: *'The knowledge of the most famous persons, which they guard, is but opinion. Justice will convict those who fabricate falsehoods and bear witness to them.'*

Fragment 94: *'The sun will not overstep his measures; otherwise, the Erinyes, ministers of Justice, will find him out.'*

Fragment 66: *'For **fire** will advance and judge and convict all things.'*

Fragment 41: *'Wisdom is the **One**, to be skilled in true judgement, how all things are steered through all things.'*

Fragment 80: *'It is necessary to know that war is common and justice is **strife** and that all things happen in accordance with strife and necessity.'*

Fragment 23: *'They would not have known the name of justice if these things* [unjustice] *did not exist.'*

The goddess *Justice* also holds a very special place in Orphic mythology. She is the consort or assistant of ***Zeus***. She acts as the ultimate guarantor of *limit* and *measure*, not only in the wider cosmos but also within the *soul*, where she is assimilated with the ***daimon***. The importance of *Justice* was recognized very early in Greek literature. For example fragment 16 of Solon gives: *'Most hard is it to apprehend the unapparent measure of judgement, which alone holds the limits of all things.'* This fragment conforms quite well to the outlook of Anaximander and Heraclitus. *Justice* is always paired with *Necessity*, the inevitablity of 'how things are.'

In summary, there is nothing in the doctrines of Heraclitus that is in any way incompatible with Orphism. He conforms to the orientation of his forebears in the Presocratic movement. We must counter the orthodox viewpoint that attempts to distance him from Orphism. For example, Guthrie wrote (*Orpheus and Greek Religion*, p. 226): *'There seems little here to support the theory that Heraclitus was an Orphic. He censured Pythagoras, and despised mystery-religions. His own central doctrine is highly individual, and if he seems to hint at a cycle of life, saying that dead souls come to life again just as surely as live souls die, and even that "all the things we see when awake are death" (fr. 64), that is simply a logical consequence of the central doctrine* [that everything is in constant flux] *and need not be explained in any other way.'* By now the reader should appreciate that his doctrine was not 'highly individual,' his relation with Pythagoras was not simplistically 'black and white,' he did not despise the mystery-religions, and he did much more than simply 'hint' at a cycle of life. As we will see in an upcoming section, his doctrine of flux has also be distorted and misunderstood by both ancients and moderns. This whole interpretive framework is used to bolster the image of Heraclitus as an 'eccentric loner' whose philosophy is intentionally obscure.

THE TESTIMONIAL OF HIPPOLYTUS

Like his teachers Xenophanes and Pythagoras, Heraclitus was essentially a religious figure. Perhaps his principal concern was the transformation of the Elements within the human *soul*, the 'birthing' of a new level of consciousness. The Elements were to be 'cooked' or transmuted by the sacred inner **fire**, the 'furnace' of various spiritual practices. It is interesting that such practices were also being explored during this same period of time in other parts of Asia: witness the techniques of the Buddha in India and the Taoists in China. This 'Great Work' or 'secret doctrine' is an ongoing thread in the history of religious philosophy. Almost a millenium later it formed the core of Hermetic magical processes and alchemical practices in the Egypto-Hellenic culture of Alexandria. The early alchemical writers, such as the Egyptian Zosimos, described in symbolic language how the 'base metals' (the Elements) within the *soul* could be transformed into 'gold' (**fire**), the spiritual 'essence.' The modern scholarly community generally does not appreciate the great extent to which the intricate system of alchemical symbolism was indebted to the older Musical symbolism.

Some early sects of Christianity, especially the various Gnostic sects, also fall within this camp. For all of these groups, Pythagoras, Heraclitus, and Empedocles were 'pioneers' in the 'Great Work,' sometimes called the 'Royal Art.' This attitude helps explain why they were held in such reverence. Even among the more orthodox Christian cults, who eventually managed to suppress the other groups, Heraclitus was a figure of respect and even reverence. This is understandable, considering that Christianity borrowed liberally from the doctrines of Orphism and Stoicism. This respectful attitude is well illustrated in the text of Hippllytus' *Refutation of All Heresies* (9.9.1-10). His purpose was to denigrate the Noetic heresy, claiming that this religious group followed Heraclitus. But in so doing, he managed to give Heraclitus the status of being 'almost Christian.' Hippolytus began his criticism with a well-rounded summary of what he feels is Heraclitus' main ideas. Although the ideas of Heraclitus are sometimes twisted by

Stoic and Christian 'mutations,' we can see how compatible Heraclitus can be with late antique religiosity. The translation here is by J. Barnes (*Early Greek Philosophy*, p. 102-4).

'Heraclitus says that the universe is divisible and indivisible, generated and ungenerated, mortal and immortal, Word [***Logos***] *and Eternity, Father and Son, God and Justice. "Listening not to me but to the account* [***logos***], *it is wise to agree that all things are one" (fr. 50), says Heraclitus. That everyone is ignorant of this and does not agree he states as follows: "They do not comprehend how, in differing, it agrees with itself—a backward-turning connection, like that of a bow and a lyre" (fr. 51). That an account* [***logos***] *exists always, being the universe and eternal, he says in this way: "Of this account which holds forever men prove uncomprehending, both before hearing it and when first they have heard it. For although all things come about in accordance with this account, they are like tiros as they try the words and the deeds which I expound as I divide up each thing according to its nature and say how it is" (fr. 1). That the universe is a child and an eternal king of all things for all eternity he states as follows: "Eternity is a child at play, playing draughts: the kingdom is a child's" (fr. 52). That the father of everything that has come about is generated and ungenerated, creature and creator, we hear him saying: "War is father of all, king of all: some it shows as gods, some as men; some it makes slaves, some free" (fr. 53). That...* [lacuna]... *"connection, like that of a bow and a lyre" (fr. 51).'*

The use of contraries, such as divisible and indivisible, generated and ungenerated, and so on, reminded us of the expressions of Xenophanes. Both sides can be justified by some Musical 'truth.' The translator here deliberately avoids the use of the term ***logos***, always translating it as 'the account' or story, since he wants to deny any metaphysical import to Heraclitus' ***logos***. The terms 'Father and Son' refer to the Noetic heresy, which holds that they were one and not distinct. In the orthodox version, they are one and yet distinct.

'That God is unapparent, unseen, unknown to men, he says in these words: "Unapparent connection is better than apparent" (fr. 54)—he praises and admires the unknown and unseen part of his power above the known part. That he is visible to men and not undiscoverable he says in the following words: "I honour more those things which are learned by sight and hearing" (fr. 55), he says—i.e. the visible more than the invisible. (The same) is easily learned from such words of his as these: "Men have been deceived," he says, "as to their knowledge of what is apparent in the same way that Homer was—and he was the wisest of all the Greeks. For some children who were killing lice deceived him by saying: 'What we saw and caught we leave behind, what we neither saw nor caught we take with us'" (fr. 56). Thus Heraclitus gives equal rank and honour to the apparent and the unapparent, as though the apparent and the unapparent were confessedly one. For, he says, "unapparent connection is better than apparent" (fr. 54); and: "I honour more those things which are learned by sight and hearing" (fr. 55) (i.e. the organs)—and he does not honour the unapparent more.'

The translator uses the term 'connection' for the Greek ***harmonia*** because he wants to distance Heraclitus from any possible association with this very 'Pythagorean' term. The ancient writers had no problems in linking Heraclitus and Pythagoras, and they connected the term ***harmonia*** to both philosophers equally. Hippolytus goes on to cite some examples of the unity of *opposites*.

'Hence Heraclitus says that dark and light, bad and good, are not different but one and the same. For example, he reproaches Hesiod for not knowing day and night—for day and night, he says, are one, expressing it thus: "A teacher of most is Hesiod: they are sure he knows most who did not recognize day and night—for they are one" (fr. 57). And so are good and bad. For example, doctors, Heraclitus says, who cut and cauterize and wretchedly torment the sick in every way are praised—they deserve no fee from the sick, for they have the same effects as the diseases (fr. 58). And straight and twisted, he says, are the same: "The path of carding-combs," he says, "is straight and crooked" (fr. 59) (the movement of the intrument called the screw-press in a fuller's shop is straight and crooked, for it travels upwards and in a circle at the same time)—he says it is one and the same. And up and down are one and the same: "The path up and down is one and the same" (fr. 60). And he says that the polluted and the pure are one and the same, and that the drinkable and the undrinkable are one and the same: "The sea," he says, "is most pure and most polluted water: for fish, drinkable and life-preserving: for men, undrinkable and death-dealing" (fr. 61). And he explicitly says that the immortal is mortal and the mortal immortal in the following words: "Immortals are mortals, mortals immortals: living their death, dying their life" (fr. 62).

Although he does not give a detailed explanation of the various contraries, Hippolytus appears to understand at least the most superficial import of the Heraclitean utterances. But now he goes further astray as he want to interpret the Heraclitean *palingenesis* ('resurrection'of the body through a shift of consciousness) as resurrection in a Christian sense. Closely connected with this notion is the Christian 'last judgement,' a distortion of the Musical concept of cyclical renewal. At this point he wanted to modify the Heraclitean position in order to support the Christian doctrine. The orthodox Christian doctrine did not allow reincarnation, although various other early Christian sects did.

*'He also speaks of a resurrection of this visible flesh in which we are born, and he is aware that god is the cause of this resurrection—he says: "There they are said to rise up and to become wakeful guardians of the living and the dead" (fr. 63). And he says that a judgement of the world and of everything in it comes about through **fire**; for "**fire**," he says, "will come and judge and convict all things" (fr. 66). He says that this **fire** is intelligent and the cause of the management of the universe, expressing it thus: "The thunderbolt steers all things" (fr. 64) (i.e. directs everything)—by 'the thunderbolt' he means the eternal **fire**, and he calls it need and satiety (fr. 65) (the establishment of the world according to him being need and the conflagration satiety).*

In the following passage he has set down all of his own thought—and at the same time that of the sect of Noetus, whom I have briefly shown to be a disciple not of Christ but of Heraclitus. For he says that the created universe is itself the maker and creator of itself: "God is day and night, winter and summer, war and peace, satiety and famine"

(all the opposites—that is his meaning); "but he changes like olive oil which, when it is mixed with perfumes, gets its name from the scent of each" (fr. 67). It is clear to everyone that the mindless followers of Noetus and the champions of his sect, even if they deny they are disciples of Heraclitus, yet in subscribing to the opinions of Noetus evidently confess the same beliefs.'

This passage shows that, in the time of Hippolytus, Heraclitus was judged a religious figure in competition with Christ. The same was the case with Pythagoras, Empedocles, and others as well. To a certain extent, the orthodox destruction of the ancient books during the 5th century was justified in order to suppress rival religious philosophies. This passage also demonstates that the Presocratic philosophical movement was not a 'scientific revolution' against religion, as many scholars want us to believe. It was itself a religious movement incorporating some scientific aspects.

HERACLITEAN ETHICS AND POLITICS

Some modern interpreters want to believe that Heraclitus was the first ancient philosopher to treat the subject of ethics; but these writers must ignore the ethical fragments of Xenophanes. Moreover, statements concerning morality occur in the writings of Homer and Hesiod, as well as the poets of the archaic age—especially Solon, Tyrtaeus, and Theognis. Then again we witness the moral maxims of the Seven Sages as well as the gnomic utterances of the Delphic oracle, who gave such moral advice as the famous plea for moderation: *'Nothing too much.'* True, we have no extant ethical fragments from the Milesian philosophers, but this does not mean that they had no interest in the subject. Any material concerning ethics may have been lost simply because (after Aristotle) people were only interested in their 'physics.' It is hard to believe that a philosopher with the intellectual depth of Anaximander did not have definite views on ethics. Some modern writers, for example Kirk, claim that Heraclitus was the first philosopher to formally integrate ethics with physics. But this view is based on the orthodoxy that the Milesians were interested only in the 'material cause' of the physical world.

Some writers claim that Heraclitus discovered a new approach to ethics that was quite individualistic or innovative. But here again there is no evidence to support this claim. As in other fields, Heraclitus was not so much an innovator as a highly expressive 'mouthpiece' for what was already 'in the air.' His ethics is derived directly from his Orphic leanings and should be understood in this light. Like the earlier writers, he expressed himself mainly in short maxims or aphorisms, gnomic forms that can be applied to many contexts. Here is a representative list of some short moral aphorisms:

Fragment 95: *'It is better to conceal ignorance.'*
Fragment 110: *'It is not better for humans to get all they want.'*
Fragment 43: *'Willful **hubris** must be quenched more than a **fire**.'*
Fragment 73: *'One ought not to act and speak like people asleep.'*
Fragment 44: *The people must fight for the law as for the city wall.'*

Perhaps the key to his moral philosophy can best be seen in fragment 119: *'A person's character is his destiny.'* In other words, a person's personality determines his actions, which then determines his history. He is responsible for his own 'pathway.' This Orphic moral doctrine is essentially identical to the Hindu law of *karma* and it forms the firm foundation for ethical action. The 'upward path' toward wisdom and a 'higher' consciousness has overriding value as the goal of life, for (fragment 73) *'One ought not to act and speak like people asleep.'* The 'rat race' after material wealth or power is unimportant compared to the cultivation of the divine *soul*. Through this cultivation, we become more god-like. By 'drying out' the *soul* through the ascetic control of the senses and the appetites, we have the opportunity even to escape the round of rebirths and free ourselves from the *vortex* of the world.

The *soul* is cultivated through the pursuit of wisdom. Such wisdom can be found through investigating ourselves (fragment 101: *'I searched myself'*) and also through investigating the world (fragment 35: *'Men who are lovers of wisdom must be inquirers into many things indeed'*). The senses are valid avenues for insight (***nous***) depending on the state of the *soul*. However, wisdom does not come easy—it is difficult to obtain. The only true wisdom comes from 'the divine.' Although we have a spark of this divinity within us, the flame must be nurtured or it will be smothered by 'moisture.' Thus fragment 78: *'Human nature has no insight, but divine nature has it.'* Again, fragment 79: *'A man is called infantile by a divinity as a child is by a man.'* The ultimate wisdom is knowledge of the One and its relation to the Many, as indicated by fragment 32: *'The wise is the One alone; it is unwilling and willing to be called by the name of* ***Zeus****.'* Because deep knowledge of the One is hard to obtain, only a small minority of people attain it. Thus (fragment 49) *'One person is ten thousand to me if he is best.'* Yet it is the birthright of all people to have the potential for wisdom. Fragment 116: *'It belongs to all people to know themselves and to think rightly,'* and fragment 113: *'Thinking is common to all.'*

Cultivation of the *soul* depends upon conscious effort. Fragment 18: *'Unless he hopes for the unhoped for, he will not find it, since it is not to be hunted out and is impassable.'* Again, fragment 22: *'Those who seek gold dig up much* ***earth*** *and find little.'* Fragment 123: *'Nature loves to hide itself.'* Fragment 93: *'The lord whose oracle is at Delphi neither speaks nor conceals, but gives a sign.'* Fragment 11: *'Every beast is driven to pasture by blows.'* We may get the impression that Heraclitus was a pessimist, but this is not the case. Everyone can be steered in the right direction through the cultivation of right thought and right action (similar to the Buddha's eight-fold path). His essential optimism is well illustrated by an apocryphal story related by Aristotle (*De Partibus animalium* A5.645a17): *'There is a story which tells how visitors wanted to meet Heraclitus. They entered, and saw him warming himself at the stove* [i.e. close to the **fire**!]. *As they stood there, he bade them be of good heart, saying, "There are gods even in this place!" So too we should likewise enter upon the investigation of each individual living thing with cheerful countenance, on the grounds that in every one of them there is something natural and beautiful.'* Note that this story is a re-expression of Thales' famous statement: *'All things are full of gods'*—a very Orphic sentiment. No matter where one sits on the 'pathway up and down' it is possible to better oneself.

The essence or sum of Heraclitus' moral teaching is to *'follow the common,'* although this should not be confused with following 'common sense.' Fragment 2: *'For this reason it is necessary to follow what is common. But although the* ***logos*** *is common, most people live as if they had their own private understanding.'* What is 'common' or universal is the power and applicability of the ***logos***, which acts as a Musical 'divine law.' If we understand the principle and efficacy of the ***logos***, we are on the path to right thinking. Thus fragment 112: *'Right thinking is the greatest excellence, and wisdom is to speak the truth and act in accordance with nature, while paying attention to it.'* Investigation of the ***logos***, its architecture and process, leads to wisdom, fragment 41: *'Wisdom is one thing, to be skilled in true judgement, how all things are steered through all things.'* For Heraclitus, wisdom and the ***logos*** are inseparable.

It is the height of wisdom to realize the intimate connection between the individual *soul* and the cosmic or 'universal' *soul*, the *World-Soul*. This very Orphic aspect of Heraclitus' religious philosophy greatly influenced the later Stoics. A good example of this Stoically 'infused' Heracliteanism is found in Chalcidius (*Commentary on Plato's Timaeus* 251): *'Heraclitus indeed (and the Stoics agree with him) connects our reason with the divine reason* [***logos***] *that rules and controls the affairs of this world; made aware, he says, when our* ***souls*** *are at rest, of what it has rationally decreed—thanks to its inseparable companionship with it—our reason, with the aid of the senses, announces what will come to pass. That is why it happens that (when we sleep) there appear before us representations of places we do not know and images of people living as well as dead. And the same Heraclitus asserts that (human reason has) the power of divination, and that in cases where divine powers guide the worthy, it is subject to forewarning.'* Now this whole business of divination though dreams cannot be directly attributed to Heraclitus, but there is no doubt that Heraclitus believed in the Orphic connection between the individual *soul* and the universal *soul*. This doctrine is beautifully if enigmatically expressed in his obscure fragment 16 (found in Clement, *Paedagogue* 2.99.5): *'How could one fail to be seen by that which does not set.'* Here the individual *soul* is compared to the *sun* which sets and rises, the universal *soul* to the ***aither*** which never sets. Both the *sun* and the ***aither*** represent **fire** or the *One*. The *sun* is the *soul* that reincarnates (sets and rises) while the ***aither*** represents the universal *soul*. Significantly, the *sun* and the other planets occupy the ***aither*** in the ancient conception of the cosmos.

If we cannot separate moral philosophy from cosmology in Heraclitus, the same is true with political philosophy. Ethics and politics have always been closely related in ancient thought and, not surprisingly, they are both based on the concept of ***logos*** or *relatedness*. Ethics looks at the basis of relations between individuals, while politics deals with community relations. In either case they fall within the purview of the Musical paradigm, since proper relations should be based on a ***harmonia***. As we have already seen, the concept of ***logos*** is closely connected to a notion of *law*. Several Heraclitean fragments comment directly on the nature of law.

The key to the Musical politics of Heraclitus is found in fragment 114: *'Those who speak with understanding* [***nous***] *must rely firmly on what is* ***common*** *to all* [i.e. the

logos] *as a city must rely on law* [or, *its laws*] *and much more firmly. For all human laws are nourished by* ***one*** *law, the* ***divine law****; for it has as much power as it wishes and is sufficient for all and is still left over.'* This statement confirms that the musical notion of ratio and proportion should be applied to all interactive contexts, and not only to the monochord. All forms of relation should be based on the demonstrable architecture of musical ratios. The musical notion of *law* is also illustrated by fragment 44: *'The people must fight for the* ***law*** *as for the city wall.'* Here the term used for *law*, ***nomos***, can mean also the *customs* of the people (***demos***) and, significantly, also the standard traditional *melody-forms* used in the music culture. Most modern interpreters are confused by this fragment, since Heraclitus does not appear to be the 'type' of person who would defend local customs. Surely he is not a 'conventionalist.' As usual, they make no musical associations with the terms 'law' and 'city.' On the other hand, the ancients made the natural connection; after all, a 'city' or community is a ***harmonia*** between individuals. When interpreted in this Musical light, the fragment makes sense. One more fragment uses the musical term ***nomos***. Fragment 33 (found in Clement, *Stromateis* 5.155.2): *'It is law, too, to obey the councel of* ***one****.'* This fragment can be interpreted as an instance of his aristocratic and anti-democratic leanings, but it also demonstrates that *law* (like the traditonal melodies) is dependant upon an awareness of an underlying *unity*.

No doubt Heraclitus *was* anti-democratic and an aristocrat in its true sense (***aristos*** means 'best'). Fragment 104: *'What understanding* [***nous***] *or intelligence* [***phren***] *have they? They put their trust in popular bards and take the mob for their teacher, unaware that most people are bad, and few are good.'* Again, fragment 49: *'One person is ten thousand to me if he is best.'* Only the intelligent few who have an advanced consciousness are fit to rule. Fragment 29: *'The best renounce all for one thing, the eternal fame of mortals, but the many stuff themselves like cattle.'* Only those who recognize that human laws should be grounded in the metaphysical base of the cosmic Musical law (the ***logos***) are prepared for rule. Fragment 112: *'Right thinking is the greatest excellence, and wisdom is to speak the truth and act in accordance with nature, while paying attention to it.'* This aristocratic orientation is not peculiar to Heraclitus; it is also seen, for example, in his teacher Pythagoras, and it forms the basis of Plato's theory of the 'philosopher-king' in *Republic*. These philosophers were suspicious of direction by the 'lowest social common dominator' or 'the mob.'

Heraclitus may have been somewhat of an 'anti-establishment' figure in his native Ephesus. This is shown by Diogenes Laertius' reports (9.2) that he resigned his hereditary 'kingship' and spurned the Ephesians' request to write laws for them. In fragment 121 he berated them for rejecting 'the best:' *'Every grown man of the Ephesians should hang himself and leave the city to the boys; for they banished Hermodorus, the best man among them, saying "let no one of us excel, or if he does, be it elsewhwere and among others."* They were not willing to accept 'the best.' In a similar vein, we have fragment 125a: *'May wealth never leave you, Ephesians, lest your wickedness be revealed.'* Only their great wealth sheltered them from their own stupidity. These fragments give us the impression that Heraclitus denounced political life altogether, but we cannot be sure that this actually was the case. On a more positive note, the Stoics esteemed Heraclitus for preparing the ground for their own notion of a 'world-state' or

cosmic community (***kosmopolis***) based on universal law (***logos***). Heraclitus may have been influenced by the emergence of a 'world-state' in the Persian Empire.

Although the number of Heraclitean fragments dealing directly with politics is rather small, later ancient interpreters had no qualms in using his fragments in a political context. Sometimes these interpretations help to make sense of his more obscure statements. A good example is found in Plutarch (*Should Old Men Take Part in Politics?* 787c): *'Envy, the greatest of political ills, scarcely attacks old age; for "dogs bark at those they do not know" (fr. 97) according to Heraclitus, and envy attacks the beginner at the door of office.'* We simply will never know if this was Heraclitus' original context for the statement. Another example is found in Clement (*Stromateis* 4.3.10): *'For **law** is not made for a righteous man, says the Scriptures* [1 Timothy 1:9]. *Thus Heraclitus rightly says: "They would not know the name of **justice** if these things did not exist," (fr. 23) and Socrates says that law would not have come into being for the sake of the **good**.'* This example shows the arbitrariness of separating politics from ethics. Another example, more specifically ethical, is found in Plutarch (*The control of anger*, 457d): *'Worse men have conquered better, but to set up in your **soul** a victory monument over anger* [***hubris***]*—with which Heraclitus says it is hard to fight, for "whatever it wants, it buys with soul" (fr. 85)—that is a mark of great and victorious power.'* As usual, his fragments seem to apply as well to ethics as to cosmology.

HERACLITUS AND HIPPASUS OF METAPONTUM

In our introductory *Chronology*, Hippasus was placed about 30 years later than Heraclitus. Early in this essay we also intimated that he may have been a student of Heraclitus. If this dating is correct, then he was in his prime during the first half of the 5th century. Such a placement is the most likely scenario, but we have no means of verifying his dates. He may have been an exact contemporary of Heraclitus. This placement also makes sense because it is assumed that his life overlapped that of Pythagoras, as did the life of Heraclitus. It is even possible that he was older than Heraclitus and a contemporary of Pythagoras. At least one ancient source claims that Hippasus was a *teacher* of Heraclitus. In the outline of Heraclitus found in the *Suda* (DK 18, 1a) we read: *'Some say he was a pupil of Xenophanes and Hippasus the Pythagorean. He flourished in the 69th Olympiad, during the reign of Darius son of Hystaspes, and wrote a great deal in an artistic style.'* All of the ancient sources confirm that Hippasus was a Pythagorean; indeed, he came from Metapontum (or perhaps Croton), both strongholds of Pythagorean philosophy in southern Italy.

Whatever his dates, Hippasus was consistently coupled with Heraclitus by ancient sources. Apparently they shared the same doctrines. At least one modern scholar (Burnet) has reluctantly admitted that Hippasus must have been a 'link' between Heraclitus and Pythagoras. However, most modern scholars prefer to deny that there was any connection between the 'enemies.' Instead, they attribute the coupling to 'confusion' by later writers and attempt to belittle the obvious similarities in their doctrines. According to Demetrius of Magnesia (1st century B.C.) Hippasus (like Pythagoras) did not write a book. This fact has allowed modern scholars to negate the doxographical evidence as 'untrustworthy.'

However, the evidence of the link is so consistent that it is difficult to refute. As usual, the modern academic community as attempted to deny the links in order to maintain the artificial isolation of Heraclitus from Pythagoras.

Heraclitus and Hippasus were coupled at least as early as Aristotle (*Metaphysics* 984a7) who said that they both believed that **fire** was the ***arche***. Clement explicitly stated that both of them held **fire** to be god. Theophrastus also coupled them. His evidence was faithfully reproduced by Simplicius (Commentary on Aristotle's *Physics* 23.33): *'These too, Hippasus of Metapontum and Heraclitus of Ephesus, considered (the universe)* ***one, in motion,*** *and* ***limited,*** *but made* ***fire*** *the first principle, and make existent things out of fire by* ***condensation and rarefaction*** *and break them back down again into* ***fire,*** *on the grounds that this reality is the single underlying* ***one.*** *For Heraclitus says that all things are an exchange for* ***fire.*** *He also creates a certain* ***order*** *and bounded* ***time*** *out of the universe's change in accordance with a certain destined* ***necessity.'*** This passage presents a beautifully concise summary of Heraclitus' cosmology. However, most modern scholars are quick to deny 'condensation and rarefaction' to Heraclitus. They attempt to restrict this doctrine *only* to Anaximenes, even though it is extremely widespread throughout the Presocratic movement. The attribution to both Heraclitus and Hippasus is deemed 'confusion.' However, the links between Anaximenes, Heraclitus, and Hippasus were also confirmed by Aetius (1.3.11, *Dox. Gr.* 284): *'Heraclitus and Hippasus of Metapontum say that* ***fire*** *is the first principle of the sum of things. For all things come into being from* ***fire,*** *they say, and all things finish up turning into* ***fire.*** *While this is in process of being put out, the totality of things becomes organized into a universe* [***kosmos***]. *For the denser part of* ***fire contracts*** *into itself and becomes* ***earth,*** *then* ***earth*** *is* ***loosened*** *by* ***fire*** *and by a natural process finishes up as* ***water,*** *and this* ***water*** *when drawn up as vapour becomes* ***air.*** *The universe and all bodies are consumed once again by* ***fire*** *in the reconversion (of things) into* ***fire.'***

The Pythagoreans called **fire** the MONAD or *unity*. Most modern scholars interpret this as 'the original fiery *unit*' in a typically visual manner. Then they contend that this 'fiery unit' has nothing to do with Heraclitus' *One*. In a similar manner, they try to isolate the Pythagorean doctrine of the cyclical repetition of history (the Musical notion of time) from the Heraclitean 'pathway.' Yet they are essentially the same. According to later authorities, Hippasus also imparted teachings concerning the *soul*. He was coupled with Heraclitus in the doctrine that the *soul* was of a fiery nature, the seat of ***logos***. Being a Pythagorean, Hippasus also believed the *soul* to be a *number*; in a similar manner, Heraclitus believed that the *soul* embodied *measure* (***metron***). Again, we see that Heraclitus and Hippasus are totally compatible. Moreover, according to Clement, Aetius, and Claudianus Mamertus (DK 18, 8-10), Hippasus believed that the *soul* and *body* were very different things, the *soul* being the active part and the *body* the passive part. In the living person the *soul* was trapped or 'dead.' Here again we see the fundamentally Orphic doctrines that we have already associated with Heraclitus. In all of this doxographical evidence we witness the total compatibility between Heraclitus, Hippasus, and Pythagoras. The modern attempt to isolate the three from each other is misquided.

Yet Hippasus was apparently no 'ordinary' Pythagorean. In the later history of the movement he was seen as a bit of a rebel, a scapegoat, or even a rival of Pythagoras. He became the *enfante terrible* of the Pythagorean movement. Just after Pythagoras' death, or even before his death, the movement apparently split into two camps: the *acusmatici* (or 'hearers') and the *mathematici* (or 'scientists'). Our evidence comes from Iamblichus (*Comm. Math. Sc.* 16-77): *'There are two varieties of the Italian philosophy which is called Pythagorean. For those who practiced it were also of two sorts, the* acusmatici *and the* mathematici. *Of these the* acusmatici *were accepted as Pythagoreans by the other party, but they did not allow that the* mathematici *were Pythagoreans, holding that their intellectual pursuits derived not from Pythagoras but from Hippasus. But those of the Pythagoreans who concerned themselves with the sciences agree that the* acusmatici *were Pythagoreans, and claim that they themselves are so in still greater degree, and that what they themselves state is the truth.'* Hippasus was a champion of the *mathematici*, although later *mathematici* disowned him and said that his doctrines really belonged to Pythagoras. This polarity within the Pythagorean movement obviously reflects a divergence between conservative or traditionalist elements in the movement and progressive or radical elements. Thus the spectrum of 'right wing and left wing' orientations that were evident in the Presocratic movement as a whole were also evident within the Pythagorean group of philosophers. Interestingly enough, this split between *acusmatici* and *mathematici* also mirrors the separation in ancient Music between *practica* and *theoretica.* We will examine these issues in the following essay (on Pythagoras).

If Hippasus was a bit unorthodox, we naturally wonder why he was ostracized. According to later stories, he was punished for revealing certain mathematical secrets. Iamblichus wrote (*On the Pythagorean Way of Life* 88): *'About Hippasus they say that he was one of the Pythagoreans but that because he was the first to publish and construct the sphere of the twelve pentagons* [the dodecahedron] *he died at sea as an impious man. He acquired the reputation for discovering it, although everything belongs to That Man (that is how they refer to Pythagoras, never calling him by name).'* Later in the same document we read (*ibid.* 247): *'Some say that the divinity punished those who made Pythagoras' view public. For the man who revealed the construction of the vigintangle perished at sea as an impious man. (The vigintangle is the dodecahedron, one of the so-called five solid figures, when it extends into a sphere). Others said that it was the man who spoke about irrationality and incommensurability who suffered this fate.'* Now the geometrical solids were known long before the Greek era. However, the 'fault line' between conservatives and progressives within the Pythagorean philosophical society lay in their attitude towards irrational ratios. Pythagoras did not discover irrationals; indeed, a cuneiform tablet from 1800 B.C. Babylonia gave the square root of 2 accurately to seven decimal places using base-60 mathematics. But the application of irrational ratios to music (or, in modern terms, 'musical temperament') was a lively topic in early Greek philosophy. Apparently Hippasus was a progressive (like Anaximander) and Pythagoras was a conservative.

These issues will be explored in the next essay. What is important here is that Hippasus was a 'progressive' Pythagorean. Perhaps the same is true of Heraclitus. We

know that both of them had a stormy relationship with Pythagoras, and that both of them were closely linked together by later ancient writers. According to some late sources Heraclitus too was a Pythagorean. Our somewhat sketchy information on Hippasus helps us to formulate some idea of the complex relations between Heraclitus and Pythagoras. This formulation is necessarily speculative, but nevertheless plausible. We naturally wonder why there was an animosity when their doctrines were almost identical. The issue of incommensurability is a likely candidate.

Hippasus was typically Pythagorean in putting great emphasis upon musical research. Rivalry with Pythagoras is again suggested by a story of the musical writer Aristoxenus (his fragment 90). It claims that he 'discovered' the concordant musical intervals by striking four bronze discs whose thicknesses were in the proportions 1:2:3:4. The unlikely tale is also given in an anonymous scholium to Plato's *Phaedo* (108d): *'A certain Hippasus constructed four bronze discs in such a way that they all had equal diameters but the thickness of the first was one and a third times that of the second, one and a half times that of the third, and twice that of the fourth; and when they were struck they made a concord.'* The musical ratios involved, of course, are the 'perfect' consonances 1:2, 2:3 and 3:4. Hippasus' discovery of these ratios is no more likely than their discovery by Pythagoras. In fact, this story is just a variant of the tale of the 'harmonious blacksmith' told about Pythagoras. In both cases the physics is actually incorrect. Either the writer did not understand the physics of plates (and anvils), or else he understood it but used the story only as a 'mask' for the (correct) attribution of *monochord* investigation to the Pythagoreans. Perhaps the story is meant only to emphasize the rivalry between Hippasus and Pythagoras; or maybe it is meant to show that Hippasus too was involved in musical research.

Hippasus' musical interests are confirmed by another story, equally apocryphal, given by Iamblichus (DK 18, 15). It says that Pythagoras and the other mathematicians (implying Hippasus) recognized the three *musical means*; the arithmetical, geometrical, and harmonical means, but called the last-named ***hypenantia*** (*sub-contrary*). Then it was Hippasus, and later Archytas who re-named it *harmonic*. It is highly unlikely that Hippasus discovered the *means*, but it shows that he was aware of this mathematical doctrine which lies in the center of the Musical metaphysics of emanation. The mention of the *geometrical mean* also connects him with the issue of *irrationality*, since this mean generates the irrational surds. Given the connections between Hippasus and Heraclitus, it is quite likely that Heraclitus also acknowledged this musical 'truth.' Certainly the importance of ***harmonia*** in his fragments indicates that he was not ignorant of musical issues. Moreover, all the ancient writers saw no difficulty in closely associating Heraclitus' ***harmonia*** with Pythagorean notions. Perhaps the most beautiful example is found in Aristotle (*On the World* 396b7-8, 20-25): *'Surely nature longs for the **opposites** and effects her **harmony** from them... That was also said by Heraclitus the Obscure: "Things taken together are whole and not whole, something which is being brought together and brought apart, in tune and out of tune; out of all things there comes a unity, and out of unity all things" (fr. 10). In this way the structure of the **kosmos**—I mean, of the **heavens** and the **earth** and the **whole world**—was arranged by **one** harmony through*

*the **blending** of the most opposite principles.'* Unlike the modern interpreters, the ancients saw no problem in equating Heraclitus' and Pythagoras' notion of ***harmonia***.

Another example is also found in Aristotle (*Nicomachean Ethics* 1155b2-6): *'On this topic* [i.e. friendship or ***harmonia***] *some seek a deeper and more scientific account* [***logos***]. *Euripides says that the **earth** when dried up longs for **rain**, and the majestic **heaven** when filled with **rain** longs to fall to the **earth**. Heraclitus says that **opposition** concurs and the fairest **connection*** [***harmonia***] *comes from things that differ (fr. 8) and everything comes about in accordance with **strife** (fr. 80).'* The 'strife' or harmony between the Elements is the key 'scientific' metaphorical language of both Heraclitus and Pythagoras. This quasi-poetical language was used by both the poets and the 'scientists' and demonstrated an underlying musical conception of the world. Modern interpreters, not recognizing the very existence of Music in ancient culture, contend that Heraclitus' ***harmonia*** is totally different and incompatible with the notions of Pythagoras. Significantly, the ancient writers, of whatever cosmological ideology, recognized the inherent musicality of *both* Pythagoras and Heraclitus. The link between the Pythagorean Hippasus and Heraclitus confirms the essentiall *unity* between them, in spite of minor differences.

Not only do we see Heraclitus using the Pythagorean concept of ***harmonia***, but it is also possible that the Pythagoreans used the Heraclitean notion of ***logos***. In spite of the angst of modern interpreters over this possibility, the term ***logos*** was common and widespread during this era. The modern effort to restrict it only to Heraclitus is as absurd as the effort to restrict *'rarity and density'* to Anaximenes. Iamblichus, in his life of Pythagoras (*V. P.* 257) gave a story concerning the political conspiracy of Cylon and Ninon against the aristocratic Pythagorean politics of southern Italy. Apparently, Ninon read a Pythagorean document called the *'sacred **logos**'* in order to prove that Pythagoras was anti-democratic. According to Sotion, this *'mystical **logos**'* was really written by Hippasus in order to defame Pythagoras. Although the whole story is rather dubious and may have been intended only to 'prove' that Hippasus was a rival to Pythagoras, it does show that the mystical notion of ***logos*** (a cornerstone of Heraclitus' philosophy) may have been rather widespread. In fact, the concept of ***logos*** is entirely compatible with the prevalent Orphic beliefs of the time. As usual, the ancient references to Hippasus only confirm the essential unity of early philosophy.

HERACLITUS AND PERSIA

Considering that Heraclitus was a subject of the Persian Empire, it is reasonable to conjecture that he may have been influenced by Persian religious philosophy. The 6th century B.C. was an enterprising age with well-developed trade and communication links. Many people made long voyages for commercial and other purposes. It is highly likely that trade in ideas accompanied trade in goods. A rich trading city like Ephesus in such a good location would have interchange with Anatolia, Syria, Babylonia and Egypt as well as the rest of the Mediterranean and Black Sea. Thus it is extremely unlikely that he was unaware of these 'oriental' philosophies. Whether they had a direct influence on him is a matter of debate and conjecture, since it cannot be 'proved' in any strict way.

Nevertheless, circumstantial evidence leads one to believe that some influences are plausible. Here are the reasons:

Firstly, Heraclitus provided the earliest extant example in Greek literature of a direct mention of the Magi (wise men from Persia and Babylonia). It is found in fragment 14: *'Nightwalkers, Magi, Bacchoi, Lenai, and the initiated.'* Thus he must have known something about Magi philosophy.

Secondly, many key Heraclitean doctrines are quite similar to traditional Persian religious beliefs, at least at first glance. Here are a few examples. Like the Zoroastrians, he accorded supreme and divine status to **fire** among the four traditional Elements. He believed in a cosmology of primal *opposites*, which could be interpreted as a form of *dualism* in a manner similar to the Zoroastrians. In fact, Plutarch interpreted Heraclitus in this manner. For the Zoroastrians, this dualism was expressed both in cosmological and ethical terms: light and darkness, good and bad, and so on. Many different mythological expressions of these primal *opposites* were entertained, just as in the book of Heraclitus. The traditional relation between these opposing Forces (or gods) was described as 'strife' or 'war,' just as in Heraclitus' ***harmonia***. Many of the ethical taboos of the Magi, such as the prohibition on killing and animal sacrifice, are identical to those of Orphism. Moreover, the 'battle' between the Elements and Forces was expressed both in cosmological terms and in psychological terms within the *soul*. We see both in Heraclitus and in Persian religion a conception of the evolution of the world (and the *soul*) in which a cosmic cycle will be terminated (or renovated in Zoroastrianism) by a cosmic conflagration or **fire**. In other words, the cosmos was born in **fire** and ends in **fire**. Finally, this cosmic cycle is directed or 'ruled' by *Time* (called ***Aion*** by Heraclitus, a common translation of the Persian ***Zurvan***).

Thirdly, we have a persistent ancient tradition that Heraclitus was a friend of King Darius, the King of Kings. Although unlikely, it could indicate that he was connected with Persian philosophy, since Darius was an enthusiast of Zoroastrianism. A related tradition is found in Diogenes Laertius (9.13-14). Diogenes related a letter written by Darius to Heraclitus, requesting that he come to his court, meet him, and help explain his difficult book to him. According to this story, Heraclitus declined the invitation in his reply letter, saying that he had a *'horror of display and could not come to Persia, being content with little, when that little is to my mind.'* After quoting extensively from these letters, Diogenes remarked (9.15): *'Such was the kind of man he was* [i.e. arrogant], *even dealing with the Great King.'* This story emphasizes just how famous Heraclitus was even during his lifetime. Modern scholars are quick to deride this tale; indeed, it is not likely to be true. And yet it *is* possible or even plausible. Darius (521-486 B.C.) was famous not only as a great military leader and able administrator, but also as a fervent disciple of truth and justice with an interest in wisdom. Although it was his predecessor Cyrus who founded the Persian Empire, Darius was its great designer. Both of them were renowned for fostering religious tolerance and supporting learning. Darius built the ceremonial city Persepolis along cosmological lines. Although he apparently promoted Zoroastrianism, he was tolerant of all faiths. Thus it is quite possible that Darius did take an interest in Heraclitus' extraordinary book. The story may be apocryphal, but it

nevertheless adds further circumstantial evidence to likely connections between Heraclitus and Persia.

Fourthly, Heraclitus may have learned about Persian philosophy through Pythagoras. We have consistent and widespread reports throughout ancient history that Pythagoras spent time in Persia (and Chaldaea), studied with the Magi, and specifically with Zoroastrians. The references to this interchange are too numerous in the doxographical literature to ignore, although some modern Eurocentric scholars have done their best to belittle it. We will explore these Pythagorean connections further in the next essay, and give here only a few of the many examples. Plutarch (*De An. Procr.* 2): *'And Zaratas the teacher of Pythagoras called this* [the indefinite DYAD] *the mother of number and the One its father.'* Apuleius (*Flor.* 15): *'he had as his teachers the Persian Magi and in particular Zoroastres, the master of all secret religious lore.'* Iamblichus (*V. P.* 19): *'he spent his time with the Magi to their mutual satisfaction, was instructed in their sacred teaching and learned how to worship the gods in the most perfect way. In their company he also mastered the science of number and music and other subjects of study.'* Note that it was in the religious aspects of number and music, the subjects that are most often assigned to the 'originality' of Pythagoras, that Persian philosophy was said to have the most impact. Given the close connections between Pythagoras and Heraclitus, he too may have been subject to these influences.

Of course, the mainstream of modern scholarship, denying any connection between Pythagoras and Heraclitus, would view this whole thing with suspicion. Some have accepted that Pythagoras *was* somewhat influenced by Persian dualism, and that this 'proves' that Heraclitus could *not* have been so influenced. However, most scholars attempt only to belittle the evidence for both of them, generally by ignoring it. A common tack is to assert that the resemblances in the doctrines are so 'general' that they cannot be 'proved' to come from the east. Moreover, the positive evidence is weak or non-existent. Therefore Greek philosophy is not influenced by 'oriental' thought.

Throughout the doxographical literature during the entire millennium of the ancient Greek era, all writers have insisted that the philosophers, especially the early philosophers, were students of the 'orient' (meaning Persia, Babylonia, Egypt). It was common for them to travel; indeed, Thales and Pythagoras (amongst others) spent considerable lengths of time in 'foreign' lands. All ancient writers assume that the early philosophers took an active interest in 'barbarian' wisdom. Such a large amount of doxographical evidence is difficult to negate, but since the 19th century when Eurocentrism became fashionable, many efforts have been made to deny it. The most common argument is that Persian influence only took hold *after* the conquest of Persia by Alexander the Great. The Hellenistic and Graeco-Roman writers were then 'infected' with a strong drive toward syncretism between Greece and the 'Orient,' tending to lose themselves in religion and mysticism. But early Greek philosophy was still 'pure,' scientific, and uncontaminated. This argument attempts to maintain the isolation of Greece from Asia. But it is largely an illusion. Certainly Persian influences tended to increase after the time of Alexander, but they were already there long before him. We find, for example, in the pre-Hellenistic writings of Aristotle a good acquaintence with

Zoroastrian religious principles. It is unlikely that the earlier philosophers did not also have a working knowledge of these traditions.

Some modern scholars still adopt the extreme Eurocentric position, but it is now giving way in ever so painfully slow a manner. Perhaps the moderate modern orthodox position is best described by Guthrie (*op. cit.* p. 255). Although still Eurocentric, he is willing to allow some influences, as long as they are not overly prominent. '*...there is a fundamentally Hellenic character about Pythagorean philosophy which makes it unlikely that it owed much to Oriental sources. ...it had its own contribution to make to the formulation of that problem which the Greeks above all bequeathed to later Europe: the problem of reconciling the rational and the sensible worlds, the realms of being and of becoming. ...So far as concerns mathematics, the statement that they were a Greek invention is, as we have seen, an exaggeration. In this respect the influence of eastern neighbours is undeniable; but it did not come from Persia'* [rather Babylonia]. Although this passage concerns Pythagorean philosophy, it would apply even more to Heraclitus and other Presocratics. For most scholars still largely believe that *only* Pythagoras was influenced by 'oriental' sources, and that Pythagoras can be effectively isolated from Heraclitus and the others. The statement that only 'European' philosophy had anything to say regarding 'being and becoming' is typically Eurocentric and patently false—as anyone knows who has spent a little time investigating Chinese, Indian, Persian, or Egyptian wisdom. It is high time that we lay to rest this fanciful dichotomy between 'east and west' and accept that the ancients were amazingly 'interactive.'

A BRIEF TOUR AROUND THE PERSIAN CULTURAL ZONE

In order to appreciate the potential riches that the Persian religious tradition had to offer for Greek thought, it is worthwhile to make a survey of the Persian wisdom literature. Unfortunately, we could not possibly do justice to this rich source within the format of this essay. True, matters can be simplified if we approach mainly the four chief componants of this tradition: the archaic (pre-Zoroastrian) Magian tradition, Mithraism, Zurvanism, and orthodox Zoroastrianism. But our survey must still necessarily be highly condensed. My intention here is mainly to show that the common symbolic language of the Persian tradition is quite consonant with the Greek conception of Music. In short, Pythagoras was not the only Greek philosopher to contemplate this cultural heritage. It most probably contributed to the whole Presocratic flowering. This conjectured contribution is quite evident in Heraclitus.

Persian traditions have been 'filtered' through the development of an orthodox state religion (Zoroastrianism) which crystallized during the Sassanian empire (224-651 A.D.). During this period, the text of the *Avesta* was officially formalized into a permanent form. However, this material also contained poetry-hymns that were exceedingly old. Zoroaster was an actual historical person who began the movement to reform and re-interpret the ancient literature. By tradition his dates were 628-551 B.C., putting him about a generation older than Thales and Anaximander. However, his dates are controversial and many think that he actually lived a century or more earlier. Indeed, some sects believed (in a manner similar to the Buddhists) that there were a number of

historical (or mythological) 'Zoroasters' throughout cosmic history. Consequently, the evidence presented in the *Avesta* is a complex mixture of traditional elements and new revelations by Zoroaster (and probably others as well). Scholars have admitted that it is extremely difficult to sort out the genuine Zoroastrianism from older traditions of Magianism and Mithraism. They even dissagree whether Zurvanism was a heresy within the Zoroastrian movement, or whether it was itself an older tradition. Even the parts of the *Avesta* which are universally acknowledged to be the actual teachings of Zoroaster (called the *Gathas*) were written in the traditional style and meter that resembles not only the older strata of the *Avesta*, but also the ancient Bronze-Age literature of India, the *Vedas*. In short, the tradition is exceedingly complex.

During the period of Greek flowering, Persian political influence was at its widest, but it must be remembered that Persian cultural influence was strong even before and after the Persian Empire's political dominance. One way of guaging the strength of this influence is to observe the extent of the distinctively Persian touch in artistic styles within ancient culture. Such styles could be seen from the Indus valley in India all the way to central Anatolia. Moreover, the various wisdom traditions of Persia were tolerant and interactive, especially during the early reigns of the Achaemenid kings Cyrus and Darius. Only much later near the close of the ancient period did they become rigidly sectarian, persecuting each other. Zoroastrianism became a strict state-religion partly due to the influence of her long-time enemy, the Roman Empire. When Christianity became a state religion of Rome, then the Persians were obliged to persecute Christians and promote their own orthodoxy. Yet quite late into the Hellenistic period Persia embodied an amazing array of variegated religious philosophies: Zoroastrian, Zurvanite, Mazdakist, Mithraic, Manichaean, Hindu, Jaina, Buddhist, Greek, Jewish, Christian (including Nestorians, Arians, and other Gnostic sects), Hermetic, and other smaller traditions (some of which are still extant) such as Mandaeans, Yizidis, and Yaresans. During the time that the emerging mass religion of Islam swept over Persia, orthodox Zoroastrianism had become quite stilted and perhaps distant from the people. Perhaps this is why Persia converted to Islam at an amazing speed, an extra-ordinary event that has baffled modern scholars. Yet after the initial bloodbath Islamic religious philosophy also proved to be quite tolerant. Within a relatively short time Persia became a seedbed for heterodox forms of Islam: Sufi, Ismaeli, and Shi'ite Islam. It is perhaps legitimate to view Islam as the 'distillation' of these various ancient currents and Persia as the crucible for the further evolution of Islam.

Many of these Hellenistic philosophies were not yet extant during the time of Heraclitus, but the roots of them date back to the Presocratic period. In order to appreciate the wide extent of Persian cultural influence it is useful to take a little tour of the 'border zones' of the region, where Persian artistic styles blended with her neighbours. The heartland of Persia itself was the region bounded by three great mountain ranges forming a triangle that points south: The Elburz (forming the base of the triangle along the south coast of the Caspian Sea), the Zagros in the west bordering on Mesopotamia, and the Hindu Kush in the east bordering on the Indus valley system and the sub-continent. The north-western 'corner' of this triangle was the ancient kingdom of *Media* (capital at Ecbatana, modern Hamadan not so far from Tehran), ancestral home of

the Magi. This kingdom extended into what is modern Azerbaijan and dominated much of the Persian Bronze Age. Over a long period of time the Persians (originally from the south in a land called *Fars* or *Parsi*) became dominant over the whole region. The ancient southern capital was at Pasargadae, located above the Persian Gulf not so far from ancient Babylonia in the region where Persepolis was also built. Zoroaster may have come from the south. The relations between Zoroastrianism and Magianism are exceedingly complex. At times there was tension between them, but, historically, Zoroastrianism included within itself generous helpings of Magianism. The ancient Persians called their country *Iran*, derived from *Airiyas* in the *Avesta* (meaning the land of the Aryans).

Our tour of the 'border zone' begins in the southeast across the Hindu Kush mountains. Persian styles can be seen in the old kingdoms of the Indus River valley (modern Pakistan), the site of an extensive Bronze Age civilization. The Persian hand can be observed in the art of the Ephthalites and the Kushan Kingdom. Proceeding north it touches Bamiyan and ancient Bactria (in modern Afghanistan). Here Persian styles blended with Hindu and Buddhist influences from the sub-continent. As we proceed north toward central Asia across the vast expanse of this mountainous region, Persian influences made their way into the Amudarya River system (the ancient Oxus River, modern Uzbekistan and Turkmenistan) and the Syrdarya River system (ancient Chorasmia and Sogdia, modern Kazakhstan). Both rivers flow into the Aral Sea. In this far northeastern region Persian artistic styles were blended with styles from China. This whole eastern region formed the heartland of ancient *Parthia*. Moving westward, Persian influence straddled both sides of the Caspian Sea and then followed the southern flank of the Caucasus Mountain chain across to the Black Sea, including ancient Armenia and Georgia. Above the Caspian and Black Sea were various ill-defined tribes that the ancients called Scythians, who were themselves probably also Indo-European but not yet 'civilized' (urbanized). The Persian cultural zone then extended along the south coast of the Black Sea (ancient Pontus) in Anatolia to the Greek west. In central Anatolia Persian styles blended with Greek. For example, the Kingdom of Commagene (above the headwaters of the Euphrates River) tended to use names that were composites from both Persian and Greek sources. This kingdom formed a buffer state between the Hellenic west and the Persian east, seeking a diplomatic union of the two traditions. One famous relief from Arsameia shows King Mithradates Kallinikos (note the mixed name) shaking hands with a god named Herakles-Verethragna. Going further west, Phrygia was even more Greek. Western Anatolia definitely had strong Greek cultural influences.

The Greek speaking Ionian city-states of western Anatolia, such as Miletus and Ephesus, formed only a minority in a region dominated by the Lydian language. Yet the Lydians were themselves 'almost Greek' in many ways. Certainly the Greeks themselves held them in high esteem, especially the last of the Mermnad kings, Croesus. Although he 'conquered' most of the Ionian cities (excepting Miletus), he also adopted many of the trappings of the Greek way of life. Apparently he assisted in the restoration of the temple of Artemis at Ephesus and bestowed lavish gifts upon the sanctuary of Apollo in Delphi. Influences between Greeks and Lydians went in both directions, Lydians contributing much in music and literature. According to Herodotus, a number of the games invented

by the Lydians were taken over by the Greeks. It must be remembered that the Lydian Kingdom (capital at Sardis) was exceedingly wealthy. In fact, the greatest and most lasting contribution made by the Lydians was the 6th century invention of coined money (in both gold and silver), that then spread rapidly throughout the Persian zone. Perhaps this wealth came from control of lucrative trade routes between the Black Sea and Mediterranean Sea. The Bosporus Strait has always been a strategic commercial zone. When this region fell to the Persians in 546 B.C., it continued to prosper, perhaps even expanding its trade possibilities. During this period, the 'old Silk Road' across Asia was put into high gear. Such was the opulent economic environment in which early Greek philosophy thrived. The reign of Darius (521-486 B.C.) co-incides with the fullest flowering of early Greek philosophy. It was the time of Xenophanes, Pythagoras, Heraclitus, and Parmenides.

Continuing our journey, Persian influences also permeated the south of Anatolia (modern Turkey) bounded by the Mediterranean Sea (ancient Cilicia). The Taurus Mountain chain extended east through ancient Kurdistan, merging into the Zagros Mountains that run to the south-east into the Persian heartland. South of the Taurus was ancient Syria and Assyria (northern Mesopotamia). Egypt was peculiarly 'sheltered' from Persian influences by the 'buffer zone' of Syria-Palestine, but even here some cross-cultural influences are evident. Southern Mesopotamia (ancient Babylonia, Luristan, Anshan) was itself the seat of a very ancient Bronze Age civilization and not far away from the Persian heartland of Fars. Relations between Mesopotamia and Persia are exceedingly old and complex if we judge them by artistic styles and the literature. Very much interchange effected both sides of the Zagros Mountains. Some scholars have viewed the Zagros Mountains as the 'great divide' in the ancient world. On the Persian side, extending from India to Greece, people spoke mainly Indo-European languages. On the other side, including Mesopotamia, Palestine, Egypt, Arabia, Sudan and Ethiopia, people spoke mainly Afro-Asiatic languages (such as Semitic, Cushitic, Omotic, Beja and Egyptian). But in the time of Darius, the Persian Empire used tri-lingual inscriptions: in Old Persian (*Zend*), Babylonian, and Elamite. The latter two are Semitic languages. Moreover, they used mainly Elamite administratively at Persepolis and Susa (which was itself on the Mesopotamian side of the mountains), although the *lingua franca* of the empire was Aramaic (also Semitic). Hence it is impossible to make a 'neat' language separation between Mesopotamia and Persia. One intriguing theory for the reason that Mesopotamia-Kurdistan-Anatolia formed the 'cradle' of early neolithic civilization is this very environment of the 'blending' between Afro-Asiatic and Indo-Euopean language groups. But of couse, such theories are necessarily speculative. The archaeology of the region goes back long before the written (historical) evidence.

In short, ancient Persia embodied the whole region of south Asia between two ancient seats of early Bronze Age culture—Mesopotamia and the Indus. In both areas (along with Egypt) we witness the oldest body of Bronze Age literature—in the west, *Gilgamesh* and related Semitic tales, in the east, the *Vedas* (the oldest known body of literature in an Indo-European language). Parts of the Persian *Avesta* are also comparable in age to this literature. Indeed, as we shall see, the archaic writings of Persia had much in common with Vedic literature, and the Sanskrit language was closely related to Old

Persian. Both were derived from a common source now called Indo-Iranian. Modern scholars have made much use of the Hindu Vedic literature in aiding the reconstruction of early Persian thought. This rich ancient source formed the basis of Magianism, Mithraism, and Zurvanism, religious philosophies that were already highly developed during the era of Presocratic Greek philosophy. Into this mixture we must now also include the historical Zoroaster (Persian *Zarathushtra*), who injected a particularly ethical and abstract cosmological slant to this old tradition. Zoroaster is in many ways more of a 'scientist' (like the early Greek philosophers) than a traditional religious prophet, although such distinctions are almost meaningless in the ancient world. The tales told about Zoroaster often remind us of the tales concerning Pythagoras and Heraclitus. Perhaps Zoroaster can be viewed as the earliest of the Presocratic philosopher-cosmologists, an inspiration for the Greek movement that emerged not long after his time. Of course, this perspective is highly suspicious within the western orthodox academic community.

DUALISM

The overriding characteristic of Persian lore is *dualism*, the belief that there are two fundamentally opposed *forces* at work in the universe. These forces do battle against each other. Such a conceptual framework is expressed in many ways—as a conflict between gods and anti-gods, angels and demons, heroes and monsters, forces within nature (floods and drought), and ethical forces (good and bad, life and death). Sometimes the battle is cosmological, such as the opposition between Light and Darkness. Sometimes, especially amongst the Zoroastrians, it is abstractly conceptual and philosophical. For example, the believer is encouraged to promote the 'path of Truth and the Good Order' (***Asha***) and oppose the 'path of the Lie or Disorder' (***Druj***). These forces are at work within the individual *soul* as well as the cosmos as a whole. It is not difficult to see in these many expressions the same field of *opposites* that dominate early Greek philosophy. The 'hot and cold,' Love and Strife, **heaven** and **earth**, **fire** and **water**, are metaphorical descriptions of the *polarity* and *reciprocity* that underlies any sense of order, especially a sonic order. In this same family of associations we recognize the polarity between harmony and disharmony, simplicity and complexity, the One and the Many. The task of early philosophy was the explanation of the *relationship* between these *opposites*. In archaic thought this relationship (***logos***) was inherently musical. As ancient philosophy and religion became more 'modern,' it progressively lost its musical base.

The notion of harmony and disharmony (simplicity and complexity) maintains that there is a numerical hierarchy or continuum between the polar extremes, so that the various posibilities form *One whole*. Dualism then is only a necessary characteristic of an underlying *monism*. A magnet cannot have a north-pole without a south-pole. In musical terms, the MONAD is logically prior to the DYAD, but they have a special relation to each other unlike any other relation in the vibratory world. The MONAD is barely conceivable without the DYAD. Every circle has a center and it is difficult to decide which comes first, the center or the circumference of the circle. Any conception of dualism will continue to be musical so long as we still maintain some form of

relationship between the poles. If no relationship at all is supposed, then the musical notion of the cosmos 'falls apart.' It becomes two 'solitudes' that cannot mingle.

Some late and radical Zoroastrian sects did promote an extreme form of dualism. The Mazdakists in particular believed in a totally separate and independent origin for good and evil. The orthodox Zoroastrians were also dualist, but they made certain compomises which allowed them to preserve older Musical elements. At the other end of the 'ideology,' the Zurvanites claimed that good and evil emerged together out of one *Absolute* (***Zurvan***, Time), which is a highly Musical doctrine. The long standing archaic pre-Zoroastrian Persian lore, like that of the *Vedas*, was itself also highly Musical. Thus it is likely (though unprovable) that Zurvanism was a resurrgence of an archaic tradition in reaction to Zoroastrian 'modernism.' Interestingly enough, Zurvanism developed during the Achaemenid period (that is, the time of Presocratic Greek philosophy). However, it reached its zenith of influence late in ancient history and some believe that Sassanian Zoroastrianism was dominated by this philosophy. Perhaps Zurvanism made the transition to Islam more acceptable, since both emphasized the *Absolute One* (Islamic ***Allah***) beyond any dualism. When Islam became the dominant religion, the Zoroastrians purged themselves of Zurvanite influences and became more dualistic. Without a doubt, the original reforms of Zoroaster himself must have been an impetus toward increased dualism. Such a tendency then ebbed and flowed throughout the ancient period.

The orthodox Zoroastrian notion of dualism is evident in the Myth of Creation. Creation myths are generally appropriate places where Musical concepts are most explicitly expressed. The Zoroastrians believed that the forces of good are epitomized by ***Ahura Mazda*** (***Ohrmazd*** in later texts). The forces of evil are led by ***Angra Mainyu*** (***Ahriman***). Ohrmazd dwelt in absolute Light, and he had no contact with Ahriman, who dwelt in absolute Darkness. Between them was the *void* (***Vayu***), a mysterious power that limited both of them. Ohrmazd possessed omniscience but Ahriman was essentially ignorant. Ohrmazd then initiated creation, which was at first perfect and good. But the most fatal event of history occurred when Ahriman perceived Ohrmazd and (true to character) tried to destroy him. He did this by 'infecting' the good creation with all that is evil. Ohrmazd, being intelligent, proposed a fixed period of time (a cosmic cycle) for the ensuing battle. Ahriman (in his ignorance) agreed, ensuring that the creation will again be purified and perfected at the 'end of time' when Ahriman will be defeated and all of the dead will be resurrected. For Ohrmazd is the one, all-powerful godhead.

This myth is quite dualistic since it poses both Ohrmazd and Ahriman together at the beginning of creation. Indeed, we also see a mysterious 'third force.' Yet the Zoroastrians believed that Ohrmazd represents the *One*, the harmonic Order, the only transcendant God. We get the impression that since the 'game' played with Ahriman already had a pre-determined conclusion, then the game exists mainly to justify the *movement* of cosmic history. The cycle, or *Great Year*, is generally determined to be 12 thousand years. The first 3 thousand constituted the original creation, the second three thousand followed the will of Ohrmazd, the third period involved the 'mixing' of good and evil, and in the final period the evil will predominate at first but will finally be defeated. After that, time will cease altogether. We see here a typical version of the *Great*

Year that can also be seen in Greek accounts, for example that of Empedocles. But a big difference is also apparent. In Musical notions of the *Great Year*, the cycle is *periodic* and endless—one ending is but a new beginning. The strict Zoroastrian concept has eliminated this Musical element, so that history becomes a one-dimensional linear trajectory with a single beginning and a final end. This concept heavily influenced the orthodox Jewish and Christian concept of history. We cannot say whether this concept was original to Zoroaster or whether it developed later in the movement. The original language of the *Gathas* speaks of the world's *renovation* rather than its end. Perhaps then the cycle begins anew, requiring further 'Zoroasters' to come and teach humanity the right 'path.'

At any rate, Zoroaster appeared at the beginning of the last period, a time of increased 'warfare.' The last period is then divided into lesser periods symbolized by the four metals: gold, silver, steel, and iron. As in other places within Persian mythology, this symbolism comes from the four Elements. At the very end Ohrmazd will preside over a Universal Judgement in which all beings will be assigned their appropriate cosmic place. Since Zoroaster lived around 600 B.C. this 'doomsday' should have taken place around the time that the Islamic forces overran Persia (621 A.D.). Perhaps this is another factor in the transformation of the religious landscape at that time. Zoroastrianism was undergoing a crisis of confidence similar to that faced by Christians whenever a millennium comes around in their calendar. The event prompted a new re-organization of the faith in Iran. In addition, a sizable number of Zoroastrians emigrated to India (mostly around Bombay) where they became the *Parsees* (Persians). There the religion also evolved in a different direction.

The Zurvanite Creation Myth reaffirms the primacy of *Time* in the cosmos. Before the existence of **heaven** and **earth** (the vibratory realm) the great and ultimate being ***Zurvan*** existed alone. Wanting a son, he offered sacrifice for a thousand years. (In Persian thought as in India, sacrifice has merit and power in and of itself, so that it makes no difference that Zurvan had no other 'gods' to which to offer sacrifice). After another thousand years, he began to doubt the fulfilment of his desire. At this very moment of his doubt twins were born (Ohrmazd and Ahriman), the first the fulfilment of his desire, the second a personification of his doubt. Zurvan had vowed to give the gift of kingship to whichever son emerged from the womb (he was androgenous) first. Ohrmazd, being onmiscient and kind, was aware of this and informed his brother. But Ahriman then ripped open the womb and demanded the prize. Zurvan then allowed Ahriman rulership of the world for the limited time of nine thousand years. In the final thousand years, Zoroaster comes and leads the world to its pre-determined salvation.

In this myth, the Musical elements are very strong. Both good and evil (harmony and disharmony) exist as a potentiality within the nature of the Absolute (*Time*, the controlling creative force in the Musical cosmos). The power of *Time* has generated the *opposites*. The cosmos itself arises because *Time* has *desired* or willed it (equivalent to the Greek ***Eros***). The whole purpose of the 'game' between the dualistic forces is to finally restore the *unity* within the Absolute, which was initially shattered by 'doubt.' Thus Zurvanism restored the relationship of the Musical 'egress and ingress' of the

vibratory cosmos to the initial *unity* or *Oneness*. Dualism is here integrated with the traditional Musical notion of the *One* as the source and conclusion (alpha and omega) of being. Note that this 'cosmic history' also takes place as a *Great Year* or cosmic cycle that is potentially periodic.

Zurvanism as a 'heresy' within Zoroastrianism was principally the religion of the intelligentsia. This would explain why it is mainly of a philosophical nature. Various forms of the doctrine existed and it is unlikely that any of them gave rise to any distinct sects; rather, they formed an intellectual wing within Zoroastrianism. One particular group of Zurvanites believed in a purely *materialistic* evolution of the universe, perhaps influenced by Indian Jainism. The creation of the universe was then not necessarily an act of God. Rather, it was an evolutionary development of formless or infinite primeval matter (Infinite Time and Space, their notion of Zurvan). The Infinite was then transformed through creation into the formed, the Finite. Some even denied that there was a creator altogether, relying on the 'mixing' of the Infinite and the Finite. It is not difficult here to see the great similarities with Pythagorean philosophy. Infinite/Finite is ***Apeiron/Peras*** and DYAD/MONAD. This relation between the Infinite and the Finite can be traced back to Anaximander. Was Anaximander too influenced by Zurvanism? We will never know, but it must be admitted that the dualism between 'bounded and unbounded' was operative in both Greek and Persian religious philosophies.

The evolution of the world from *Time* put great emphasis on periodic cycles and the control ('bounding') of the world by **heaven**. Hence Zurvanites stressed astrological myths and a pre-determined *fate* for the individual. This is somewhat at variance with orthodox Zoroastrians who stressed free will. Many Zurvanites expressed the cosmic battle largely as a temporal conflict between the twelve signs of the zodiac (representing forces of good) and the seven planets (representing forces of evil ruling over fate). Over time, fatalism (foreign to orthodox Zoroastrianism) came to have a great influence on Persian thought. This situation has led many scholars to conclude that Zurvanism represented the influence of Babylonian thought on Persian Zoroastrianism, since Babylonia was the birthplace of astrology-astronomy. During the time of early Greek philosophy, Chaldaea (Babylonia) was a stronghold of Magianism and Zurvanism. Perhaps it was here that early Greek philosophy appropriated so much of Persian lore.

Pre-Zoroastrian Magianism also exhibited a dualism but in the 'softened' musical forms also seen in the *Vedas*. An inscription commemorating the signing of a treaty between the Hittite people of Anatolia and the Mitanni culture of Syria in 1500 B.C. mentioned some of the old Indo-Iranian gods: ***Mitra***, ***Varuna***, ***Indra***, the two ***Nasatyas***. The first two were preceded by a word meaning 'two gods,' perhaps showing some dualistic relationship between them. But in the *Rig Veda* the combination ***Mitra-Varuna*** is also encountered without any hint of dualistic opposition. Dualism is more evident in traditional Magianism by the conflict between two types of supernatural beings: ***ahuras*** (angelic) and ***daevas*** (demonic). It is from the latter term that we derive the word *devils*. Strangely enough, in later Vedic writings, it is the ***devas*** which are forces of good, and ***asuras*** evil. The inconsistency can be explained by the fact that in the most archaic parts of the *Rig Veda*, neither good nor evil was implied by either term. They both represented

simply '*the Shining Ones*,' forces of magic which can be *both* good and bad. In the most archaic parts of the *Rig Veda*, the ***asuras*** were all **sky** gods associated with the **sun**. The Persian *Avesta* has numerous connections to the *Rig Veda*, but over time the force of Light came to be called ***Ahura*** in Persia. The term *ahura* has also been associated with the god ***Varuna***, since many of the attibutes of this god were taken over by the Persian god ***Ahura***. In the Greek sphere, ***Varuna*** is cognate with ***Ouranus***, and both were originally gods of the **heaven** or **sky**. Naturally the original polarity was associated with the relationship between **heaven** and **earth**.

The Musical notion of dualism supports the unique and special relationship between the MONAD and the DYAD. It recognizes the *oneness* within the DYAD as well as the *duality* within the MONAD. Together they form a 'strange loop' or *interpenetration* beautifully expressed in the Chinese yin-yang symbol, the *tai chi*. The same concept is also wonderfully displayed in many masterpieces of Persian iconography. Numerous examples could be given, but I will choose two that are particularly appropriate. In the magnificent carvings at Persepolis (one of the most elegant of all the ancient ruins) one sees the image of the *battle* between the lion and the bull. The lion is biting the bull, whose head is back-turned in utter serenity. Modern scholars have universally interpreted it as a symbol for the 'battle' between the *seasons*. The lion is summer (the sun) while the bull is winter (the rains). Fine, but the image has many other implications, equally Musical. It also signifies the 'battle' within the *Great Year* between the *Great Summer* and the *Great Winter*. In the cosmic cycle, the *Great Summer* always returns, as everything comes back to **fire**. Again, the lion is summer (the hot and dry—the Elements **fire** and **air**) while the bull is winter (the cold and wet—the Elements **water** and **earth**). The image also demonstrates the relationship between the *Unity* and the *Diversity* (the One and Many) which was symbolized by the sacred **fire** and the 'cosmic **waters**.' The lion bites the bull rather than the other way around, since the MONAD is logically prior to the DYAD. The 'bite' is also the *lightning bolt* (sacred **fire**) that magically connects the **sky** to **earth**. The bull is the *sacrifice* through which the One becomes the All. The bull is serene because, in the sacrifice, it is united with the One in a ***harmonia***.

Such symbolic images in which the One becomes the Many are common in Persian art motifs. It is seen, for example, in the cosmic tree (the root One becomes the branches and fruit which nourishes the world) and in the cosmic mountain (the One sits at the summit emanating the Many below). These images are also common in Babylonian art as well as the art of other regions. All have obvious Musical associations.

The other example of Musical dualism in Persian iconography is the famous 'winged disc' which stands for ***Ahura Mazda***. It is difficult to conceive of a more graphic illustration of the relationship between the MONAD and the DYAD. The disc or circle is the sun (**fire**), the *Unity*. The circle had always been used as a symbol for the *One*. Surrounding it is a pair of out-stretched wings, symbolizing the DYAD or the *reciprocity* and dualism inherent within the *One*. This reciprocity allows the One to become the All, to 'soar freely' into multiplicity. Persian mythology makes much of the sacred bird, sometimes called the fire-bird or ***Simurgh*** The bird represents the *soul* freed from its

prison or the transcendance of the sacred One. It stands for the efficacy of the sacrifice and the union of the One and the transcendant.

This iconography is quite widespread and not confined to Persian art. It can also be seen, for example, in Assyrian art where the winged disc is generally depicted standing above the Tree of Life (the Elements). Here the winged disc is connected with the god ***Ashur***. Sometimes the Tree is guarded by two Sphinxes or watered by two goddesses, symbolic of the DYAD goddesses who generate the 'cosmic **waters**.' Going back earlier in time, the winged disc was sometimes associated with the fertility god ***Adad*** in old Babylonia. Many scholars maintain that the winged disc demonstrates the influence of Babylonia on Persia. Although probably true, the situation is quite complex and interactive. For the symbol is also seen in Egypt, where it is associated with the ***Horus***, the cosmic sun-falcon with a highly complex and esoteric mythology. Again, the cosmic bird is also found in the Indian *Rig Veda*, where he steals the ***soma*** (ambrosial drink) from the gods. As is so often the case, Persian religious iconography is a magnificent blend of both 'east and west,' while at the same time it maintains certain unique characteristics that are instantly recognizable as Persian. Among these characteristics is the representation of the ***harmonia*** as a 'battle' in which the *One* inevitably wins.

THE MAGI, THE *AVESTA*, AND THE *RIG VEDA*

Approximately one quarter of the *Avesta* has survived, and most of that is concerned with ritual and liturgical practices. Interestingly enough, the Indian Vedic literature also puts great emphasis upon sacrifice and various highly musical rituals around the sacred **fire**. The *Avesta* is heavily influenced by this eastern lore, although it also contains indigenous elements and influences from ancient Mesopotamia. Many of the Persian gods are also found in the *Vedas*, which contain yet many more gods and are much more extensive than the *Avesta*. Moreover, the old Avestan gods correspond with the most archaic segments of the *Rig Veda* (the oldest *Veda*). Scholars have used this literature in order to understand the *Avesta* material before the Zoroastrian 'filter.' Many have concluded that both the *Avesta* and the *Rig Veda* must have derived from a common ancient source, since Sanskrit and Old Persian are closely related languages. This common source portrays the *oldest* Indo-Iranian gods, and perhaps even the oldest Indo-European gods. Such a reconstruction is exciting, but risky. The old gods of the *Avesta*, such as ***Indra***, ***Varuna***, and ***Mitra***, have often changed their function in comparison with the *Rig Veda*. Again, the situation is complex.

The Magi were a professional priesthood whose task was to care for the sacred **fire**. They can be compared to other professional priesthoods, especially the Vedic Brahmans and the Babylonian priests, although differences probably also existed. Their functions were mostly liturgical and musical, performing the various required sacrifices and other tasks that we may associate with ancient shamanism (omens, dream interpretation, medicine, herbalism, casting spells, and so on). The Magi were renowned for learning in astrology-astronomy. Like the ancient Brahmans, they became quite powerful in their society.

We know little about their origins. The Kingdom of Media did not unite and win its independence from the Assyrian Empire until 820 B.C. Before that it was a loose confederation of fierce highland tribes like one would find in (for example) Afghanistan. However, the Magi probably predated this time. The last Median king was overthrown by Cyrus in 550, but Cyrus himself was descended from the old Median dynasty. According to Herodotus (I, 107-8) his grandfather was the Median king Astyages, whose daughter (Mandane) married a Persian vassel (Cambyses). To them was born a son (Kurush) who rose to become Cyrus the Great. Even if this story is untrue, it points to connections between Cyrus and the Magian priesthood. After Cyrus died in 530, the place of his internment, a white marble tomb in Pasargadae, was preciously guarded by the Magi. We can presume that the Magi had much influence during the Persian Empire. The situation is complicated by Cyrus' successor Darius. Due to the extraordinary circumstances surrounding his succession (Herodotus III, 61-78), he felt compelled to scorn the Magi and promote Zoroastrian reforms. However, in the long term, these 'opponants' largely merged.

Although some believe that Zoroaster was born in the south in the Persian heartland, others believe that he was born in the north and was a native of Media. He was then a Magian priest himself, and came to restore (not replace) the old Magian religion. This story can't be proved but it is plausible. The Greeks did not even make a distinction between Zoroaster and the Magi. To them, he was simply the greatest of the Magi. According to a common Greek story, reported by the Byzantine historian Gregorius Cedrinus, the Magi were founded by the Hellenic hero ***Perseus***, for the purpose of guarding and protecting the immortal **fire** that burns perpetually. The sacred **fire** of the **sky** descended to the **earth**, to be preserved in a temple by virtuous ministers. Note the Musical associations here: the MONAD becomes the DYAD, which then acts as the 'house' of harmony. Like the Indians, the Persians venerated **fire** as the sacred symbol of godhead, purity, and the sacrifice. Over 200 hymns in the *Rig Veda* are dedicated to ***Agni*** (**fire**), the Persian ***Atar***. Closely connected with the **fire** sacrifice is the Vedic ***Soma*** (Persian ***Haoma***), the psychedelic substance (whatever it was) or ambrosial drink of the gods that served as a catalyst for the desired shift of consciousness. The whole focus of the priestly activity was the performance of musical events (chant) to accompany the sacrifice (celebrating the relation between the One and the Many that maintains the cosmic Order).

It is impossible here to give a definitive list of Persian gods and show their musical attibutes in comparison with their 'cousins' in the *Rig Veda*. Such a task would require another book! We must be content with a few representative examples. Both the Indians and the Persians classified the rulers of their society into three groups of professionals: the priests, the warriors, and the craftsmen. They used the same classification for the gods. This is why Indo-European stories about creation tend to fall into three groups: creation by a craftsman or ***demiurgos***, creation by a warrior battling disorder to establish order, and creation through a ritual or sacrifice. The three groups of priests, warriors, and craftsmen also reflect an association between the triad of musical archetypes dominated by the numbers 2, 3, and 5. The priests are the guardians of the

Intelligible Realm dominated by the MONAD and DYAD. The warriors reflect the Soul Realm as the TRIAD in structuring the diversity. The craftsman creates the beautiful natural Order, exemplified by the PENTAD. As usual, these archetypes accompany their corresponding Elements. The various gods represent the Elements in numerous combinations and complex relations that are not necessarily internally consistent.

One god is quite willing to take the place of another for the sake of the particular context of the poem. In fact, the gods of the *Avesta* and the *Rig Veda* reflect a religion that can neither be called monotheist nor polytheistic. Rather, it is *henotheistic*. They believe in one god (the One) without denying the existence of other gods. Indeed, the One and the Many are mutually dependant aspects of each other. The particular one emphasized in the given poem, for example ***Soma***, ***Agni***, ***Indra***, or ***Pusan***, *is* the Supreme One, and the others are manifestations of aspects or relations to the One. A number of deities can be elevated to this position depending on the context. The welter of contradictory stories and images all support an underlying sense of musical (or sonic) Order (Greek ***kosmos***, Persian ***Asha***, Vedic ***Rta***) that the priests wish to manifest and uphold through song, chant, and recitation. Through the ritual and the act of sacrifice they are *actuating* these gods as an internal living event or experience. By this process they believe that the underlying order of the whole world is maintained. Understanding this implicate order is the source of knowledge and power, enabling one to influence the world. The hymns are as much a coercion of the gods as they are a supplication. In this sense they are practicing a form of magic (our word magic is derived from the Magi). The power of this magic comes from an intimate understanding and experience of the resonance paradigm. Through the appropriate chant, the priest *becomes* the god.

The world order of the ancient Persians was much like that of the Greeks and Indians. The cosmos is egg-shaped with a crystalline vault and the **earth** sits in the center. It has the tendancy to be both One in unity and Many in diversity. The relations between them are described as a 'battle,' an appropriate metaphor; but it is also sometimes described as the cosmic danse, the cosmic marriage, and so on. The Zoroastrians were partisans of the 'good' (the One) and interpreted this Musical cosmological entity mostly in an ethical context. One of the Zoroastrian criticisms of Magianism was that the priests gave sacrifice to *both* sides of the battle—the good *and* the evil. Perhaps it is here that we find the origin of the view of the Magians as 'evil magicians.' Yet an understanding of the paradigm leads one to believe that the danse (or battle) itself is valuable and to be cherished. Thus one must give homage to both sides of the conflict. These theological issues animated Hellenistic thought and propelled the evolution of later religions such as Christianity and Islam.

Some Magian gods are identical in name and function to Vedic gods. For example, ***Vayu*** is *wind*, **air**, or *breath*. In one story, he originated from the breath of the world-giant or original cosmic man. He serves as an intermediary between the Light and the Darkness in a manner similar to the musical TRIAD who acts as the *mean* between the opposites **heaven** and **earth**. Most of the gods have some connection to at least one of the Elements. The Element **fire** is most emphasized since it is the source of the other Elements. Most Persian fire-temples were built on the tops of mountains, since the

mountain-top symbolized the One. In this place humanity comes into contact with the divine realm. The **fire** (***Atar***) served as the mediator between gods and men. Here the sacrifices were made by which the cosmic Order was upheld. The Vedic *Atharva* priest (who dispensed magical spells) was called in Persia an *Athravan*. He invoked the god ***Zaotar***, Vedic ***Hotir***, a word meaning 'the invoker.' The famous warrior god ***Yima*** was the Vedic ***Yama***. Another hero god, ***Verethragna***, slayer of the demon, was the Vedic ***Virtrahan***, slayer of ***Vrtra***. His name had local variants in many regions of ancient Persia, showing that he may have been one of the archaic Indo-Iranian gods. For example, he was called ***Vahaga*** in Armenia, ***Varlagn*** in Saka, ***Vasaga*** in Sogdia and ***Artagn*** in Chorasmia.

Of course, some of the Persian gods kept the same name as their Indian counterparts, but changed their functions. For example, the Vedic ***Indra*** was a positive warrior god who battled the demon of disorder. Perhaps he had the same function in earliest Persia, but he later became a warrior-demon of heresy. Over time, he 'defected' to the other side. In India too, many of the most archaic Vedic gods radically changed their function or else were generally 'demoted' in favour of other gods. Perhaps the most important god in the archaic parts of the *Rig Veda* was ***Varuna***. He was a sky-god, the upholder of the cosmic order, law, and correct or sacred speech. In this respect his meaning has close similarities to the Greek ***logos***. He was almost always paired with ***Mitra***, the god of friendship (like the Greek ***harmonia***). Together they lived in the 'golden mansion of song.' In India, ***Varuna*** gradually lost prominance, his place being taken by the very important rising gods ***Vishnu*** and ***Shiva***. In Persia, he was seen as the greatest of the ***Ahuras*** (Vedic ***Asuras***) and finally became known simply as ***Ahura***. Thus the Persians perpetuated the archaic sense of ***Varuna*** and maintained his early dominance. ***Varuna*** became ***Ahura Mazda***. Just as the Vedic ***Varuna*** was always paired with ***Mitra***, so the Persian ***Mithra*** was almost inseparable with ***Ahura***. The Persian sense of ***Mithra*** also underwent an evolution that we will examine in an upcoming section.

Sometimes the same god-function used a different name. This situation reflects the fact that Persia took influences from Babylonia as well as India. A good example here is the Persian goddess of fertility, the cosmic mother who is the daughter of ***Ahura Mazda***. She is called ***Ardvi Sura Anahita*** ('the strong undefiled waters') and represents the source of the 'cosmic **waters**' (the multiplicity). This goddess perhaps has more in common with the Babylonian ***Ishtar***. Both are pictured standing upon a 'companion' animal, the lion (**fire**, the One), symbolizing the relationship between the One and the Many. ***Anahita*** has a functional counterpart in the archaic Vedic deity ***Aditi***, the cosmic goddess. In the *Rig Veda*, she gives birth to the group of gods called the ***Adityas*** or the ***Suryas*** (solar deities), usually seven in number, making a total group of eight. Scholars conjecture that there must have been an archaic Persian counterpart: eight principal Indo-Iranian gods to which oblique references are made in the *Avesta*. Tentatively, they are ***Surya, Varuna, Mitra, Indra, Atar, Haoma,*** and the two ***Nasatyas***. We cannot be certain about this particular grouping.

A small grouping of seven (or six, or eight, or nine) gods *was* prevalent in Persian, Babylonia, and India. Such groupings are expressed in many ways. The Median

capital, Ecbatana, was sacred to both Magians and Zoroastrians. It was traditionally described as having seven surrounding walls, each rising in a gradual manner and painted seven different colours—like the ziggurats of Assyria and Babylonia. A division into eight parts was indeed quite common throughout the ancient world. It reflected the cosmic structure of seven planets and the stellar zone around the central **earth**, and the correspondence of this progression to a musical scale of seven notes (the octave is the eighth). In addition, the monochord division 4:8 was supremely important in 'justifying' the Elements. This tradition was handed on to later religions that reinterpreted (or forgot) the Musical elements. For example, the Jewish religion (which had a long interaction with Persia) speaks of seven archangels who accompany God. The notion of an 'angel' itself (a messenger with wings) comes from Persian iconography, as does the depiction of the halo (denoting a being of the Light). In another famous example, Zoroaster wrote that ***Ahura Mazda*** was accompanied by seven forces of Good, called the ***Amesha Spentas***. Here we have an abstract and mainly ethical reinterpretation of the 'old seven.' They are: ***Spenta Mainyu*** (the Bounteous or Creative Spirit), ***Vohu Manah*** (the Good Mind, like the Greek ***nous***), ***Asha*** (Truth and Order), ***Kshathra Vairya*** (the Desired Kingdom), ***Armaiti*** (Devotion), ***Haurvavtat*** (Integrity), and ***Ameretat*** (Immortality). The first characteristic is found only in ***Ahura Mazda***, but the others are also facets of God in man. Such 're-workings' of old cosmological imagery are common in the history of religion.

THE CHILDREN OF *ADITI*

Mythological stories of a small group of pre-eminent gods are rife in the ancient literature. Many variants exist. For example, witness the old Babylonian story of the descent of ***Ishtar*** to the Underworld. She must pass through seven gates before reaching her destination. Such stories often have an astronomical dimension refering to the seven planets; but musical considerations are also never far from the surface. It is worthwhile to follow this story back to its earliest written version in the most ancient sections of the *Rig Veda*. Here the goddess is ***Aditi***, and she gives birth to a group of gods called the ***Adityas***, solar deities also called ***Asuras*** (the 'shining ones'). The word ***Aditya*** literally means the *sun* and ***Adi*** means the first, the origin, or the beginning. One of her children is ***Surya***, which also denotes the sun. ***Indra*** is another of her sons. Thus the imagery emphasizes the Element **fire** as the original One. If the ***Adityas*** form the basis for the old Persian high gods, then it is understandable that the Persians put so much emphasis upon *Light* and **fire** in their religious imagery. An examination of the Vedic story illustrates the complex relations between Indian and Persian traditions.

The Vedic story is found in *R.V.* 10.72. As is often the case, this hymn poses several different and paradoxical answers to the riddle of origins. The text is rife with paradox, like the book of Heraclitus. At the very beginning of the hymn, we are told straight away about the essentially musical context of the whole thing:[31] (1) '*Let us now speak with wonder of the births of the gods—so that some one may see them when the hymns are chanted in this later age.*' (2) '*The lord of sacred speech* [***Varuna***, later ***Prajapati***, Greek ***logos***], *like a smith, fanned them together. In the earliest age of the*

[31] Quotes from the *Rig Veda* are extracted from: *The Rig Veda: An Anthology*, One hundred and eight hymns, selected, translated, and annotated by Wendy Coniger O'Flaherty (Penguin, 1981).

gods, existence was born from non-existence.' After the 'craftsman' image and the 'philosophical' image pursued in some other creation hymns, the text continues with the paradox that ***Daksa*** was born from ***Aditi*** at the same time that ***Aditi*** was born from ***Daksa***. These two terms generally stand for the male and female principles of creation. ***Daksa***, the male principle, is also sometimes called the 'embryo (or *Golden Egg*) of the **waters**', also the '*seed* of **fire**,' sometimes equated with ***Prajapati*** and sometimes equated with **fire** and ***Soma*** within the context of the sacrifice. The various associations between images are often bewildering in the *Rig Veda*. They exchange places and change their names quite often. However, the imagery is consistent (and insistent) on maintaining a musical focus in which the gods are generated through a *vibratory manifestation* which also births the laws of vibration (the cosmic Order, ***rta***). In this instance, the emphasis on male and female principles reminds us of Pythagorean musical number symbolism.

The text delineates the birth of the gods in verses 7-9: (7) *'When you gods like magicians caused the worlds to swell, you drew forth the **sun** that was hidden in the **ocean**.'* (8) *'Eight sons are there of **Aditi**, who were born of her body. With seven she went forth among the gods, but she threw **Martanda**, the sun, aside.'* (9) *'With seven sons **Aditi** went forth into the earliest age. But she bore **Martanda** so that he would in turn beget offspring and then soon die.'* The gods are like magicians because they coerce the gods to do their bidding (through making sacrifice), in this case, generating 'worlds.' The sun that was hidden in the ocean is the *One* (existence) that is plucked out of the primordial non-existence (the silence, sometimes called the 'cosmic **waters**,' Greek ***Okeanos***). Strangely enough, ***Aditi*** has eight sons, but one is set aside and the other seven form the ***Adityas***. The name ***Martanda*** originally meant 'born of an egg,' that is, like a bird. The term was often used as an epithet for the *sun-bird* or *fire-bird* that is so prominent in Persian and other Indo-European mythology. The term ***Martanda*** also meant 'dead in the egg' and was used as a description of miscarriage. Later Hindu mythology spoke of ***Martanda***'s still-birth and 'unshaped' form. The other ***Adityas*** then formed him and made him into the sun. In this interpretation, ***Martanda*** stands for the *One* (**fire**) that, alone among the archetypes, has no reciprocal and no forerunner. He is unique and thus 'set aside.' On another level, ***Martanda*** was an epithet for man, born from the 'dead egg,' i.e. the embryo. He was made the ancestor of ***Yama*** or ***Manu***, from whom came man who is born to die. In the Persian version, ***Yima*** became the ancestor of mankind. This short text illustrates the complexity of imagery and associations found in the *Rig Veda*.

We are never definitively told who is an ***Aditya*** and who is not. Apparently the ***Adityas*** were sometimes called 'servants of ***Varuna***' (10.10.2) but they were also simply lumped together with the other gods as manifestations of ***logos***. For example, hymn 10.125 is a paean of self-praise given by Sacred Speech itself. In verses 1 and 2 we read: (1) *'I move with the **Rudras**, with the **Vasus**, with the **Adityas** and all the gods. I carry both **Mitra** and **Varuna**, both **Indra** and **Agni**, and both of the **Asvins**.'* (2) *'I carry the swelling **Soma**, and **Tvastr**, and **Pusan** and **Bhaga**. I bestow wealth on the pious sacrificer who presses the **Soma** and offers the oblation.'* Here we have a list of many of the prominent gods. But we are not told if the ***Adityas*** include members of this list or not. Since ***Indra*** is included in some other places, the others may be as well, but then we must

increase the number beyond eight. The intention here is to show that all the gods are generated by Sacred Speech (***logos***). Later in the same hymn Sacred Speech says that (3) *'the gods divided me up into various parts, for I dwell in many places and enter into many forms.'* The musical logic is obvious. In addition, (6) *'I incite the contest among the people. I have pervaded **sky** and **earth**.'* In other words, ***logos*** is the source of the cosmic 'battle' that the Greeks called ***harmonia***.

The importance of ***Aditi*** is also emphasized in hymn 10.5, a song about the hidden ***Agni*** (**fire**). Verse seven reads: *'Non-existence and existence are in the highest **heaven**, in the lap of **Aditi** and the birth of **Daksa**. **Agni** is for us the first-born of **Truth*** [***satya***, Persian ***Asha***] *in the ancient vigour of **life**: the bull—and also the cow.'* ***Agni*** is the **fire** of the sacrifice. As the *One*, ***Agni*** is androgenous, hence both bull and cow, the animal signifying the sacrifice itself. Many riddles and metaphors are associated with ***Agni*** in the *Rig Veda*. In the very first verse of this hymn, he is called *'the one **sea** with many births...the path of the **bird** is hidden in the midst of the fountain.'* Note the endless creative re-employment of traditional Musical symbolism, here the 'cosmic **waters**,' the '*fire-bird*' and the fountain as source. Later, in verse five, we read: *'Full of **desire**, the wise **one** brought the seven red sisters out of the honey to see.'* These seven sisters (the seven ***Adityas***?) are the mares who are ***Agni***'s flames, and they break out of the sweet butter poured on the fire. They come forth both to see and be seen, a double meaning often attributed to the sun. ***Agni*** is also called the 'child of the waters' (***Apam Napat***), another god found unchanged among the Persians. Here ***Agni*** is identified with **fire** as the lightning bolt born from the *clouds* (***water-air***). In the *Avesta*, ***Apam Napat*** was the spirit of **fire** that lives in the cosmic **waters**. In both India and Persia, **fire** was generally described by three metaphors: the lightning bolt, the sun, and the hearth-fire of the sacrifice. As we have seen, ***Agni*** was also ***Daksa***.

Another place where the relationship of the *One* to the 'cosmic **waters**' is beautifully described is verses 7 and 8 of hymn 10.121, a hymn about the Golden Embryo (the World Egg): (7) *'When the high **waters** came, pregnant with the **embryo** that is everything, bringing forth **fire**, he arose from that as the one life's **breath** of the gods. Who is the god whom we should worship with the oblation?'* (8) *'He who in his greatness looked over the **waters**, which were pregnant with **Daksa**, bringing forth the sacrifice, he who was the **one** god among all the gods—who is the god whom we should worship with the oblation?'* Again, the 'cosmic **waters**' refers to the Greek ***Okeanos***, out of which comes the MONAD or the One. However, the image of the 'cosmic **waters**' sometimes also refers to the initial *chaos* (or noise) out of which is distilled a pattern of *Order* (relationship to the *One*). The 'cosmic **waters**' is both the initial silence and the confusion that ensues when no pattern of limitation is imposed on sonic space. In the *Rig Veda*, the chaos is often called ***Asat*** (non-being), while the cosmic Order is ***Sat*** (being). The later term forms part of ***Satya*** (Truth). The Persian ***Asha*** has the same meaning.

In hymn 1.164, which is generally about the riddle of the sacrifice, we have yet another perspective on ***Aditi*** and the birth of the ***Adityas***. Here the 'sons' (suns) are born in pairs. (15) *'They say that besides those born in pairs there is a seventh born alone, while the six sets of twins are the sages born from the gods. The sacrifices for them are*

firmly set, but they change their forms and waver as he stands firm.' The mythology of these texts is wonderfully malleable and capable of various versions to suit different needs. Here we see six sets of gods, that is, twelve gods, plus a thirteenth 'born alone.' This 'odd one out' is called ***Vivasvan*** (yet another name for the sun). Here the intent concerns the ancient calendar ritual. In the Vedic calendar, there are twelve paired months and an odd one, the intercalary month sometimes added in order to adjust the lunar and solar calendar. The old calendar was lunar (months of consecutively 29 and 30 days) so that the solar calendar sometimes had twelve months, sometimes thirteen. This 'added' month then interrupts the sequence and causes the others to 'change and waver.' In connecting the ***Adityas*** with the calendar, the myth is still maintaining a *temporal* (musical) meaning for the mythical image. No doubt the Persians kept the same symbolism, since they used essentially the same lunar calendar.

Yet another angle on ***Aditi*** is found in hymn 8.48. This song celebrates the psychedelic effects of ***Soma*** in freeing the sacrificer and releasing him into 'boundless space.' Verse two says that *'when you penetrate inside, you will know no limits.'* The term used here to mean 'infinite expansion' is ***aditi***! Moreover, the goddess ***Aditi*** is sometimes pictured as overcoming the battle with her rival, naturally enough called ***Diti*** (confinement, limitation). Here again we see the interplay of limitation and expansion that characterizes the musical situation. The term ***Soma*** is used in many metaphorical contexts (not only as a psychoactive drug) and is generally accompanied by a host of paradoxes, riddles, and alternative associations. The gods ***Soma*** and ***Agni*** have more hymns to them then any other gods in the *Rig Veda*. This prominence is also reflected in the archaic parts of the Persian *Avesta* with the gods ***Haoma*** and ***Atar***. If we were to lay out and unravel all of the musical associations and metaphors of these gods, it would require a long essay indeed. Suffice it to say that the importance of these gods stems from a bewildering number of inter-related musical images and functions that make little sense to a modern person unschooled in the symbolism.

The important point to gain from this investigation is that the mythological context of both Indian and Persian lore is intensely Musical. A musical pattern of order is imagined and actuated through the performance of ritual-chant or song. The sacrifice has meaning because any one perspective on the harmony must be sacrificed for another so that the freedom to engage in multiple perspectives is kept alive. There is no one 'correct' mythological story any more than there is only one song. The song is eternally 'new' in its manifestation, even if the elements are endlessly 'recycled.' The mythological 'song' is fashioned from a 'universal language' of metaphors that have appropriate musical associations. This same language of metaphors was called *Music* in ancient Greece. From India to Europe, the ancients used the metaphors of the Elements, the Forces, and the relationships between the gods to illustrate an underlying 'truth' derived from an aural perspective of order. Although most modern western scholars would deny that there is any connection between such 'remote' literature as the Persian *Avesta* or Indian *Vedas* and Greek philosophy, they miss the essential continuity in the metaphorical language of this whole ancient cultural zone. The image of **fire** had sacred Musical associations whether one was in Greece, Anatolia, Parthia, or India.

Even such notions as the 'Seven Sages' (another family like the ***Adityas***) had counterparts throughout the entire zone and was not confined to Greece. For example, we read in the *Rig Veda* (10.82.2): *'The All-Maker is vast in mind and vast in strength. He is the one who forms, who sets in order, and who is the highest image. Their prayers together with the drink they have offered give them joy there where, they say, the* ***One*** *dwells beyond the seven sages.'* In this same hymn, the *One* is beyond the seven sages whom are themselves also associated with the ***Asuras***. (5) *'That which is beyond the* ***sky*** *and beyond this* ***earth****, beyond the* ***gods*** *and the* ***Asuras****—what was that first* ***embryo*** *that the* ***waters*** *received, where all the gods together saw it?'* (6) *'He was the* ***one*** *whom the* ***waters*** *received as the first* ***embryo****, when all the gods came together. On the navel of the Unborn was set the* ***One*** *on whom all creatures rest.'* Here the ***Asuras*** are distinguished from their brothers, the ***Devas***, the former being 'darker' but both 'shining' like **fire**. They are *opposites* yet united in the One. The beautiful image of the Navel is the Axis of the cosmic Wheel, the wheel of existence that spins out creatures through time. The ***Asuras*** have consistent associations with the power of magic and the *fire-bird*. Thus hymn 10.177.1-2: (1) *'The wise see in their heart, in their spirit, the* ***bird*** *anointed with the magic of the* ***Asuras****. The poets see him inside the* ***ocean****; the sages seek the footprints of his rays.'* (2) *'The bird carries in his heart* ***Speech*** *that the divine youth* [Vedic ***Gandharva***, Persian ***Gandarewa***] *spoke of inside the womb. The poets guard this revelation that shines like the sun in the footprint of* ***Order****.'* The 'youth' reveals the Musical secret of the gods and is himself often equated with the sun.

Hopefully the reader will see in this little investigation the richness and complexity of the Musical imagery within the *Rig Veda* and its 'resonance' with Persian traditions. The primacy of the sacred **fire**, the image of the 'cosmic **waters**' and other metaphors demonstrate a near universal language of poetic images that evoke the nature of a metaphysical *sonic order*. Many western scholars deny that this eastern lore could have *any* influence on Greece because it was used and protected by a professional class of priests (Magian, Brahmin, Chaldaean, Egyptian) but the Greeks had no professional priesthood. This statement is partially true, but misleading. The Greeks did have a professional priesthood associated with various prominent temples and centers of the Mysteries—at Delphi, Dodona, Didymus, Ephesus, and so on. But it must be stressed that it was her poets, musicians, artists, and actors who acted as the real mouthpiece of her religious traditions. It was the poets and philosophers who guarded and commented on her Musical monuments.

MITRA, *MITHRA*, AND *MITHRAS*

This important god presents a useful case study in the way that god-functions can change over time and locale and yet preserve archaic elements as well. ***Mithra*** was an important god in many countries. In one form or another, he was worshipped from India to the north of England. He is still venerated today by Zoroastrians. This god demonstrates the pervasive influence of Persian ideals throughout the whole cultural zone.

In the *Rig Veda*, ***Mitra*** was the god of intimate friendship or *connection*. He was always paired with his superior, ***Varuna***, who was the upholder of the cosmic Order. ***Mitra*** also stood for *Contract*—that which binds together, a concept very similar to *harmony*. Since ***Varuna*** also signified Sacred Speech, the pairing of the two gods is as natural as the pairing of ***harmonia*** and ***logos***. They belong together. They live in the 'golden mansion of song which has a thousand pillars and a thousand doors.' They mount their shining chariot and conquer the demons of Disorder, chaos, and falsehood. Through due observance and ritual, these gods assure that the cosmic cycles proceed, the sun shines and the rain falls in the appropriate season, and the the natural order of society is maintained.

In archaic Persia, ***Mithra*** had much the same function, although his status rose in relation to ***Ahura***. When he mounted his chariot pulled by four immortal horses (the Elements) he was (*Yasht* 10.12-13) *'the first supernatural god to approach across the Hara, in front of the immortal swift-horsed sun... the first to seize the beautiful gold-painted mountain tops, from there the most mighty surveys the whole land inhabited by Iranians.'* ***Mithra*** maintained his function of Contract, but he also took over some of ***Varuna***'s tasks. He became the preserver of Order and Truth, which are inseparable. His warrior status was elevated. He became the 'eye of the gods' in rooting out evil and the Lie. He assured the cosmic cycle. But, most of all, he became the Judge of that cycle when it was completed, and also the Judge of the human *soul* at death. His symbol was his mace, with which he harrowed the demons, and his torch with which he brought Light into the world. For Iranians, Persia was the 'land of the Contract' or the land of ***Mithra***. He was especially revered by soldiers. Before each battle they prayed to the *sun*, ***Mithra***, and the sacred eternal **fire**.

Modern orthodox Zororastrianism has transformed him into a *yazata* (an angel) but preserved many of his old traits and functions. With his mace, he is the symbol of the battle against the powers of evil. Every year, Zoroastrians celebrate the festival of the *Mihragan*, in honour of '***Mithra***, Judge of Iran.' In the early Christian world, ***Mithra*** was sometimes associated with a saviour who will bring **fire** to destroy the wicked and save the righteous in judgement, somewhat like Christ. In fact, Mithraism had various major influences upon early Christianity, reflected in the story of the three Magi at the birth of Christ. However, due to political circumstances, the religions became rivals. In late ancient history, Christian writers produced very much damaging polemic against Zoroaster, ***Mithra***, and ***Zurvan*** in an effort to undermine the competition.

The dominant artistic image in Persian Mithraism is that of ***Mithra*** during the hunt. He is shooting his arrow at some animal, usually a boar. The image symbolizes the battle of good against evil, Light against Darkness. The arrow also symbolizes **fire** as the lightning bolt that connects **heaven** with **earth**, the MONAD with the DYAD. The animal is the sacrifice through which the One becomes the Many and yet remains the One. In Iran, ***Mithra*** became the king of the warrior-gods responsible for defending the Light.

Many scholars have found it odd that the Mithraic religion spread throughout the land of Persia's worst enemy, Rome. Here the god became ***Mithras***. However, the Romans hired mercenaries from Anatolia and sent them throughout the Empire. These mercenaries were ***Mithra*** worshippers and promptly spead the religion throughout the Mediterranean region. Perhaps the status of the religion was also enhanced when King Tiridates of Armenia went to Rome in 66 A.D. to receive a crown from Nero. Addressing the emperor he said: (Dio Cassius 63.10) *'I am come to thee as my god, to worship thee as I worship **Mithra**, and I will be as thou shalt determine. For thou art my Destiny and my Fate.'* This quote shows that the Persian ***Mithra***, through his function as Judge, had become the arbiter of cosmic Fate and Destiny. By 200 A.D., Mithraism was one of the most popular religions in the Roman Empire.

The Roman ***Mithras*** underwent various changes due to the influence of other religions of a Hellenistic and Egyptian nature; but it is quite difficult to sort out the original componants and the later syncretic accretions. It became (or always was) a Mystery religion with secret rites that, unfortunately, have been lost. Yet we can also recognize very many Persian elements that remained central to the religion. These symbolic elements can be gleaned from the Roman religious iconography. For example, we often see ***Mithras*** riding off to the hunt on his horse, now accompanied by a snake (**earth**) and a lion (**fire**). In addition, we see him shooting his arrow at a rock, out of which comes the 'cosmic **waters**.' Here we recognize the old conception in which the One became the Many through the sacrifice. He was generally pictured as born from a rock already a youth. In his hands he held the emblems of his office: a dagger (the tool of the sacrifice), a torch (as the bringer of Light), and the orb (symbolizing his cosmic rule). His birth is attended by two torch-bearers (***Cautes*** and ***Cautapates***) symbolizing the DYAD; or else by some shepherds with their flock (the Elements with their offspring). But the most famous image of ***Mithras*** shows him sacrificing the bull, symbolic of the act of creation itself in which the One becomes the Many. The scene is accompanied by the forces of good and evil (the dog and scorpion). Victory of the good is assured in the shape of corn springing from the tail of the victim. After the ritual, ***Mithras*** shares a communion meal with ***Sol*** (the sun) and ascends to **heaven**. Very much of this iconography displays the influence of the Persian religious tradition, with its battle between Light and Darkness and the eventual victory of the Light.

Another common image of ***Mithras*** shows him being born from the cosmic Egg. He props apart the two halves of the Egg, which become **heaven** and **earth**. In his hands he holds the torch (Light) and the dagger (sacrifice). He is surrounded by the twelve signs of the Zodiac, again connecting him with Persian astrology and emphasizing the cosmic significance of his birth. Many scholars claim that this iconography demonstrates the influence of western (Greek) Orphism on Roman Mithraism, but the influences are not so clear and direct. Greek Orphism itself probably owed much to Persian influence. As we have seen, the cosmic Egg was found as far east as India in Indo-European mythology. It becomes a difficult matter to separate the 'western' and 'oriental' aspects of the religion. Perhaps this ambivalence is best seen in the Mithraic rites of initiation. The initiate underwent *seven* ordeals or grades of initiation during which the *soul* ascended to **heaven**. Can we not recognize here the descent of ***Ishtar*** to the Underworld or even the

birth of the ***Adityas***? And yet, when we examine the symbols accompanying each grade, some of them are definitely 'western.' For example, the fourth grade uses the Egyptian *sistrum* (shamanistic rattle) sacred to ***Isis***. Roman Mithraism was certainly a syncretic religion with influences far and wide, but the usual western approach has been to undermine or ignore the Persian input and emphasize the Greek contributions. In this way they can separate 'European scientific progress' from 'oriental dogmatism.'

Persia suffered greatly from its rivalry with Rome. During the political squabbles between Zoroastrianism and Christianity, western writers portrayed the Persian religious tradition as 'evil sorcery' and denied its many contributions to their own faith. For example, in the Clementine *Recognitions*, we witness the typical western account of Zoroaster. He was identified with Ham, son of Noah. Apparently he was an evil sorcerer, the arch-magician who conjured up the stars in order to deceive people. Eventually a presiding genie, angry at his control, destroyed Zoroaster with **fire** from **heaven**. However, the Persians were fools who deified his ashes and praised the star which they claimed transported Zoroaster into the presence of God. This story explains the form of his name: 'Zoro' is taken as Greek for life, 'aster' the Greek for star. Hence his name means 'the living star.' But he was really an evil magician. Unfortunately, this sort of polemic was perpetuated throughout the Middle Ages and contributed to the western myopia concerning Persian culture. Sometimes one can still find traces of this old prejudice in modern scholars when they examine the relations between ancient Greece and the 'orient.' Ancient Persia is still sometimes perceived as the 'enemy.' It did not help matters when Persia converted to Islam, the old enemy of Christianity. Persia then formed the boundary between 'east' and 'west' and these two competing civilizations could have nothing in common.

This historical situation has clouded the modern approach to early Greek philosophy. Many modern interpreters assume that the east had *nothing of any consequence* to teach early Greek philosophy. Yet the very richness of the Persian heritage, the complexity and depth of her wisdom literature, and the overwhelming similarity in the philosophical 'message' belies this theory. In addition, the ancients themselves readily acknowledged their debt to the east and every philosopher worth his salt (including Plato) traveled to Egypt or elsewhere to study some priestly tradition. Surely this evidence shows that philosophical discourse was not confined to Greece, and that Greek speaking writers were alive to the many intellectual and spiritual currents around them.

MOTION, CHANGE, AND THE SOUL

Discussion of Heraclitus' most famous doctrine has been postponed until late in the essay for several reasons. First of all, the issue is surrounded by considerable controversy that began with Plato and has swirled ever since. Secondly, a treatment of the topic necessitates extensive quotes from Plato. Such large tracts of the ancient philosopher are generally placed near the end in all the essays of this series. Thirdly, the modern treatment of this topic is heavily influenced by an overall assessment of Heraclitus. Hence it is important that the reader already understand the standard orthodox

treatment of Heraclitus so that a rationale for the modern exegesis can be found. Fourthly, this subject inevitably discloses some of the more profound aspects of Heraclitus' philosophy. Consequently, the reader must already have some familiarity with his 'world.' Above all, the reader should realize by now that his doctrines are entirely and wholistically 'self-referential;' in other words, we cannot artificially separate the topics of *soul*, the '*pathway up and down*,' astronomy, and other aspects of his philosophy from each other. The different parts of his religious-cosmological thought support and justify each other, forming a self-consistent whole.

Heraclitus' fragments on motion and change exhibit a remarkable continuity with Milesian thought. The cornerstone of the Presocratic Musical paradigm is Anaximander's doctrine of *eternal motion*. Heraclitus is simply reiterating and perhaps extending this same notion in his writings. The whole idea and experience of a vibratory universe is predicated on *movement*. Motion is essential to vibration and *movement is life*. This motion is eternal because it has always been happening and continues to happen. It is also eternal because the laws and innate structures of vibratory being are immutable. They can be demonstrated over and over in any time and place. The ancients confirmed this 'universal law' (***logos***) by the three classical disciplines available for the observation and measurement of *time*: calendrics (astronomy), rhythmics, and canonics (the musical tuning sciences dominated by the monochord). Out of this matrix they developed their Musical model of the cosmos as a whole, how it works and how it moves.

The ancient conception of movement was not random. Motion is *cyclical*, measurable, and hence essentially musical. *Time* itself is cyclical in its manifestation. The movement of the ***kosmos*** exhibits a *diversity* in which *unity* maintains its identity through time. It is a *whole* whose parts also embody *wholeness*. The numbers ubiquitously associated with the measurement of time inevitably (and naturally) coincide with the most important of the structural musical numbers (such as 30, 60, 72, 360). The cyclical nature of time allows an element of randomness within its orderly 'constitution.' For example, the movement of the seasons is cylical—summer always follows winter, but each summer is also different from any other. The reiteration of the process *through time* assures that it is eternally 'new' just as a musician plays a sonata by Mozart slightly differently each time. The actual movement through time assures that an element of novelty is permitted and housed within the framework of 'eternal cycles.' The cyclical nature of time was expressed by Heraclitus and other ancient philosophers as the *Great Year*—the time during which many sub-cycles could be harmonized or integrated into a greater *whole*. Musically, this is equivalent to finding one 'grand scale' that contains all of the important subset scales of the system.

The cyclical nature of time assures that continuity is maintained through movement. Fr. 84a: *'While changing, it is at rest.'* It preserves its wholeness. Moreover, it is by nature *measurable* or definable, in spite of its ultimately infinite duration. It can always be quantified and counted, divided into 'bite-sized pieces.' *Time* is naturally measured in days, or months (lunar orientation), or in years (solar orientation). Similarly, musical harmonies can be measured by string-lengths and fundamental ratio archetypes. The whole universe exhibits these characteristics. Fr. 30 states that the ***kosmos*** is an *'ever*

*living **fire** being kindled in measures and extinguished in measures.'* In other words, it is a ***harmonia***, an expression of ***logos***. This cylical (musical) time has its own demonstrable laws and architecture, which assures that the proper 'boundaries' are maintained. Summer will always follow winter. Fr. 94: *'The sun will not overstep his measures; otherwise, the Erinyes, ministers of Justice, will find him out.'* The laws of canonics and calendrics are inevitable, ruled by the gods *Necessity* and *Justice*. The musical notion of time was not peculiar to Greek philosophy. The *Great Year* concept can also be found in the ancient Vedic writings, the literature of Persia, Babylonia, and Egypt. Even distant China used a grand calendrical cycle of 60 years. In fact, all of the high ancient cultures employed a cyclical (or musical) notion of time.

Heraclitus' doctrine is often summed up by the expression: ***Panta Rhei***—all things are flowing (like a river). Although there is no proof that he himself used this maxim, it is quite appropriate. Nothing abides forever except *time itself*. In the mythology, ***Chronos*** or ***Zurvan*** is forever young; but everything that is born must die. To be born means to step onto *'the path upward and downward.'* On this path, movement is essential, even fundamental. In the Orphic vision, the *soul* must enter this path repeatedly (through reincarnation) until certain lessons are learned. Then he/she can be liberated from this 'wheel of rebirth.' To step into this 'process through time' was quite generally described as 'stepping into the river.' This expression is universally encountered throughout the entire ancient culture zone from India to Europe. For example, the great Jaina and Buddhist teachers in India were often called 'river crossers' or beings that have helped us to 'cross the river.' The river itself is the '*pathway up and down*' that we must navigate through life. We will see that the three famous 'river-statements' about motion in Heraclitus cannot be glibly divorced from this deeper meaning.

Before we examine the 'river fragments' we are wise to note another fragment that has not yet received comment. Fragment 125 (found in Theophrastus, *De vertigine* 9) says: *'Even the **posset** [**Kykeon**] separates if it is not stirred.'* The ***kykeon*** was a drink made from ground barley, grated cheese, and wine (sometimes also a little honey). If the contents were not stirred, it would not mix, but rather separate into distinct layers. As usual, Heraclitus is using an appropriate metaphor. Without *orderly movement* within the cosmos, likened to a *vortex* seen when we stir the contents of a cup, the 'contents' of the cosmos (the Elements) will not 'blend' to form a ***harmonia***. In relation to the heavens, the rotary movement of the planets assures temporal order. Within the community, movement assures vitality and prevents static inertia. Within the *soul*, movement is encouraged through spiritual practices or disciplines, movement that engenders a transformation of consciousness and progress 'up the path toward the One.' Such a movement is only possible with a recognition of the reciprocity of the *opposites*. As is often the case, Heraclitus' metaphor also has a deeper, religious meaning. The ***kykeon*** was drunk at the Eleusinian mysteries in commemoration of the myth of ***Demeter***, the cosmic mother. She was the guardian of the barley-plant. Recent research has shown that the psychedelic compound used in these ceremonies was itself derived from a fungus grown on barley. Hence the fragment makes reference to the shift of consciousness of those who 'wake up.' Even the catalyst of this shift (the ***kykeon***) is not enough without the right spiritual practices.

The reader is no doubt now accustomed to the association of Heraclitus with religious issues related to Orphism. We cannot blindly ignore this dimension when we examine the fragments on motion. Perhaps the most important of the three is fragment 12, given by the Hellenistic writer Arius Didymus. It is useful to quote the full context of this fragment so that we can confirm that it concerns issues of the *soul*. *'Concerning the* ***soul****, Cleanthes, putting the views of Zeno* [of Citium] *beside other natural philosophers for comparison, says that Zeno calls the* ***soul a sensitive exhalation****, like Heraclitus. For he, wishing to make the point that* ***souls*** *continuously become intelligent by being vaporized* [or 'are continually renewed'], *compared them to rivers, putting it like this: "upon those who step into the same rivers different and again different waters flow. And* ***souls*** *are* ***exhaled*** *from moist substances."* Of the three Heraclitean fragments on the river analogy, this one is arguably the most likely to be authentic. Even such normally sceptical writers as Kirk have noted that the diction and language are archaically Ionian and typically Heraclitean. Thus the Stoic writer *was* quoting Heraclitus, even though he did not use the quotation signs, which I have inserted to draw the distinction between the commentator and Heraclitus. It is important to note here that the statement emphasizes the continuity and unity of the *soul* in spite of the diversity and changing nature of its parts (the Elements). The *soul* is exhaled from the 'moist element' (***water***) because, like the vibratory cosmos, it arises out of the ***Okeanos*** or 'primordial **waters**' and 'rises' toward the unitary consciousness (**fire**). It is a *sensitive* exhalation precisely because it is endowed with consciousness, since it contains a spark of the cosmic **fire** or ***aither***. Finally, the image of the *soul* 'stepping into the rivers' is a common metaphor for the process of reincarnation. '*Different waters flow*' because each life is a new cycle with its own 'natural history' or progress defined as its 'path.' Thus the fragment emphasizes the Musical notion of *unity/diversity amidst change*.

Fragment 49a supports this connection between the river-image and reincarnation. *'We step and do not step into the same rivers; we are and are not.'* This statement exhibits more than the usual amount of Heraclitean paradox, but its sense is clear. The river is the 'river of existence' in which we step upon reincarnation. The river is plural because the *souls* are also plural. We step into the same rivers because our lives will embody the essential features of the eternal play of *opposites*: birth, growth, decay and death. Yet we do not step into the same rivers because each life is 'new' in its actualization through time. Each life is a unique version of the 'same story.' We are and are not through this ongoing repeated process of birth and death. Perhaps we 'are not' between lives, but the *soul* was envisioned as 'imprisoned' within the body, so that one could also view the life itself as the time during which the *soul* 'is not.' The various spiritual practices that are amazingly common throughout history and in many cultures were followed in order to 'cultivate the *soul*' so that after death the *soul* is led to a better place or to a better rebirth. What distinguishes Orphism and other related religious movements of the time (such as Buddhism in India) is the promise that certain practices can insure a 'stoppage of the wheel' or final liberation.

The third river-statement is fragment 91, found in Plutarch, who was fond of Heraclitus since he quoted him often. We should also assume that Plutarch had a decent

familiarity with Heraclitus' book and/or ideas. Fragment 91 is usually divided into two segments, the 'a' segment being more likely a paraphrase and the 'b' segment an actual quote from Heraclitus. (a) *'For, according to Heraclitus, it is not possible to step twice into the same river, nor is it possible to touch a mortal substance twice in so far as its state* [***hexis***] *is concerned. But, thanks to the swiftness and speed of change,'* (b) *'it scatters and brings together again, it forms and it dissolves, and it approaches and departs.'* The first statement is almost identical to the version of the river-statement given by Plato. Any decent examination reveals that this statement does *not* say quite the same thing as fragment 12, and yet it *can* be interpreted as simply a quick and not too technical summary of the same thought. Here the diversity within the movement is emphasized more than the unity. The talk of a 'mortal substance' shows the influences of later philosophers. But the sense is still recognizably Heraclitean. The second part is vintage Heraclitus, yet another description of the '*pathway up and down*.' The Elements within the *soul* 'scatter and bring together again' simultaneously as an echo of fragment 10: *'Things taken together are whole and not whole, something which is being brought together and brought apart, in tune and out of tune; out of all things there comes a unity, and out of unity all things.'* It forms a unity through the predominance of **fire** and a plurality through the dominance of the other Elements. They are interdependent and interactive (mutually free). In the same sense, it 'forms and dissolves' through the process of 'life and death' and the transmutation of the Elements. It 'approaches and departs' in its upward and downward movement on the pathway.

In short, Heraclitus' river-statements on motion and change form an integrated aspect of an overall religious philosophy whose main focus is the state of the *soul*. Hence he is perpetuating the same Orphic conceptions already witnessed in the Milesians, Xenophanes, and Pythagoras. All of these philosophers believed in and assumed the efficacy of Anaximander's '*eternal motion*.' If we keep this analysis in mind, we are ready to examine the interpretive distortions that later philosophy foisted upon his oracular utterances.

ANCIENT REFERENCES TO THE RIVER-STATEMENT

The river-statement must have been one of Heraclitus' most famous sayings, since it was quoted with various alterations during the following thousand years of the doxographical literature. However, by far the most developed and influential commentary was made quite early on by Plato. In his dialogues *Cratylus* and *Thaeatetus* he quoted the variant *'one cannot step into the same river twice'* and proceeded to associate the statement with a doctrine of radical change or *universal flux*, sometimes called *Heraclitean flux*. In brief, the doctrine says that (for Plato's Heraclitus) *all things are always changing in all respects*. Everything is thus a 'becoming' rather than a 'being' and so it lacks the very property of 'being.' Consequently, our ability to gain true knowledge (which is based upon 'being') is severely limited if not impossible. Plato's exegesis has forever clouded or obscured the ideas of Heraclitus himself.

Plato derived this doctrine from an older contemporary, Cratylus, who was a 'Heraclitean' influenced by the Sophist and Sceptic movements around the end of the 5th

century. Unfortunately, almost all that we know of Cratylus is derived from Plato himself, so that we cannot be certain whether this doctrine was invented by Cratylus or by Plato. But Cratylus is the likely source, according to a report of Aristotle. He wrote (*Metaphysics* 1.6 987a32-34) that Plato *'as a young man became familiar with Cratylus and the Heraclitean doctrines that all sensible things are always flowing (undergoing Heraclitean flux) and there is no knowledge of them.'* Evidently Cratylus had a profound influence on Plato. Plato accepted that the material (sensible) world was undergoing constant flux and is therefore unknowable; consequently, he adopted the Pythagorean doctrine of 'forms,' which he made universal and immaterial, as a means of 'rescuing' knowledge. Note that none of this had much to do with Heraclitus himself, who did not reject the sensible world as unknowable. Perhaps Cratylus derived it from previous 'Heracliteans' who radically exaggerated the old doctrine of *cyclical change*. At any rate, Plato assigned the whole thing to Heraclitus.

Aristotle acknowledged that some Heracliteans exaggerated his doctrine of change. In his *Metaphysics* 4.5 1010a10-15 he complained of *'the extreme doctrine of those claiming to be Heracliteans, which Cratylus held, who wound up thinking that he should say nothing, but only moved his finger, faulting Heraclitus for saying that it is impossible to enter the same river twice; for he thought it could not be done even once.'* Between the time your foot enters the water and reaches the bottom, the river has already changed. Therefore we cannot make a statement about anything. By the time the statement comes out of your mouth the object has already changed. As a result, Cratylus did not bother to speak, but *'only wagged his finger!'* Aristotle described Cratylus as a 'Heraclitean heretic' who pushed the doctrine to its extremes. Evidently he recognized that this doctrine could not be attributed to Heraclitus himself, yet he also tended to perpetuate the notion of 'Heraclitean flux.' He mentioned it more than once, for example in *Metaphysics* 1063a22, 35. In his *Physics* 3.253b9 he wrote: *'And some say not that some existing things are moving, and not others, but that all things are in motion all the time, but that this escapes our perception.'* Here he is assigning to Heraclitus the doctrine of constant invisible or unnoticed changes, an attempt to 'square' the flux doctrine with the common sense perception of stability within change.

Evidently Aristotle did not think too deeply over the doctrine of flux. In his *De caelo* 298b29 he was ready to entertain a conception of it that also included the Milesians. *'They* [the earliest philosophers] *held that in general everything is in a state of becoming and flux, and that nothing is stable, but that there is one substance which persists, out of which all these things have evolved by natural transformations. This seems to have been the meaning both of Heraclitus of Ephesus and of many others.'* The intent here is to include Heraclitus among the Milesians who were interested only in the *material cause* and the *physical substance*. Aristotle may have been somewhat ambivalent about the Heraclitean credentials of the flux doctrine, but he was willing to go along with the Platonic account since it 'fit' within his own system. He probably acknowedged that the Cratylean version was more extreme than the Heraclitean version, but that Heraclitus too held *some* version of the doctrine. Since he assigned it to the Milesians as well, he was admitting (truthfully) that all of them held a similar doctrine of 'eternal motion;' but it suited him to describe the whole doctrine as universal flux. It must

be remembered that Aristotle did not like Heraclitus or Xenophanes, whom he accused of *'making nothing clear'* and 'breaking the rules' of syllogistic logic (Aristotle's specialty). He complained that they did not define the kind of motion that they were talking about, and proceeded pedantically to outline all possible variants of physical motion. This is typically Aristotelian. In all likelihood, Aristotle perpetuated Plato's distortion because it suited his own system and because he preferred not to investigate Heraclitus himself to any great depth.

The fact that *both* Plato and Aristotle (the two most esteemed of ancient philosophers) supported the 'Heraclitean flux' has had disastrous consequences for the understanding of Heraclitus. Due to their status and stature, later writers tended to either believe them or else incorporate aspects of the flux theory into their own readings of Heraclitus himself. For example, Simplicius, an astute reporter of Theophrastus who followed Aristotle, wrote (*Physics* 1313.8): *'The natural philosophers who follow Heraclitus, concentrating on the continuous flow of becoming,... say naturally enough that everything is always in flux and you cannot step twice into the same river.'* The river-ststement is evermore connected with 'universal flux' and disconnected from its original Heraclitean religious context (the cyclical evolution of the ***kosmos*** and the *soul*). In his *Physics* 77.31, we see aspects derived indirectly from Plato. Simplicius writes of *'the continuous flow which interchanges all things, which Heraclitus described in riddling terms in the sentence "You could not step twice into the same river", comparing becoming to the continuous flow of a river, as having more of not-being than of being.'* This peculiar doctrine that something does not exist if it is changing has its source in the polemical language of Plato. Unfortunately, such issues have become inseparable from Heraclitus.

Other late writers also confused Heraclitus with Plato's distortion of him and Aristotle's placement of him among the commentators of physical *substance*. Plutarch, who was somewhat sympathetic of Heraclitus, nevertheless perpetuated the distortions. For example, he wrote (*De E*, 392b): *'According to Heraclitus it is not possible to step into the same river twice, nor to lay hold twice of any mortal substance in one permanent state.'* Again, in *Ser. Num. Vind.* 559c, we read: *'Before we know where we are, we shall have thrown everything into Heraclitus's river, into which he says one does not step twice, because nature in its changes moves and alters everything.'* Note that almost all latter commentators use the version given by Plato *'one cannot step into the same river twice'* rather than the original *'upon those that step into the same rivers different and different waters flow.'* The two statements have different 'tendencies' and are definitely not the same. Nevertheless, Heraclitus may himself also have used the formulation given by Plato. The sentence would then be followed by an explanation that points out the *continuity* within the change. Such an appropriate version is also found in Plutarch (*Qu. Nat.* 912a): *'You cannot step twice into the same rivers, as Heraclitus says, for fresh waters are flowing on.'* In this version it is easier to make a comparison with the balance of the original sense. Continuity (of name, the river) is maintained during the discontinuity of change (the flow of the waters). In a more strictly Presocratic formulation: *Time* holds *unity/diversity* within its *cyclical flow*. Fr. 52: *'The **Aion** is a child playing, playing checkers; the kingdom belongs to a child.'* However Plutarch

himself interpreted it, the double-statement version of the image was probably the original context of Plato's statement. Both Plato and Plutarch may have gleaned it from Heraclitus' book. However, Plato truncated it and used it for a different purpose.

Of course, some writers preserved a decent sense that is decidedly closer to the spirit of Heraclitus himself. In this category we have the remark of Seneca (*Ep.* 58.23): *'As Heraclitus says, into the same river we step and do not step twice; for the name of the river remains the same, but the water has flowed past.'* As in the last quote of Plutarch, we get a sense that there is some form of *continuity* amidst the changes. In the Platonic *flux* theory, any form of continuity is an illusion. Nothing abides—everything is shifting into something else continually. Among a few of the doxographical writers, the original Heraclitean sense of 'cyclical motion' is largely preserved, especially in the text of Arius Didymus cited in the last section. Thus the classical literature presents a rather confused picture in which Heraclitus is mostly (but not entirely) subsumed within the intellectual categories and intentions of Plato and Aristotle.

In brief, the manipulations of Plato in 'redefining' Heraclitus' very traditional doctrine of motion for his own ends had profound effects on the later interpretation of Heraclitus. Since that time, Heraclitus' doctrine (which was intended to be consonant with the doctrine of Anaximander, Anaximenes, and Pythagoras), was infected with new associations that had little to do with the original intent. Heraclitus had simply used a traditional image for stating a metaphorical description of the 'journey of the *soul*.' But it henceforth became another doctrine entirely, divorced from the original religious context and confirming Heraclitus' reputation for obscurity. Such a complex notion that seems to have no connection at all to common sense is 'worthy' of a philosopher whose nickname is 'the Obscure One.'

MODERN INTERPRETATIONS OF THE RIVER-STATEMENT

The confusion found in the classical literature has been perpetuated throughout history into the modern era. Perhaps it is now worse, since the exegesis of ancient philosophy has become totally divorced from the original Musical base. Scholars have been uneasy about the role of Cratylus in exaggerating the doctrine to extremes, yet they are nevertheless convinced that some form of *universal flux* actually belonged to Heraclitus. Thus they tend to reflect the confusion evident in Aristotle. Disagreements arise over the particular form of *flux*; for example, did he acknowledge long-term instability and yet still allow short-term stability? Did he believe in *invisible change* to allow for stability? How did he reconcile universal flux with a stable and everlasting ***logos***? And so on and on. The Pandoras Box openned by Plato has created many monsters.

The modern scholarly interpreters have encountered overwhelming pressure to 'buy' Plato's version of Heraclitus. First of all, Plato is such an esteemed authority. Moreover, his writings are quite early, compared to such late Hellenistic writers as Arius Didymus. Consequently, many scholars would rather follow the version of Plato over that of Arius. Secondly, Aristotle believed Plato. The authority is then bolstered even more.

Thirdly, Cratylus' amendment *'one could not step into the same river even once'* seems to depend upon the Platonic form of the statement rather than that of Arius. Of course, this could be the case simply because Aristotle got it from Plato in the first place. Fourthly, the difficulty of the *flux* conception confirms Heraclitus' reputation for obscurity, even for a certain 'primitivity' in his thought. Fifthly, the concept of *flux* ties in very well with the modern notion of his ***harmonia*** as a 'battlefield' characterized by perpetual conflict, effort, and contrary tensions. Sixthly, the notion of *flux* aids in the separation of Heraclitus from his Presocratic predecessors and his successors. It confirms his modern status as a 'lone genius' disconnected from his fellow philosophers. For all of these reasons, the *flux* doctrine confirms the modern conception of the proper historical 'place' of Heraclitus. Consequently it has proved irresistable, even though a lot of scholars are uneasy about the precise role of Cratylus. The majority opinion holds the Cratylus simply exaggerated the doctrine in some way, but that *universal flux* is still an important feature in Heraclitus himself.

We now examine a few representative examples of the modern arguments. It is important to keep in mind here that the notion of change or motion is generally conceived in a highly *visual* manner and applied solely to visual contexts. There is no conception of motion relating to a vibratory model of the cosmos. The lack of an aural sense is typically modern and seriously skews Heraclitus' original Musical formulation. A good example of the positivist, almost simplistic, neo-Aristotelian interpretation is found in Burnet (*op. cit.* p. 145-6). He thinks the idea of *flux* comes directly out of Heraclitus' *physical substance*, **fire**. The image is treated literally in a fundamentalist manner. *'Fire burns continuously and without interruption. It is always consuming fuel and always liberating smoke. Everything is either mounting upwards to serve as fuel, or sinking downwards after having nourished the flame. It follows that the whole of reality is like an ever-flowing stream, and that nothing is ever at rest for a moment. The substance of the things we see is in constant change...Heraclitus held, in fact, that any given thing, however stable in appearance, was merely a section in the stream, and that the stuff composing it was never the same in any two consecutive moments.'* This interpretation suits his overall view of Heraclitus as a 'monistic materialist' (like the Milesians) who was essentially 'scientific' and anti-religious.

Reale (*op. cit.* p. 49-50) commented on fr. 49a: *'We step and do not step into the same rivers. We are and are not.'* His remarks show the pervasive influence of Plato. *'(Heraclitus) can say that we exist and we do not exist because in order to be what we are at a given moment, we can* ***no longer be*** *that which we were at a preceding moment, so that, in order to continue to be, we shall soon have not to be any longer what we are in this moment. That is precisely the case, according to Heraclitus, in every situation, without exception. Therefore, nothing is permanent and everything is changing, or if you wish, the becoming of things is the only permanent feature of reality, in the sense that, for Heraclitus, things do not have any reality except insofar as they ceaselessly change.'* This explanation follows the Platonic argument that 'being' and 'becoming' cannot coexist.

Guthrie accepted that even the extreme form of *flux* belonged to Heraclitus and that it formed a central position in his thought. Moreover, he felt that Plato had a great insight into his mind and spelled out the implications of *flux* in a way that illuminates Heraclitus. The fact that Heraclitus spoke of *measures* within change does not mean that he exalted stability over instability. (*op. cit.* p. 452) *'The dominating idea in Heraclitus is rest in change, not change in apparent stability.'* His ultimate authority is Plato. *'To put it briefly, I find that from Plato onwards all our authorities attribute to Heraclitus the doctrine (of flux). Those who take the prima facie improbable line that Plato grossly misunderstood him and every subsequent Greek interpreter meekly followed his lead, in spite of possessing either Heraclitus's book or at least a much more comprehensive collection of his sayings than we have, may be expected to produce incontrovertible evidence from the fragments that their conclusion is inescapable. But in fact the extant fragments offer no challenge to the universal ancient view.'* All of those ancient writers following Plato and Aristotle cannot be wrong. But this ancient evidence is not the only reason for accepting extreme *flux*. It also confirms his overall assessment of Heraclitus.

For Guthrie, Heraclitus was still within the primitive 'hylozoist' mold of thought characteristic of the Milesians. Therefore, he could not make a proper distinction between matter and spirit (or *body* and *soul*). The fundamental distinction between matter and 'form' was discovered by Pythagoras(!). The earlier philosophers were restricted to commentaries on *matter*. This matter undergoes dynamic movement, but earlier philosophers did not explain it adequately. Heraclitus' doctrine of *universal flux* was the logical outcome of this old materialism. The only stability is in 'form,' not matter. Since Heraclitus had no conception of 'form,' which was restricted to Pythagoras with whom he had no contact, he accepted the whole of (material) reality as constantly changeable. The logical outcome of 'form-philosophy' is Platonism—a belief in eternally existing absolutes in a region beyond space and time separated from a material reality of flux and unknowing. But Heraclitus was an old-syle materialist who had no conception whatsoever of the non-material. Even his ***logos*** was equated with the material *substance* **fire**. However, the 'level of development' of his thought was such that a distinction between 'spiritual and material forces' was becoming urgent. Heraclitus described the ***logos*** as permanent, and Guthrie remarks that this shows his curiously 'illogical and inconsistent position.' (p. 469) *'Spiritual and material forces are still united as aspects of one and the same entity, although in fact they are becoming so far distinguished as to demand complete separation. Hence the mysterious conception of a 'rational **fire**', of a **Logos**, a law of limit, measure or proportion, which takes a physical form. In that respect, as **fire**, it would seem to be itself subject to the all-pervading flux, yet in the eyes of Heraclitus there was a difference. It was in some way a standard by which all things were measured and evaluated.'*

This summary of Guthrie illustrates the great confusion over *flux* and ***logos*** in Heraclitus. In fact, the Platonic flux does not allow *any* permanence, certainly not an immutable *law* or ***logos***. Yet modern scholars have felt obliged to square the two doctrines. The confusion is compounded by the lack of understanding concerning ***logos*** itself. By modern preconceptions, it should be some kind of 'thing' that doesn't change while all other 'things' do. The inconsistency between universal change and a 'thing' that

doesn't change has confirmed the modern interpretation that Heraclitus must be a bit of a 'fuzzy' thinker, as Aristotle thought. Guthrie's explanation also hinges on the total separation of Heraclitus and Pythagoras, and on the supposed discovery of 'form' by Pythagoras. Actually, the Pythagorean notion of 'form,' or 'pattern,' is identical to ***harmonia*** and ***logos***. These issues will be explored in the next essay. Finally, the argument assumes that Heraclitus was simply a *materialist* (the Aristotelian view) who was incapable of distinguishing *body* and *soul*. Even *soul* is some form of *matter* (**fire**). This interpretation has the 'advantage' of maintaining some distance between Heraclitus and 'popular religious fancies.'

A sizable minority of modern scholars (growing in number) is willing to make a distinction between radical '*Cratylean flux*' and a more moderate '*Heraclitean flux*.' Kirk concedes that Heraclitus did not reject the senses, which do indicate stability as well as instability. He thinks that no one before Parmenides was ever capable of demonstrating or proving that the senses can be fallacious! Therefore we should assume that Heraclitus' doctrine followed 'common sense' since earlier philosophers were incapable of proving otherwise. He thought that perhaps the 'true' Heraclitean doctrine was a precerussor of Melissus' fragment 8, in which he speaks of appearances being subject to change, but that change is *not constant*, rather intermittent and often invisible. This allows apparent stability. The extreme Platonic version assumes that everything is changing *constantly* in every way. Commenting on the river-statement, Kirk maintains that the river 'as a whole' maintains its unity even though the parts change. (KRS p. 197) *'The **unity** of the river as a whole is dependent upon the **regularity** of the flux of its constituent waters. The river, then, may provide an image of the balance of constituents in the world. Obviously, a rock or a mountain or a table is temporarily static, and will remain so, perhaps, for a long time; what matters for Heraclitus' theory of balanced reaction and strife is that **eventually** it should change and so help to maintain the process of world-constituents.'* What we see here is a rejection of the extreme Platonic *flux*, to be replaced by a version more consistent with 'common sense.' Still, the context of the whole issue is purely physical and the river image taken literally. Kirk uses the term 'world-constituents' for the Elements that (he presumes) were not yet invented.

McKirahan is willing to allow a measure of identity through change. He criticized Plato for distorting Heraclitus. But he assumes only a flux of 'things' in a visual sense. For him, the doctrine applies to the ***kosmos*** but not to the 'things' within it. (*op. cit.* p. 144) The river-statement *'stresses identity that persists through, or because of, change. The fragment has always been interpreted as an example: the river is a paradigm. But of what? It is easy to take it as a paradigm for the **kosmos** as a whole, whose identity requires change, primarily the regular interchange of the "elements." It is harder to see it as a paradigm for each individual thing in the **kosmos**. The ring is being eroded; what is worn away is not replaced—though by compensation more iron may be being formed elsewhere. Finally, this interpretation attributes to Heraclitus a view which could easily be exaggerated or extended to the theory of Heraclitean flux.'* For McKirahan also, the philosophy of Heraclitus is mainly concerned with the very physical 'interchange of the great world-masses.' The distinction between the ***kosmos*** as a whole and individual 'things' is typical of the modern non-musical notion of the ***kosmos***. In the Presocratic

Musical sense, the whole is ever-present within the parts. It is absurd to talk of 'things' apart from the ***kosmos*** in an audial perspective. The neat separation of the two is indicative of the visual reconceptualization of the old philosophical terms.

Robinson also talks of the instability of individual 'things' within a stable ***kosmos***. The 'constancy of change' may be restricted only to the vague 'great world-masses.' He presents some highly tortured 'intellectual' arguments concerning the river-statement. Here is an example of only a part of his commentary on fragment 49a (*'We step and do not step into the same rivers. We are and are not'*). It is found on page 113 of his book. *'The paratactic sentence 'we exist and do not exist' then reads naturally as an explanation of the antecedent sentence: 'for the (eternal and unchanging) existence of the universe is existence* simpliciter, *whereas human existence is existence* secundum quid.' *Or in terms of Heraclitus' statement: '(for) we [members of the human race] are (real) in one sense (ie, real* seriatim*), but are not (real) in the absolute sense in which the universe itself is real (ie, everlastingly and uninterruptedly so).' If this non-linear understanding of the fragment is correct (and it has the advantage of not crediting Heraclitus with a belief in reincarnation to which, given his other strictures on popular fancies, he may not in fact have adhered), it lends added cogency to Plato's rendering of Heraclitus' doctrine at Thaeatetus 160d. The doctrine of flux still remains, of course, only a* ***partial*** *statement of Heraclitus' views, but such a doctrine would be more strongly evidenced in the words of Heraclitus himself than many scholars have been prepared to admit.'* He presents more arguments of this sort, but we will spare ourselves from the misery. Note that Robinson says an advantage to this interpretation is the rejection of reincarnation for Heraclitus. This aside well illustrates the strong tendancy for modern interpreters to try to distance Heraclitus from Orphism and make him more 'scientific.'

All of these examples have a number of preconceptions in common. For one thing, it is assumed that the 'Heraclitean flux' must have absolutely no connection to Anaximander's '*eternal motion*.' The isolation of Heraclitus is strictly maintained. As much as possible, the river-statement is divorced from any religious context. Rather, it concerns only the *physical* world. Above all, it describes only the change of 'things.' There is no sense in which the ***kosmos*** is a ***harmonia*** (an expression of ***logos***) which embodies natural and cyclical movement within wholeness. For modern scholars, the *flux* is strictly a-musical.

HERACLITUS IN PLATO'S *CRATYLUS*

The *Cratylus* is relatively neglected nowadays, possibly due to the subject matter that affords little interest for modern philosophy. The dialogue concerns the 'correctness of names.' How do we judge that a given name (or any other word or phrase) is appropriate? About two-thirds of the dialogue is taken up in proposing various etymological analyses for a variety of names. These analyses consist of an imaginative association of similar-sounding words that 'prove' that the name is consistent with its underlying functional meaning. Such methods are now entirely discredited, but they were of great value to the ancients, who believed that a 'proper' name somehow embodies the

essence or power of the referent. Knowing the name provides a means of discovering the 'ultimate truth' about something.

Socrates examines two different positions on the matter. His friend Hermogenes adopts the position that correctness is decided by community convention. Cratylus defends a more 'obscure' position in which the correctness of the name can be decided by its 'nature' (***physis***) irrespective of community conventions. Each name is a disguised description correctly revealing the nature of the thing named by it. It is this 'revelatory capacity' that determines the correctness of the name. Hence the dispute is another variant of the old debate between ***nomos*** and ***physis***, convention and an innate knowledge of 'essence.' Socrates proceeds to use the 'etymological art' in the analysis of a large number of names that seem, at first, to be largely random. However, as the dialogue progresses it becomes clear that the vast bulk of these terms relate to *movement*, *flow*, *motion*, and their opposites. He concludes that 'the ancients' (the old name-givers) thought reality to be 'ever flowing,' but that they may well be wrong. He continues to show that the idea is inconsistent and that the Greek language indicates falsely that the nature of reality is constant change and *flux*. In his own view (Plato's view), names only indicate 'likenesses' that can be good or bad. In order to understand things we must get behind the names and examine the permanent, unchanging natures of things as they are in themselves (Platonic Forms).

Although this matter seems to have very little to do with Heraclitus, Plato uses the character Cratylus as a 'stand in' for Heraclitus, defender of the doctrine of *universal flux*. Hermogenes stands for a more relativistic Sophist position. It must be remembered that Plato grew up under the influence of a Sophist philosophical environment. The Sophists represent the beginnings of the corruption of the Presocratic philosophical ideals. By this time, the period of great philosophical *creativity* had passed, and the Sophists spent their energy mainly in comments and debates between different 'schools' (Heracliteans, Eleatics, Atomists, etc.) that they pitted *against each other*. They proceeded to destroy or hide the original *unity* of the Presocratic movement in wordplay of a largely sceptical nature. The Sophists were famous for arguing that 'black is white' and making their audience believe it through 'fancy language.' Although it is heresy to say so, Plato was himself the greatest of the Sophists, an imaginative word-spinner who plundered the materials of early philosophy and twisted them to his own ends. In the dialogue *Cratylus*, the character of Cratylus represents Heraclitus, but Plato feels no responsibility to be true to Heraclitus himself, only to *use* 'Heraclitean material' for his own form of 'Musical entertainment.' The genius of Plato lay in his extraordinary command of this old material. Plato himself usually maintains a 'neutral stance' (Socrates provides a perfect mask for this) and it is often difficult to find just what he really believes. Often the writing is satirical, though it is also sometimes 'serious.' We must read between the lines in order to guage his intentions and personal stance. Only with a decent familiarity with the whole Platonic corpus does one get a picture of 'the real Plato.'

The *Cratylus* is a complex and problematic dialogue. Presenting a whole series of imaginative etymologies provides a perfect background for a mix of 'comedy and

tragedy.' On one level, it can be read as a Musical *homage to Heraclitus*. The text is filled with obvious and not so obvious references to Heraclitus' book. His name is only directly mentioned twice, but there are so many allusions to Heraclitus that it is impossible to make comments on all of them in this essay. At the same time, Heraclitus is closely allied with ***Homer***, ***Orpheus***, '*and many others*.' The dialogue is filled with traditional Musical terms and associations, so many that it forms almost a glossary of Musical terms! Even the name Hermogenes has Musical associations—it means 'son of ***Hermes***' (a god of high Musical status). No doubt, all of this was familiar to Plato's select audience. Modern interpreters see nothing musical *at all* in it, and think that it is only a collection of fanciful etymologies with a couple of incidental references to Heraclitus. A collection of etymologies seemingly has nothing whatsoever to do with Heraclitus. Only the peculiar focus on names relating to motion and change give a clue to his intentions. Significantly, on the very last page of the dialogue he drops the bombshell about *universal flux* and attributes it to Heraclitus (and Homer, Orpheus, and many others!). Are we meant to regard this attribution as an accurate report of Heraclitus or as a satire?

Our main interest is the passage in which Plato gives his famous version of the river-statement. But we would be remiss not to briefly consider a few representative examples of his 'insight' into Musical terms and his oblique references to Heraclitus. A typical example is found right at the very beginning of the dialogue. Plato has Hermogenes say:[32] *'So, if you can somehow interpret Cratylus' oracular utterances, I'd gladly listen.'* Several times in the dialogue Cratylus (and Socrates) is described as (396d) *'exactly like a prophet who has suddenly been inspired to deliver oracles.'* Obviously we have a reference here to Heraclitus' fragment 93: *'The god whose oracle is at Delphi neither speaks nor conceals, but gives a sign.'* The term '*sign*' (***sema***) is itself also used several times in varying allegorical contexts. To go back to the original statement of Hermogenes, Socrates answers (384b) that *'there is an ancient proverb that "fine things are very difficult" to know about, and it certainly isn't easy to get to know about names.'* This 'difficulty of fine matters' reminds us of fragment 123: *'Nature loves to hide itself;'* or fragment 22: *'Those who seek gold dig up much earth but find little;'* or fragment 18: *'Unless he hopes for the unhoped for, he will not find it, since it is not to be hunted out and is impassable;'* or fragment 86: *Divine things for the most part escape recognition because of unbelief.'* In a very large number of instances, Plato uses language that reminds us directly of specific Heraclitean fragments.

Sometimes the references are quite obvious. For example, at 392e Socrates says: *'Doesn't Homer himself suggest a very good explanation when he says "He alone defended their city and long walls" (Iliad 22.507).'* Here we have an allusion to fragment 44: *'The people must fight for the law as for the city wall.'* At 396b he says: *'In fact* ***Cronus*** *' name signifies not a child (**koros**), but the purity and clarity of his intellect or understanding.'* This statement alludes to fragment 52 that compares ***Aion*** or ***Chronos*** to a child. Also relevant are the several discussions of **fire (*pur*)** and ***diamones***. For example, at 398c Socrates says: *'Hesiod and many other poets speak well when they say that when a good man dies, he has a great destiny and a great honor and becomes a*

[32] Translations of the *Cratylus* in this essay are by C. D. C. Reeve.

***daemon**, which is a name given to him because it accords with wisdom.'* Here we have a reminder of fragment 25: *'Greater deaths win greater destinies,'* and fragment 63: *'they arise and become vigilant guardians (**daemones**) of the living and the dead.'* Plato regards *daimons* as gods, children of gods, or else messengers from the gods (angels or Persian *Yazatas*). These examples can be multiplied, but I will leave the reader to reread the dialogue and 'ferret out' the Heraclitean references. Perhaps Plato intended this dialogue as just such a 'puzzle.'

This dialogue also enumerates many of the traditional Musical images and clarifies their hidden meaning for the reader who already has an insight into the symbolism. One of the most beautiful examples is the traditional Musical image of 'weaving,' found in the mythological literature all the way from India to Europe. At 388b Socrates says: *'What do we do when we weave? Don't we divide the warp and the woof that are mixed together?...Don't we instruct each other, that is to say, divide things according to their natures?...So just as a shuttle is a tool for dividing warp and woof, a name is a tool for giving intruction, that is to say, for dividing being.'* The extensive discussion of tools, craftsmen, lyre-makers, rule-setters, all have Musical connections. Sometimes he even talks of Music itself, for example this classic statement in a section about ***Apollo*** (god of Music): *'As for the Muses and music and poetry in general, they seem to have derived their name from their eager desire to investigate and do philosophy.'* He also covers many of the gods, and makes explicit their hidden connections to Music. Here is part of his discussion of ***Zeus*** at 396a: *'the name **Zeus** is exactly like a phrase that we divide into two parts, **Zena** and **Dia**, some of us using one of them and some the other. But these two names, reunited into one, express the nature of the god—which is just what we said a name should do. Certainly no one is more the cause of life (**zen**), whether for us or for anything else, than the ruler and king of all things. Thus **Zena** and **Dia** together correctly name the god that is always the cause of life (**di' hon zen**) for all creatures. But, as I say, his name, which is really **one**, is divided into two, **Dia** and **Zena**.'* Apparently, the name ***Zeus*** (nominative) has two declensions, one of which has ***Zena*** in the accusative, the other ***Dia***. But the statement implies more than simply a grammar lesson. It hints at the relation between the MONAD and the DYAD, which are *one* and yet distinguished. The term ***Dia*** is often used in Greek musical terms, such as *Diatonic* and *Diapasson*.

He also refers to the ***logos*** obliquely in several places. Indeed, an investigation of names implies *naming* and *speech* (one meaning of ***logos***). For example, at 398d he is deriving the word for 'hero' from the Musical word for 'love.' *'The name hero (**heros**) is only a slightly altered form of the word love (**eros**)—the very thing from which the heroes sprang. And either this is the reason they were called heroes or else because they were sophists, clever speech-makers (**rhetores**) and dialecticians, skilled questioners (**erotan**)—for **eirein** is the same as **legein** (to speak).'* The verb ***legein***, of course, is the source for the term ***logos***. Later, (408b) when he is analysing the 'origins' of the Greek god-name ***Hermes***, he also connects it with Sacred Speech. *'It was out of these two words* [***eirein***—to use words, and ***emesato***—to devise] *that the rule-setter established the name of the god who devised speech (**legein**) and words, since **eirein** means the same as **legein***

(to speak).' Socrates continues: *'You know speech signifies all things [**to pan**] and keeps them circulating.'* This is one of several references to the *vortex*.

As a last example of the Musical references in *Cratylus*, consider his discussion of *Justice* (***dikaiosune***) at 412d-e. *'Those who think that the universe is in motion believe that most of it is of such a kind as to do nothing but give way, but that something penetrates all of it and generates everything that comes into being. This, they say, is the fastest and smallest thing of all; for if it were not the smallest, so that nothing could keep it out, or the fastest, so that it could treat all other things as though they were standing still, it wouldn't be able to travel through everything. However, since it is governor and penetrator (**diaion**) of everything else, it is rightly called just (**dikaion**).'* The only 'candidate' for these properties is the *One*. It is the 'smallest,' yet it is omnipresent, since every number is divisible by one. It generates 'everything.' It is also the 'fastest' because it can 'travel' through all possible harmonies. Plato goes on to properly associate it with ***Zeus***.

I hope that this sampling of Musical references persuades the reader to go back to the *Cratylus* and reconsider it. But for now we will forgo any attempt at a comprehensive analysis of the dialogue as a whole. Instead we will focus on that middle section in which we find Heraclitus specifically named. It is wise to 'set the stage' by beginning about a page beforehand. At 399b Socrates wanders onto the topic of *soul*, a subject dear to Heraclitus. Here Plato gives a good account of the classic conception of *soul*. *'I think that those who gave **soul** its name had something like this in mind. They thought that when the **soul** is present in the **body**, it causes it to live and gives it the power to **breathe** the **air** and be revitalized (**anapsuchon**), and that when this revitalization fails, the body dies and is finished. It's for this reason, I think, that they called it **soul** (**psuche**).'* He goes on to agree with Anaxagoras (the only other Presocratic philosopher directly named in the dialogue) that everything *'is ordered and sustained by **mind** or **soul**. ...So a fine name to give this power, which supports and sustains (**ochei kai echei**) the whole of nature (**phusis**), would be 'nature-sustainer' (**phuseche**). This may also be pronounced more elegantly, **psuche**.'* The association of Anaxagoras with Heraclitus is entirely justified. In this passage Plato is reporting Presocratic doctrines with good accuracy.

This revealing accuracy continues at 400c when Plato gives one of his most explicit accounts of the central Orphic doctrine. *'Some people say that the **body** (**soma**) is the tomb (**sema**) of the **soul**, on the grounds that it is entombed in its present life, while others say that it is correctly called 'a **sign**' (**sema**) because the **soul** signifies whatever it wants to signify by means of the **body**. I think it is most likely the followers of **Orpheus** who gave the **body** its name, with the idea that the **soul** is being punished for something, and that the **body** is an enclosure or prison in which the **soul** is securely kept (**sozetai**)—as the name **soma** itself suggests—until the penalty is paid.'* This passage emphasizes the ethical basis for the doctrine of reincarnation. The distinction between 'some people' and 'others' is not important. The association between ***sema*** as '*tomb*' and as '*sign*' is one of several veiled references to fragment 93 (the oracle gives only a *sign*). In this passage, as well as a number of others, Heraclitus is closely affiliated with the Orphics.

Hermogenes requests Socrates to examine the names of other gods as well, (they had already covered ***Zeus*** and ***Cronus***). As is customary, they begin with ***Hestia***, another goddess with strong Musical associations. She usually received the first part of any sacrifice and was also named first in prayers and oaths. Such a high status is an indication of her archaic origins. Her name points to the symbolic representation of the musical *mese*, the DYAD or '**earth** center.' In Greece she also signified that aspect of **fire** that is found in the *hearth*, the place of the traditional ritual of *sacrifice*. Socrates claims that the name-givers who named her must be *'no ordinary people, but lofty thinkers and subtle reasoners.'* He proceeds to associate her name with the Greek names for 'being.' This topic is important, since, earlier in the dialogue, Socrates had equated 'being' with the 'essence' of something that is reflected in the name. Within this context Plato introduces Heraclitus. We pick up the action at 401c.

SOC *'Well, it's obvious to me that it was people of this sort who gave things names, for even if one investigates names foreign to Attic Greek, it is equally easy to discover what they mean. In the case of what we in Attic call* ***ousia*** *(being), for example, some call it* ***essia*** *and others* ***osia****. First, then, it is reasonable, according to the second of these names, to call the being or essence (****ousia****) of things* ***Hestia****. Besides, we ourselves say that what partakes of being 'is' (****estin****), so being is also correctly called* ***Hestia*** *for this reason. We even seem to have called being* ***essia*** *in ancient times. And, if one has sacrifices in mind, one will realize that the name-givers themselves understood matters in this way, for anyone who called the being or essence of all things* ***essia*** *would naturally sacrifice to* ***Hestia*** *before all the other gods. On the other hand, those who use the name* ***osia*** *seem to agree pretty much with Heraclitus' doctrine that the things that are are all flowing and that nothing stands fast—for the cause and originator of them is then the pusher (****othoun****), and so is well named* ***osia****. But that's enough for us to say about this, since we know nothing.'*

Although it is not yet explicitly stated, Plato wishes to separate 'being' and 'becoming' and to describe them as incompatible. Perhaps he picked up this peculiar doctrine through a misunderstanding of Xenophanes and Parmenides; or perhaps it is a deliberate distortion of their work for the sake of the 'entertainment.' At any rate, we see in this passage a separation being made between the ancients who supported 'being' (***essia***) and those who emphasized 'becoming' (implied in ***osia***). At the end of the dialogue this separation becomes the basis for the argument against '*Heraclitean flux*.' But in the present passage Socrates now proceeds with a reminder that this investigation is not necessarily meant to be taken seriously as 'gospel truth.'

SOC *'After* ***Hestia****, it is right to investigate* ***Rhea*** *and* ***Cronus****, though we've already discussed the latter's name. Now, maybe what I'm about to tell you is nonsense.*

HERM *Why do you say that, Socrates?*

SOC *Because I've got a whole swarm of wisdom in my mind!*

HERM *What sort of wisdom?*

SOC *It sounds completely absurd, yet it seems to me to have something very plausible about it.*

HERM *How so?'*

These types of interjections are common in the dialogue, and they remind us that Plato is mixing 'tragedy and comedy.' In fact, in this particular dialogue these 'reminders' are emphasized to an unusual degree. To give some other examples, at 399a Socrates says: *'I seem to have had such a clever insight just now, that, if I'm not careful, I'll be in danger of becoming altogether* ***too*** *wise before the day is out.'* At 406c Socrates quips: *'there is not only a serious way of explaining the names of these divinities but a playful one as well.'* At 413d he says: *'Listen, then, and perhaps I'll be able to deceive you into thinking that I haven't heard the remaining one either.'* Such notes remind us that Plato is not being one-dimensionally literal or direct. Rather, he is 'playing' with the philosophical material, sometimes for humorous or satirical purposes, sometimes for deadly serious polemics. Unfortunately, it is at times extremely difficult to decide which is which—the mark of a master at sophistry. Such ambivalence forms an important componant of the musical 'entertainment.' In this example, the statement about a 'swarm of wisdom' is probably a satirical jibe at several of Heraclitus' famous fragments about wisdom. It could refer to fragment 32: *'The wise is One alone; it is unwilling and willing to be called by the name of* ***Zeus****.'* Or it could refer to fragment 41: *'Wisdom is one thing, to be skilled in true judgement, how all things are steered through all things.'* Heraclitus had a high reputation for wisdom, prompting Plato's satirical remarks. Now that he has primed his audience for further remarks about Heraclitus, he proceeds (402a).

SOC *'I seem to see Heraclitus spouting some ancient bits of wisdom that* ***Homer*** *also tells us—wisdom as old as the days of* ***Cronus*** *and* ***Rhea****.*

HERM *What are you referring to?*

SOC *Heraclitus says somewhere that "everything gives way and nothing stands fast," and, likening the things that are to the flowing (****rhoe****) of a river, he says that "you cannot step into the same river twice."*

HERM *So he does.*

SOC *Well, then, don't you think that whoever gave the names* ***Rhea*** *and* ***Cronus*** *to the ancestors of the gods understood things in the same way as Heraclitus? Or do you think he gave them both the names of streams (****rheumata****) merely by chance? Similarly,* ***Homer*** *speaks of "****Okeanos****, origin of the gods, and their mother* ***Tethys****," (Iliad 14.201, 302). I think* ***Hesiod*** *says much the same.* ***Orpheus****, too, says somewhere that "fair-flowing* ***Okeanos*** *was the first to marry, and he wedded his sister, the daughter of his mother" (fr. 15, Kern). See how they agree with each other, and how they all lean towards the doctrines of Heraclitus.'*

This important passage puts Heraclitus in the same company as ***Homer***, ***Hesiod***, and ***Orpheus***. Elsewhere in the dialogue he also includes '*many others*' such as Euthyphro and Anaxagoras. These figures are all representatives of Greek religious traditions. Modern scholars are quick to conclude that such an association is fanciful and not serious, since the philosophy of Heraclitus has nothing in common with ***Homer*** or ***Orpheus***. A 'humorous' intent may indeed be at work here. Yet there *is* something in common between all of these figures. All of them believed that the ***kosmos*** is subject to *eternal motion*, since it is vibratory in its very *essence*. Plato could also have put Anaximander, Pythagoras, and many others into this same camp. He proceeds to

associate ***Rhea***, which sounds a lot like ***rheuma*** (stream) with ***rhoe*** (flowing). In fact, the whole dialogue is peppered with terms related to *streams*, *rivers*, **water**, *flowing*, etc. In this passage, the emphasis on *movement* is also rightly associated with ***Cronus***, who is generally equated with ***Chronos*** (*Time*). ***Okeanos*** (Ocean) is also a part of this complex of highly Musical images. Indeed, as Plato says, such gods as ***Okeanos*** and ***Tethys*** belong to a very ancient strain of Greek religious mythology. The quote from the Orphic writings has a peculiarly archaic ring about it. The imagery and paradoxical language reminds us strongly of many passages in the *Rig Veda* that have an identical meaning (the marriage of non-existence and existence in the relation between the MONAD and the DYAD). All of these images reinforce the importance of *Time* and the 'flow of becoming.' Plato carries on with more 'watery associations.'

HERM *'I think there's something in what you say, Socrates, but I don't understand what the name* ***Tethys*** *means.*

SOC *But it practically tells you itself that it is the slightly disguised name of a spring! After all, what is strained (****diattomenon****) and filtered (****ethoumenon****) is like a spring, and the name* ***Tethys*** *is a compound of these two names.*

HERM *That's elegant, Socrates.'*

Now Plato has brought into the discussion the Musical image of the *spring* (the source of the Elements, the 'cosmic **waters**' out of which comes the MONAD, **fire**, and the other Elements). Such is his free-wheeling technique of 'Musical association' that leads from one Musically-charged metaphor to another. This passage (401b-402d) has served as an illustration of the methods of this dialogue and the 'environment' of Plato's famous quote of Heraclitus' river-statement. It is clear that he is not presenting a 'scholarly' reference to Heraclitus, but rather using Heraclitean metaphors for his own arcane purposes. In this passage it appears that the references are entirely innocent. After all, practically all of the ancient religious philosophers believed that the vibratory ***kosmos*** is expressed through eternal *movement*. (The Eleatics are a special case that will be explained in a later essay, although an understanding of Xenophanes already provides an insight into their paradoxical view of motion). Moreover, this movement is *cyclical* (musical in character). However, at the end of the dialogue, Plato 'twists' the doctrine into '*universal flux*' in order to justify a mistaken separation of 'being' and 'becoming.' The proponants of 'becoming' must be shown to be incorrect, because the nature of 'being' is *by definition* unchanging and separated from the physical (moving) world. This peculiarly Platonic doctrine can ultimately be derived from a misunderstanding or a deliberate perversion of the paradoxical Musical philosophy of Xenophanes and Parmenides.

As we reach the climax of the dialogue, here is the situation. Plato has used his virtuosic techniques to emass two apparently contradictory groups of names. One group (438d) *'points to motion'* and the other *'points to rest.'* Socrates quips with wry humour that *'there's a civil war among names.'* This text follows the familiar outline seen in many Sophist writings. As a spin-off of the ***nomos-physis*** debate, it was common to set up a 'debate' or *contest* between 'opposing' philosophies. In this case, Heraclitus stands for the proponants of *motion*. Presumably Parmenides stands for the proponants of *rest*.

Their philosophies are deemed to be incompatible. Sophists (and Plato) also pitted Pythagoreans against Atomists, as well as other permutations, as a context for the discussion of issues. Plato now states that we had best learn *'the truth about the things that are'* independent of names altogether. He does not say how this is to be done, only conceding that it is *'to large a topic for you or me.'* Then, almost as an afterthought, he raises one last issue at 439c.

'UNIVERSAL FLUX' IN PLATO'S *CRATYLUS*

SOC *'Still, let's investigate one further issue so as to avoid being deceived by the fact that so many of these names seem to lean in the same direction—as we will be if, as seems to me to be the case, the name-givers really did give them in the belief that everything is always moving and flowing, and as it happens things aren't really that way at all, but the name-givers themselves have fallen into a kind of* ***vortex*** *and are whirled around in it, dragging us with them.'*

This satirical passage pokes fun at the Presocratic doctrine of the *vortex*. It also warns us that Plato may not be totally serious here. He proceeds to emphasize that *'there is a beautiful itself, and a good itself, and the same for each one of the things that are.'* These things must always be *'such as it is.'* These things, of course, are the Platonic Forms of which the 'changing things' are only 'likenesses.' Plato now continues in what appears to be all seriousness.

SOC *'But if it is always passing away, can we correctly say of it first that it is* ***this****, and then that it is* ***such and such****? Or, at the very instant we are speaking, isn't it inevitably and immediately becoming a different thing and altering and no longer being as it was?*

CRAT *It is.*

SOC *Then if it never stays the same, how can it* ***be*** *something? After all, if it ever stays the same, it clearly isn't changing—at least, not during that time; and if it always stays the same and is always the same thing, so that it never departs from its own form how can it ever change or move?*

CRAT *There's no way.*

SOC *Then again it can't be known by anyone. For at the very instant the knower-to-be approaches, what he is approaching is becoming a different thing, of a different character, so that he can't yet come to know either what sort of thing it is or what it is like—surely, no kind of knowledge is knowledge of what isn't in any way.*

CRAT *That's right.'*

Here we have the classic statement of '*universal flux*' and the sceptical denial of the possibility of gaining any reliable knowledge about it. Plato's doctrine is quite dependent upon his 'creative' reinterpretations of the meaning of the verb 'to be.' We will not pursue this rather complex issue here, only note that he assumes that 'being' and 'becoming' are mutually exclusive and incompatible. In the following statement, the doctrine is elaborated and Heraclitus is named specifically. At first the statement appears to be totally serious, but later on it transforms itself into a piece of quirky humour using

images related to 'flowing rivers.' Again we are left with the distinct impression that whole thing may be a bit of a satire.

SOC *'Indeed, it isn't even reasonable to say that there is such a thing as knowledge, Cratylus, if all things are passing on and none remain. For if that thing itself, knowledge, did not pass on from being knowledge, then knowledge would always remain, and there would* ***be*** *such a thing as knowledge. On the other hand, if the very form of knowledge passed on from being knowledge, the instant it passed on into a differen form than that of knowledge, there would be no knowledge. And if it were always passing on, there would always be no knowledge. Hence, on this account, no one could know anything and nothing could be known either. But if there is always that which knows and that which is known, if there are such things as the beautiful, the good, and each one of the things that are, it doesn't appear to me that these things can be at all like flowings or motions, as we were saying just now they were. So whether I'm right about these things or whether the truth lies with Heraclitus and many others isn't an easy matter to investigate. But surely no one with any understanding will commit himself or the cultivation of his* ***soul*** *to names, or trust them and their givers to the point of firmly stating that he knows something—condemning both himself and the things that are to be totally unsound like leaky sinks—or believe that things are exactly like people with runny noses, or that all things are afflicted with colds and drip over everything.'*

We suspect that this whole issue may actually be satirical and not to be considered as serious philosophy. Yet in the dialogue *Thaeatetus* Plato develops the theme of '*universal flux*' with direct references to Heraclitus within the context of a long discussion on knowledge. There he calls it *'the secret doctrine'* and devotes a lot of space to the topic. Unfortunately, a review of his arguments in the *Thaeatetus* is beyond the scope of this essay. Suffice it to say that he expands upon similar arguments to those made in the *Cratylus*. Consequently, we must presume that Plato *did* take the notion of '*universal flux*' quite seriously and that he probably *did* believe it to be the doctrine of Heraclitus. For most modern scholars, this is enough evidence for them to believe that it actually *was* a doctrine of 'the Obscure One.'

The dialogue *Cratylus* ends with more references to the great philosopher that Plato himself elsewhere called *'the Ionian Muse.'* In the text above, his mention of the 'cultivation of the *soul*'is one more satirical jab at Heraclitus. Socrates then urges Cratylus to investigate the matter further, after which he sends him on his way. As the dialogue ends, Socrates says to Cratylus: *'Instruct me about it another time, Cratylus, after you get back. But now go off into the country, as you were planning to do, and Hermogenes here will see you on your way.'* The phrase 'see you on your way' (***propempsei***) is a pun on a traditional name of ***Hermes—pompaios***, meaning 'who conducts *souls* of the dead to Hades.' Therefore Hermogenes' name is 'well given.' Not only is ***Hermes*** a god of music, magic, medicine, and movement, he is also the 'guide' who leads 'travelling' *souls* along the *'pathway up and down.'* Thus the dialogue ends with yet another veiled allusion to Heraclitus. This ending is one more illustration of the complex relationship between Plato and Heraclitus. On the one hand, Heraclitus is satirized and distorted to suit Plato's own 'entertainment' purposes; on the other hand,

Heraclitus is also acknowledged as a great influence on his own philosophy. Hopefully, this short and selective examination of the *Cratylus* has shown that Plato's remarks on early philosophy cannot be taken at face value as an accurate record of their teachings.

CONCLUSIONS

Heraclitus has always been a difficult philosopher to comprehend, but the confusion surrounding his work is not entirely his own fault. True, he wrote in a compressed and cryptic style in an effort to say as much as possible in as few words as possible. Perhaps the paradoxes and obscure statements also stem from a deliberate policy of 'protecting' the deepest layers of the doctrine. This secretive attitude is also evident in Pythagorean religious philosophy and the writings of Xenophanes. He is forcing us to read between the lines and ferret out the truth for ourselves. His style may be cryptic but this does not mean that his doctrines are also obscure. In fact, his doctrines are the same as Anaximenes, Empedocles, and others with whom he was often compared by the ancients. No, the most important source for the confusion surrounding Heraclitus has been the major distortions introduced by Plato and endorsed by Aristotle. It is fair to say that Heraclitus never quite recovered from this mauling. Late writers could not help but be influenced by these two influential giants. In spite of this handicap, Heraclitus continued to be influential, and his Orphic vision was enhanced in late antiquity through the Stoics and others. The Stoics managed to keep at least the spirit of his doctrines alive in spite of Plato and Aristotle. His influence on Hermeticism is quite evident. Only the early philosophers Pythagoras and Empedocles had more authority.

The modern interpretations of Heraclitus have also been confused by a mistaken overview of what early philosophy was all about. Every effort has been made to play down his religious sensibilities and portray him as a 'rational scientist,' albeit a primitive and an inconsistent one. They assume that he must have made some 'progress' over the 'materialistic' Milesians, although he too was a materialist. Above all, they want to see him as a lone eccentric genius unconnected to his predecessors and successors. In order to do this, they have resorted to quirky and highly unlikely interpretations of his key terms ***harmonia*** and ***logos*** in an effort to isolate him from Pythagoras. No doubt there *were* differences between these two great philosophers, but they were minor. Both figures were prominent spokesmen for an intellectual-spiritual movement heavily influenced by Orphism. Modern interpreters have inevitably accepted some form of *universal flux* as a part of his system, even though it is quite incompatible with the cyclical nature of movement found in his fragments (and those of the other Presocratic philosophers). The absurd and a-musical doctrine of *universal flux* has been used over and over to 'prove' that he was a philosophical 'loner.' Thus the modern picture of Heraclitus is certainly a severe distortion of the old religious philosopher.

Heraclitus sits in a special place within Presocratic philosophy as a whole. If we assume that the movement lasted from about 600 to 400 B.C., then chronologically he was right in the middle of the movement (with Parmenides). He also occupied the middle in an ideological sense. He was not so radical as his teacher Xenophanes or his contemporary Parmenides, who represented the 'left wing' of the movement. At the same

time, he was not so traditionalist as his teacher Pythagoras. His position was thus analogous to that of Anaximenes in the former generation and Empedocles in an upcoming generation. This 'middle position' makes him a good representative of the movement as a whole. Moreover, his emphasis upon the key terms ***harmonia***, ***logos***, and ***kosmos*** reveals his profound understanding of the very conceptual heart of the movement. Unfortunately, with the virtual death of Music at the end of the ancient (western) period, the original Musical meaning of these terms was lost. Modern interpretations have been hampered by a total lack of empathy for the integrated and pervasive ancient framework of Music in ancient thought. Moderns presume that the ancients thought in the abstract visual and logical categories that they themselves use, and that the ancients were simply 'groping' to make 'progress' toward the same modern categories. Already in the time of Aristotle much 'progress' had been made. Unless we 'get behind' Aristotle (and even Plato) we will never understand the Presocratics in their own terms.

The Presocratic 'mind-set' is closer to that of the wisdom literature of the surrounding cultures. From India to Egypt, these civilizations were examining their rich archaic Musical traditions and making an effort to extract the essential core of the beliefs. Only after the underlying principles were clarified was it possible to transcend them or even reject them altogether. Heraclitus came from that special time when the heart of this essentially religious framework was already well understood but not yet confused and corrupted by the complex sophistry of later generations. In Heraclitus, as in the philosophers who surround him (Anaximenes, Xenophanes, Pythagoras, Parmenides) we witness the highest and most integrated expression of the old conceptual framework that can rightly be called 'the resonance paradigm.'

We end this study with a highly appropriate *epitaph* found in Diogenes Laertius (9.16). It shows the religious associations that the ancients attached to Heraclitus, especially his connections to the Mysteries. There can be little doubt that the deepest layers of meaning in the Presocratic writings were profoundly touched by the Mystery Schools. This will become more evident in the next two essays, on Pythagoras and on Parmenides. Heraclitus above all else encouraged us to 'wake up' and 'follow the path' toward the 'sunlight,' the ***aither*-fire** of the *One*, the heart of resonance.

'Haste not to reach the end of Heraclitus the Ephesian's book—
The path is hard to travel.
Gloom is there, and lightless dark; but if your guide
Be one initiate, 'tis brighter than clear sunlight.'

-written November 1998 to March 1999, Amsterdam, Europa.