

## **Anaximander's Boomerang: Tracing the Return of a Pre-Socratic Notion**

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### **ABSTRACT**

Anaximander and other Pre-Socratic Greek philosophers saw reality as a fluctuating, dynamic process, but this vision later stagnated into an abstract model of a static world. This paper explores the Pre-Socratic vision, then points out signals of a return to the embrace of flux in twentieth-century phenomenology, process philosophy, and physics.

### **TAKE-OFF: THE PRE-SOCRATIC VISION**

Anaximander threw it, this boomerang. It glided through Platonic and Aristotelian systems, ducked Roman decadence, evaded pitfalls of scholasticism, cloaked itself in church garb, and seemed to vanish with the development of modern science. Present as it was in all these phases, Anaximander's boomerang lay dormant for much of them, only to return in the harmonious convergence of philosophy with science around the turn of the twentieth century.

What, then, is this boomerang, this key to a lock that time has disguised as Western Civilization? With mere words as our tools we may never fully catch hold of it, but with proper attention, we can earn a quick glimpse of its flight. This paper seeks to admire that flight, but not to encompass it; in observing its take-off in the Pre-Socratic Greek philosophy that Anaximander helped initiate (mostly left in fragmentary form), it in no way decrees that similar take-offs did not occur in ancient Indian, Chinese, and Native American cultures; in heralding its twentieth-century return, this paper acknowledges the ever-present but continually-hidden course of flight through the interim period; and in celebrating the re-established harmony of philosophy and science, judgment is withheld about the indisputably immense achievements of the scientists who held philosophy at bay, as well as those many who contributed to it. That said, a certain worldview signals the presence of the boomerang, and the best place to begin is with him who hurled it.

Anaximander was not the first philosopher; Thales before him speculated on the nature of things, concluding that water is the unifying foundation, the 'primary matter' of all, and Pherecydes of Syros may have put philosophy to paper in now-lost writings. But Anaximander certainly supersedes both these thinkers in the very diversity of his brilliance: inventor of the first map, a sundial, and a clock, Anaximander also devised a clever cosmology/astronomy with a cylindrical earth in the center of the universe, as well as an evolutionary theory of the origin of humans. But what immortalizes him in the history of human thinking is the single, brief comment we have from him, handed down only in a secondary text by the Neoplatonist Simplicius, who may have been paraphrasing the account of Theophrastus, an earlier doxographer. Prefaced with the explanation, "He says that it is neither water nor any other of the so-called elements but some different infinite nature, from which all the heavens and the worlds in them come into being,"<sup>1</sup> it reads:

Whence things have their origin, there they must also pass away according to necessity; for they must pay penalty and be judged for their injustice, according to the ordinance of time.<sup>2</sup>

Translations vary, but the two key features of the Anaximander fragment are that it speculates, for presumably the first time (not counting the mythological venues taken by earlier poets like Hesiod), about the origin of things (the *arche*) and the infinite nature of what has come to be called the Boundless (*apeiron*), the generating mechanism of things and beings.

This, then, is the single fragment without which libraries would not be written, the big bang of philosophy, whose expansion continues two millennia later, the breathless wonder of primordial thought put into words, what Martin Heidegger would much later call “the incipient saying of being.”<sup>3</sup>

And what of it? One small fragment, not even an aphorism, really, just a second-hand quote from a missing larger book, might not seem at first glance to be the philosopher’s stone medieval alchemists sought. But it may be, for a few reasons. As the first known philosopher to commit his thought to writing, Anaximander stands as a monument to the transformative shift that saw ancient Greece pass from an oral culture to a written one. In confronting the *arche* of things, he dared to move beyond Thales’ simplistic water into the realm of abstract thought, which raised issues that still linger, unresolved. And by his use of the term *apeiron*, he discovered a monstrous philosophical volcano, which even today spews forth molten lava-spurts of hot debate.

Every possible question has been asked about the *apeiron*, right down to its very boundlessness; Homer used the same term to denote a sea, and its meaning can be construed not just as infinite, but also as vast, or even unstructured.<sup>4</sup> Also, much has been made of the reference to justice, which some thinkers, including Nietzsche and Freud, have seen as support for a view of existence as a transgression of nature, while others (apparently including Simplicius, who deemed it poetic) find it a mere metaphor used only for stylistic vibrancy. Most of the issues, however, revolve around exactly what Anaximander meant by it, for it is one thing to say everything comes from the Boundless, and quite another to specify more precisely of what this Boundless consists. While some analyses portray the Boundless as a sort of pre-theological Heaven, a distant, distinct place which sends things off into the realm of being and calls them back for destruction, the view taken here is that the Boundless is “identical with the succession of generated things,” not separate from them, but “one with the endlessly repeated alternation of generated things.”<sup>5</sup>

And now we have seen Anaximander’s boomerang take flight. It is nothing more than this simple idea, that reality amounts to a dynamic, cyclical process of emerging and fading, all the while alternating in every way, with the result that any notion of a static, self-contained item can be nothing more than a vapid concept, lacking a grounding in the continual sway of the *apeiron*’s generation and destruction. Simple, yes, and yet so hard to grasp, because the very idea of *grasping* it, of taking it captive and comprehending it in its entirety, is antithetical to the effervescent nature of the cycle.

At some level, it may be an innate tendency of the human mind to grasp for that capture, the possession of absolute knowledge, which must be static for it to remain known. Or it may be an accident of history, a cosmic joke of tragic proportions, that this is precisely the hunt for which Plato provided the weblike nets of his Forms, which evade the effervescency of the *apeiron* by their crafty embrace of transcendent concepts. Either way, the dynamic flow of Anaximander’s nature gave way to the stable linear progression of Christianity’s trudging march toward Heaven, later joined by early modern science’s similar crusade for a final mechanistic understanding of nature. Anaximander’s boomerang flew high over this line of sight, but before its shadow blended into the Dark Ages, some other notable Greek philosophers partook of the same mode of thinking.

Some might say that philosophy not only begins, but ends, with Anaximander, since all that follows is really what Bertrand Russell, not realizing Plato and Aristotle constituted but a pale fraction of the potentials opened by the *apeiron*, denigrated as footnotes. But hardly aloof from Anaximander's vision, his Pre-Socratic successors further refined and elaborated the curvature of his boomerang. Heraclitus stands tall as the next major figure; ambiguity remains over whether he came before or after his traditional opponent Parmenides (both wandered c. 500 B.C.), but the evidence seems in favor of Heraclitus as the earlier. The enigmatic writings of both insure that the label 'the Obscure,' attributed to Heraclitus, would not be available to the second-comer.

From the very first sentence of his first fragment (made famous by Aristotle for its grammatical uncertainty), Heraclitus pulled no punches from his dark, incisive remarks, and his open-ended comments are not so much the result of faulty wording as ineffable thought. "Is the thinking of Heraclitus carried out in such a way that it *demands* to be left uncertain," Kenneth Maly asks,<sup>6</sup> and the only hesitation one can feel in answering with a resounding yes is that, dealing with Heraclitus, one should never jump to any conclusions.

Best known for two comments, 'everything flows' and 'you can't step in the same river twice,' Heraclitus clearly bears the torch of Anaximander. But on that torch lies an original addition: the *pyr*, the fire, with which Heraclitus dared to name the *apeiron*. The reason everything is in a perpetual state of flux, he explained, is that the universe is made of fire, and as some parts of the flame extinguish, others are kindled. Thus, the generating cycle of the *apeiron* is an eternal burning, from which creation and destruction stem as the bursting into and smoldering out of the cosmic flame.

Essential to Heraclitus' reaching of this insight was his source of inspiration: the *logos*. Echoing the modern English *logic*, but reaching much deeper, the *logos* accumulates the ineffability Heraclitus displaced from the *apeiron* by naming it fire. Only expressible in quick rushes of words with more connotative value than strict denotations, the *logos* is, among much else: logic, yes, but also language, not just of humans, but the language of nature, the order of the cosmos; cycles, periods, recurrence, which leads to both structure and comprehension; speech, speaking, collecting, the 'gathering lay,' as Heidegger titled it. Heraclitus himself struggles with it: "Graspings: wholes and not wholes, convergent divergent, consonant dissonant, from all things one and from one thing all."<sup>7</sup> Before logic was purged of nature, the *logos* guided the initiative set forth by Anaximander, and Heraclitus' attention to it was a momentous occasion:

Once, however, in the beginning of Western thinking, the essence of language flashed in the light of Being—once, when Heraclitus thought the *Logos* as his guiding word, so as to think in this word the Being of beings. But the lightning abruptly vanished.<sup>8</sup>

The vanishing of this lightning cries out for a close examination, and all too often it receives but a cursory attribution to Parmenides of Elea, whom even the fiercely brilliant Nietzsche derides as the ice to Heraclitus' fire.<sup>9</sup> Known as the philosopher of Being (as opposed to the earlier proponents of Becoming), Parmenides certainly deserves the title of "the first full-blooded metaphysician,"<sup>10</sup> but his ponderous poem, surviving only in piecemeal, has left enough heads sore with scratching to earn an interpretation dissenting from the historic norm.

That norm sees Parmenides as the expounder of a static reality, consisting of a unified One containing everything, in which no motion or change can occur, based on the argument

that change presupposes becoming, which in turn assumes non-being, and non-being clearly cannot be. How sensible this reasoning is depends on how willing one is to tread the path of nonsense, but it has come to rest as the dominant conception of Parmenides, pitting him as the adversary to Heraclitus' flux.

Looking at his poem, one can derive quite a different picture. Parmenides himself offers little help, dividing his work into two sections, one of which he gleefully concedes is false. This, the Way of Opinion, follows a brief introduction detailing the author's introduction to his knowledge from a goddess, and the Way of Truth, which in turn breaks down into two components. First, it explains that non-being cannot be; secondly, it affirms that "Being is ungenerated and imperishable, entire, unique, unmoved and perfect."<sup>11</sup> From this, it is easy to see where Parmenides acquired his reputation as the proponent of static fullness, but diving further into his poem, new light is revealed. Buried in his derision of human fallacies lies perhaps Parmenides' key statement: in naming things, men have chosen "opposites in body and assigned them marks separate from one another," though the example of day and night shows that these opposites are but two ends of a single continuum.<sup>12</sup>

Put in the context of the Buddhist philosopher Nagarjuna, Parmenides' arguments take on new form; Nagarjuna observes that, "For him who is engrossed in existence, eternalism or annihilationism will necessarily follow, for he would assume that it is either permanent or impermanent."<sup>13</sup> Nagarjuna uses this line of reasoning to highlight the danger in tripping over absolutist arguments on either side of any dichotomy, warning that both lead to absurd logical consequences. Returning to Parmenides with this in mind, we can see the dismissal of non-being as one-half of his complete thought; perhaps the fragmentary form of the offerings (not a captivating reason here, since the bulk of Parmenides' Truth portion of his poem has been passed down fairly intact) or the vagaries of his lines steers readers toward misinterpretation, but a conscientious reading of Parmenides uncovers precisely the polar opposite of his popular image as holding that static being is the complementary falsehood to non-being.

What, then, is the changeless Being spoken of in the poem? "Being itself is never a being, but rather the measure according to which all beings can enter into presence or can pull back from presence and disappear into absence."<sup>14</sup> In other words, it is, hidden under a hazy flourish of stylistic polemics, nothing more than the *apeiron* Anaximander postulated.

Parmenides' students Melissus and Zeno further refined his vision, deepening its subtleties and crafting mathematical paradoxes which took millenia to explain, but even today, the true philosophy of the Eleatic school remains largely misunderstood as a break in the continuity of Pre-Socratic thought.

Further thinkers joined the fray, such as Empedocles, whose four elements of earth, air, fire, and water were guided by the struggling forces of love and strife, but the last major Pre-Socratic necessary to mention is Anaxagoras, whose importance can be (quite unfairly, but unavoidably) reduced to two firsts: he was the "first to introduce infinitesimals into physical theory," as well as the "first Greek thinker to introduce into his system of thought an incorporeal substantial entity."<sup>15</sup> That quasi-spiritual thing was the *Nous* (Mind), essentially a metaphorical device Anaxagoras used to provide a cosmological opener to the circle of Being, but more importantly, his idea of infinitesimals led him to the conclusions that "in small there is no Least, but only a Lesser," as well as, "It is not possible to exist apart, but all things contain a portion of everything."<sup>16</sup> This notion would have much-later resonances in twentieth-century physics, and indeed, it provides a good segue to the second phase of this study, the return of Anaximander's boomerang.

An in-depth look into the dividing period is here constrained by time and space limitations, but for the sake of continuity a few extremely simplified words may be said: "As science grew, minds shrank in width of comprehension."<sup>17</sup> Soon after Plato came along and gave voice to Socrates, a refuge from the dynamic flow of nature was sought in the static being of Forms. Aristotle followed by systematizing and categorizing things, while the Christian church, despite sharing some foundational roots with the Pre-Socratics, perpetuated a crass Platonism in the doctrine of Heaven. Modern science was born on the premise that absolute knowledge could be derived from recognizing the mathematical structure of 'natural laws,' and philosophy fell into a Cartesian grid of subjects and objects. Without a doubt, elements of early Greek thought permeated all of these fields, none of which can be accurately represented by such gross oversimplification. But equally doubtless, the roles played by notions of flux, flow, and becoming were understated and covert; the boomerang still flew, but it flew (to paraphrase Francis Bacon) like bats amongst birds, ever by twilight.

## THE BOOMERANG RETURNS

But to leap ahead, to the eagerly anticipated return: no one fell swoop can be credited with announcing the return of Anaximander's boomerang; unlike a NASA space crew, it had no glorious, momentary homecoming, but rather a series of gradations that found it materializing over the course of decades. In fact, one of the early signals of its return, Pragmatism, had little beyond the etymology of its name in common with the Greeks.

Pragmatism earns mention for rescuing philosophy from the sterile use of abstract concepts that flooded it in the wake of Kant and Hegel, whose dominion over 19th-century philosophy was nothing if not obtuse. Led by Charles Peirce, Pragmatism emerged as a reaction to the contemporary 'fixation of beliefs,' as he called it. Fixation itself wasn't the problem, since Peirce saw beliefs as the only way to knowledge, but it was the reliance on metaphysical terminology he howled against; "every proposition of ontological metaphysics is either meaningless gibberish . . . or else is downright absurd," he declared at one point,<sup>18</sup> conceiving all debates based on such propositions as nothing but semantic differences. His effort to cure this ill was a strict denotative lexicon of philosophical terms, which would strive "toward bringing about a metamorphosis of philosophy into a genuine science."<sup>19</sup>

Certainly, the critic of Peirce has some easy points of contention: his Pragmatism reduces to word definitions, and in a sense he sought to sterilize the creative impulse of philosophy. But a deeper reading sees his true initiative: Peirce called attention away from issues of wordplay, and back to the things themselves (a motto of his contemporary Husserl, to be dealt with soon). In doing so, he offered something of a wake-up call to thinkers who had become content with offering much ado about nothing, or, to lift another line from Shakespeare, "words, words, words."

"We break the flux of sensible reality into things, then, at our will," argued William James,<sup>20</sup> echoing the thought of Heraclitus with a surprising clarity through the thick curtain of two thousand odd years. James certainly popularized Peirce's Pragmatism, and though the more rigid Peirce retitled his style 'Pragmaticism' as a reaction, the two are clearly connected— James' definition of Pragmatism (notably, a *method*, as opposed to a dogma or system), as "primarily a method of settling metaphysical disputes that otherwise might be interminable," sounds like a Peircean concept, as James was happy to admit it was.<sup>21</sup>

Where Peirce and James differed was the definition of truth. Peirce conceived it somewhat idealistically, sometimes as beliefs in accordance with what is real, elsewhere as a Hegelian

peak. James, who wrote of *The Will to Believe*, saw truth as more of a fluid tool; though phrases like 'truth is what works' are commonly credited to him, James' notion was never quite so simplistic, though he did offer that truth "becomes a class-name for all sorts of definite working-values in experience."<sup>22</sup> Later, he modified this to the more Peirce-like definition of "an experience, perceptual or conceptual, must conform to reality in order to be true."<sup>23</sup>

At any rate, petty disputes aside, Pragmatism served a noteworthy role in clearing space for the return of Anaximander's boomerang. Direct parallels to the Pre-Socratics are somewhat sparse, but the attitude certainly indicates compatibility. Like Peirce, James has weaknesses, and critics may this time reduce him to a psychologist masquerading as philosopher (though the up-side to this diminution is that Pragmatism makes a wonderful psychology), but in questioning the objective values of metaphysics, truth, and even science, Pragmatism introduced dynamic ideas without retreating into solipsism or idealism. The door thus opened, light began to seep in.

The two philosophical styles most emblematic of the Anaximandrian return which Pragmatism made possible are Phenomenology and Process Philosophy. Both appeared around the 1890's, but both are tips of icebergs, culminations of centuries of thought which passed their dynamic views on like recessive genes, only to see them suddenly explode into dominance. Edmund Husserl kick-started Phenomenology in 1891 with his *Logical Investigations*, which attempted the Peircean task of making philosophy scientific. Husserl's technique involved prying into the roots of epistemology by tracing Western philosophy back to Descartes, who outlined perception as a dichotomized relationship between a probing subject and a passive object. This dichotomy, Husserl concluded, was the misstep on which all future errors were predicated, so he reorganized the Cartesian understanding, emphasizing neither the subject nor the object, but the perception itself, which begets both.

Husserl eventually ran into some trouble relying on the firstness of perception, but his student Martin Heidegger took his project in new directions, focusing on the 'being' of humans (*Dasein*). Drawing parallels between Heidegger and the Pre-Socratics is a redundant exercise, since he was openly in favor of a rethinking, or retrieval, of Greek thought, calling for philosophy "to think what the Greeks have thought in an even more Greek manner."<sup>24</sup>

As perhaps the strongest attractive, almost magnetic, force in pulling back Anaximander's boomerang, Heidegger's wealth of ideas need not be fully noted here, if such an explication is indeed possible. Suffice it to observe a few of his ideas establishing a direct link to the Greeks: Heidegger finds the same thing James earlier mentioned, that nature is a flux from which 'things' we extract out of it are mere abstractions, but Heidegger's arrival at the conclusion follows a more rigorous proof. Or, as he puts it, as "something undreamed of, something terrifying," "only the word lets the thing be a thing."<sup>25</sup> Things are but instantaneous pit-stops on the course of the cycle of Being.

Heidegger often contrasted Being to beings, reasoning that "Being is the emptiest and at the same time a surplus;"<sup>26</sup> the emptiest, since it is but the backdrop on which beings take place, a surplus, since it is more than the sum total of all beings. Can his tribute to the Greeks ever be more apparent than in this statement? He bridges the (imaginary) gap between Heraclitus and Parmenides, paying heed to the eternal, unchanging (in the sense of being ongoing) process of Being, but also to the continuous emergence of beings, for which 'becomings' clearly is synonymous.

That process of Being garners the attention, predictably enough, of Process Philosophy, a close companion to Phenomenology, whose debt to the Greeks is less self-conscious, but no

less present. Henri Bergson may have been the first major thinker of this method (as with both Pragmatism and Phenomenology, Process is not to be confused for a system, but seen more as a way of looking at the world), and he offered the sentiment that “there is in matter something more than, but not something different from, that which is actually given,”<sup>27</sup> something that Parmenides called the *lethe*, that which remains hidden. This same *lethe* is what Heidegger tried to observe as it comes forth, threading a string that ties the different eras and styles together.

‘Process’ as a name makes quite clear the approach, but A.N. Whitehead expanded on it with a ferocity of ideas. Beginning with the Heraclitean axiom that “the flux of things is one ultimate generalization around which we must weave our philosophical system,”<sup>28</sup> Whitehead proceeded (so to speak) to devise what looked dangerously like a system, but one to which he constantly added pragmatic reminders that it was but a working model sure to be improved on, arriving finally at ‘Organicism,’ or the view that the universe is one organic whole. “The aim of philosophy is sheer disclosure,”<sup>29</sup> Whitehead wrote, surely making Parmenides smile in his sleep, since the Greek word for disclosure is *aletheia*, or the opposite of *lethe*. Philosophy thus finds a place: it operates in the continuum between revealing and hiding, being and becoming, creation and destruction. In completing this continuum, Whitehead finalized the return of early Greek thought, and in his Organicist picture of reality, he brought the *apeiron* to life in more ways than one. Anaximander’s boomerang was revived, restored, and reinvigorated, and to repay the favor, it brought something with it.

This something was modern physics. Though it aroused the ire of numerous hard-line anti-metaphysical scientists, twentieth century physics serves as the crest of the wave which shifted tides of thought have created to wash away the centuries-long illusion that science is free of metaphysical assumptions. The founding fathers of modern science were never terribly subtle in hiding the fact that their *novum organum* had roots in the fallible region of human design; Galileo’s belief that nature was written in the language of mathematics stemmed from an obvious bias toward the structure (as opposed to the actuality) of events, while Descartes’ *ego-cogito* was mostly a tool that allowed him to speculate on physics without suffering the religious retribution Galileo endured. Even Newton’s breathtaking laws have a ridiculous side, as Heidegger enjoyed pointing out, since their postulation of a body in unimpeded motion is as fantastic as a unicorn.

Somehow, this was all swept under the rug, probably by the ascent of mechanistic materialism among the ranks of scientists. Pondering the nature of the cosmos became much less valued than dissecting it, and for this reason a certain blindness pervaded science. Michelson and Morley experimentally failed to register the ether in 1887, but scientists by that time were so timid that none looked beyond the numbers to interpret what the experiment really showed until almost two decades later, when Einstein pragmatically tossed aside the ether as a concept of no value in describing reality, since it exists neither in experience nor in function, thus amounting to the ‘meaningless gibberish’ Peirce had derided. Physicists had been so familiar with the concept of the ether that none had bothered to question its existence, but after 1905, such idle luxury was no longer affordable.

Though Richard Feynman raged against ‘cocktail-party philosophers’ appropriating physics for their own fields (i.e., using the Uncertainty Principle to show anthropologists affect the cultures they study), his causal sequencing is incorrect. The significance of modern physics is not that it breaks new ground for philosophy (though it does this too), but that it *supports already-existing philosophies* by reinforcing them with scientific credence.

Quantum theory, with its infinitesimal particles blurring the edges of matter, lends a hand to Process and Phenomenology in a congruence of science and philosophy unseen since mechanics merged with materialism.

Examples of this harmony ring out with volume from all corners of modern physics. Niels Bohr and Werner Heisenberg, two of the establishers of the Copenhagen Interpretation of quantum mechanics, became willing philosophers, placing the Uncertainty Principle at the heart of matter, and coining terms like ‘complementarity,’ the dependence of reality on paradox and contradiction. The Uncertainty relationship affirms an almost joyously dynamic view of matter, as a constantly active set of buzzing particle-waves whose ultimately indeterminate status confirms Heraclitus’ contention that ‘nature loves to hide,’ but even among those who reject this view some startling concepts have emerged.

David Bohm, an advocate of hidden variables in the quantum theory, would seem at a glance to be another traditional scientist, following hold-outs like Murray Gell-Mann down the almost futile road to the quark. But Bohm’s idea of the Implicate Order supersedes even complementarity in its embrace of the bizarre. Influenced by a display he saw of an ink drop swirled in a liquid solution until it seemed irreversibly mixed, when the direction of swirling reversed and the drop reformed, Bohm realizes the reality we see and experience, and even describe in four-dimensional mathematics, “cannot consistently be regarded as autonomous.”<sup>30</sup> Underlying every comprehensible, or explicate, order lies an enfolded, or implicate, order.

The traditional scientific tendency would be to rush toward an unfolding or explicating of this order, but Bohm realizes the futility of science to ever achieve its delusional goal of absolute truth; the Divine Calculator of Laplace will never have enough data, because Bohm safeguards his implicate order by noting that, every time an implicate order is unrolled and made explicate, a new implicate order must lie beneath it. There can be no knowledge but that which rests on unknowns. Bohm thus takes a place alongside the Pre-Socratics, for the implicate order is a modern version of the *lethe* that gives birth to explicate *aletheia*, but only with the understanding that the favor must be repaid by concealing something in return. Nature still enjoys hiding, and Bohm’s implicate order reaffirms another pearl of Heraclitus’ wisdom, “the hidden attunement is better than the obvious one.”<sup>31</sup>

Bohm also explains Einstein’s attempt at a unified field theory in words that deserve explicating: “particles are then to be regarded as certain kinds of abstraction from the total field.”<sup>32</sup> Anaximander’s metaphor for creation and destruction, as a matter of justice and injustice (*dike* and *adikia*), takes on a new meaning in this understanding; some throughout history have seen these terms as mere metaphors, but others have found them relevant in other ways, such as Nietzsche’s idea of being as a transgression against the cosmic unity. In the context of physics, in which “particles can come into being spontaneously out of the void, and vanish into the void,”<sup>33</sup> Anaximander’s analogy transforms into this: the *apeiron* of multidimensional space-time-and-other-unknowns generates the being/becoming of matter, which constitutes nothing more than an aesthetically-unpleasant glitch in the otherwise smooth surface of the boundless backdrop. Things are impermanent because the only apparent law of nature is the eternal project of self-purification by cleansing the aberrations, or destroying things.

That, of course, is on the radical fringe of interpretation, but other more mainstream visions have supported it. The collapse of the wave function has been an enduring magnet for philosophical speculation; photons are represented as wave functions vacillating between possibilities until an observation occurs, at which point a single possibility suddenly makes



the 'quantum leap' to actuality. The mathematics of this process are clear, but the meaning is hazy, and much of the focus has been on the role of observation in determining outcome. Erwin Schroedinger, a principal architect of wave function mathematics, used the collapse to form his famous cat dilemma: if a cat is inside a box with a mechanism which can emit deadly gas based on random probability, what state is the cat in? Obviously, once we look it will be either dead or alive, but until then it is stuck in some kind of limbo, represented by a wave function. The cat in the box is obviously *lethe*, but it is not the forceful act of observation and categorization that constitutes *aletheia*, but the attentive study of the limbo. Unlike Baconian science, modern physics teaches that knowledge arrived at by force is merely the result of the force; true knowledge comes from the phenomenological process of watching, letting concealment unravel at its own pace.

"The decision to reject one paradigm is always simultaneously the decision to accept another," Thomas Kuhn professes,<sup>34</sup> but modern physics is the anomaly to this rule, or at least a splintered version of it, since the rejection of Classical Newtonian mechanics has led not to a single new paradigm, but a diversity of interpretations, modes of thought, and meanings (or a 'meta-paradigm' of creativity, as David Miller describes the crack in the rational wall).<sup>35</sup> Hunters for the quark continue the search for absolutes (pre-quarks, preons, superstrings, etc), mystics like Fritjof Capra mingle physics with Buddhism and Taoism, and mainstream physicists are forced to add some philosophy to their experiments simply in order to paraphrase the math into language. Though many-worlds theories sound explicitly Pre-Socratic, the overwhelming paradigmatic parallel is that a degree of freedom in thought unprecedented since prior to Aristotle has surfaced in modern physics.

It was Aristotle, of course, who delineated the specific categories of study, separating physics from metaphysics. Kuhn continues, it is "particularly in periods of acknowledged crisis that scientists have turned to philosophical analysis as a device for unlocking the riddles of their field,"<sup>36</sup> but his view seems limited by the bookends of Aristotle and Max Planck, since both before and after these milestones, physics was inseparable from metaphysics and philosophy in general. Every single Pre-Socratic philosopher was also, simultaneously, a scientist. Whether it be Thales' water or Anaxagoras' curiously visionary non-atomistic matter, early Greek thought was a perpetual attempt to understand nature, in whatever terms sufficed. Any conceivable definition of science in this age is indistinguishable from a definition of philosophy, which is the same state modern physicists have essentially found themselves, with perhaps a tinge of reluctance, in.

With this in mind, a few broad features of the convergence of fields can be listed to concretely locate the return of Anaximander's boomerang. Words like dynamic, fluctuating, process, and experience have replaced thing, object, and observation as the heart that pumps life to researchers, and a new sense of interconnectedness (a subliminal nod to the *apeiron* to which all being has ties) has infused the consciousness of both science and philosophy. In the footsteps of Feynman, some scoff at books like Capra's *The Tao of Physics*, with its comparisons of quantum activity to Eastern religions, but these skeptics quiet down when confronted with the mathematical formalism of J.S. Bell, whose eponymously-named theorem confirms nonlocal causality. It seems both Heraclitus and Parmenides were right, noting that all things flow but the flow itself is a unified whole; the only difference is, now these ideas have the mathematical backing which acts as the passport required for admittance into the realm of legitimate discourse.

Flowing along with connectivity is the Heraclitean flux, which James, Bergson, and Heidegger all astutely noticed. Louis de Broglie first proposed a wave theory of matter,

which somewhat casts a cloud over the very idea of matter itself, and the notion that ‘things’ are merely abstractions from the Parmenidean unity is a central tenet of Process. “To perceive means to immobilize,”<sup>37</sup> and presuming a perceived thing has innate characteristics is to attribute to it what Nagarjuna called *svabhava*, or autonomous self-being, which negligently ignores the necessary dependency of any thing on the surrounding movements. Matter, then, does not matter as much as it appears to, and any truly absolute knowledge must consider not the transient phases of being known as things, but the being itself, as it becomes. Very notable in this sense is the fact that, strictly speaking, the ancient Greeks lacked a word for what we now call ‘matter.’<sup>38</sup>

This leads into the next shared aspect of the two periods of Anaximander, a celebration of the shortcomings of language. Prior to Planck’s discovery of the quantum of energy, both science and philosophy had been on a quest to achieve certainty through the strict denotation of thought into words, and even a few of the harbingers of the return, such as Husserl and Peirce, were guilty of this. But aided by the fundamental postulate of Saussurian linguistics, that the sign or word is completely arbitrary, a new understanding of language fell into place, recognizing its limitations.

Exactly the same recognition had been made at the dawn of Western philosophy: “Thales had seen the unity of all that is, but when he went to communicate it, he found himself talking about water!”<sup>39</sup> Words simply fell short of expressing the *apeiron*, which is why Anaximander’s term itself is in the privative form, and the philosophers who follow emphasize not things, but processes. Surely, they knew they had the capacity to capture things by chaining them into words, but “the speaking of language comes to pass from the unconcealment of what is present,” and so words in accordance with nature describe not static things, but “the bethinging of the thing,”<sup>40</sup> or the expression of being that allows one to perceptually stabilize its flow into matter. As the boomerang returned, these same limitations of the language which had so accurately denoted the physical dimensions of objects without ever touching objects themselves, began to draw the attention of physicists. Classical concepts of location and velocity failed to encompass events at the subatomic level, and Heisenberg confessed, “one can scarcely say that one gains much by expressing modern knowledge in an old language.”<sup>41</sup>

Two directions were taken in reaction to this realization, eventually conjoining in the final aspect of Anaximander’s boomerang. As far back as Pythagoras, numbers were seen as the medium best fit to define reality, but this belief was thrown for a loop by the discovery of irrationals. Mathematics retained a certain glamour through the ages, as seen by Galileo’s pronouncement, but in general it served as a substitute for words. Once words melted away into quantum flux, though, mathematics switched the order of importance, becoming, as Bohr put it, “a refinement of general language, supplementing it with appropriate tools to represent relations for which ordinary verbal expression is imprecise or too cumbersome.”<sup>42</sup> The former means of abstraction suddenly found itself the only language capable of expressing reality.

Fumbling with the new formalism, physics gradually evolved into the second direction, that of poetry. Only, it did it without reverting to words. Equations and theories, minute and unempirical as they were, left the observable world far behind, centering on axioms and results, neither of which are necessarily related in the hypercomplex super-dimensional meanderings of superstring theory and related topics. Particle physics leaned toward the “danger of becoming a branch of aesthetics.”<sup>43</sup> The terms of praise for formulas shifted from

accuracy and experimental verification to beauty and eloquence. In short, physics unwittingly became art.

Alongside it, philosophy made the less drastic transition to the same destination. Many of the Pre-Socratics, such as Parmenides and Empedocles, wrote their thoughts in verse, Heraclitus commanded the Greek language with mastery, and in relating that very first Anaximander fragment, Simplicius noted the poetic flourish. Plato's description of an "ancient quarrel" between poetry and philosophy effectively banished their commingling for a great amount of time,<sup>44</sup> but just as the language of matter began to dissolve, so did the terminology of epistemology and metaphysics, leading Heidegger to statements like, "time times, space spaces,"<sup>45</sup> not out of futility, but out of a sense that language works best in connotations, suggesting "meaning beyond its mere statements," as Whitehead was quick to agree.<sup>46</sup> As philosophy moved into the currents of postmodernity, its aesthetic thrust has become an integral element of its very purpose, and the once-severed ties between poetry and philosophy have been welded back together in a new form that refuses to harden into metal, but prefers to remain fluid.

Melting into a bizarre love triangle of science, philosophy and art, the final mark of Anaximander's legacy is the interplay of disciplines, the deconstruction of categorization which surfaced briefly in the Renaissance but has otherwise been the repressed id of Western Civilization, the only real end to the dog-chasing-its-own-tail search for knowledge and meaning of both science and philosophy. Language has often been noted as metaphor, but more than that, language must be treated as a synaesthetic device, toying with one modality of being in another mode, that of words. The rules may never be known, but the game can nonetheless be enjoyed. When nature is danced with like an equation, surfed like a color, and listened to like creative energy, only then can Anaximander's boomerang be seen for what it is. Heraclitus said, "gathered in itself, the beginning and end of the circle is the same."<sup>47</sup> Thus the boomerang steps forward: it is the flight itself. And its course, of course, goes nowhere, but therein lies the meaning. Circumscribed on a map or phrased in terms of net displacement, the whole process appears as nothing, but it is precisely the moment as being recedes into having-been that allows the *apeiron* to offer a new being in return, creation for destruction, and the by-product of this exchange is all the beauty, dignity, and creativity that allow philosophy to invest this world with meaning.

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