

# **The Paradox of *Apeiron***

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When I got up this morning and checked my email, I was greeted by a message advising me that a virus had been detected on my computer—the third one this week. After following the procedure that quarantined and deleted the infected file, I turned to the internet and discovered in the news that insurgents had detonated a bomb in Baghdad and dozens of lives had been lost. Later in the morning, I received an urgent telephone call from a friend frantically seeking advice on how to deal with the theft of his identity by unknown credit card frauds. What may be most disturbing about the way the day is so far unfolding is that it is not atypical.

By and large, we live in anxious times, times of crisis and tumultuous change. Many of the institutions we relied on in the past (family, church, etc.) are presently disintegrating. The ethnic conflicts that rage around the world mirror a destabilization of national identity. World markets have reached new levels of erratic fluctuation. Nuclear weapons and waste are proliferating out of control. And there is *9/11*. That event more than any other has set the terrifying tone for life in the twenty-first century. As a consequence of all this, “fragmentation is now very widespread, not only throughout society, but also in each individual” (Bohm, 1980, p. 1). Alberto Melucci observed accordingly that, given “the surging flux of events and relations...[t]he points of reference used by individuals and groups in the past to plot their life courses are disappearing” (1996, p. 2).

It may be natural to assume that the turbulent forces currently threatening to sweep us away originate in the world beyond us. But what if the chaos actually can be located at

our innermost core? What if all that is familiar to us, including our very identities, is *rooted* in chaos? To take up these questions, I will explore the roots of Western culture. Perhaps, by putting our current dilemma in an historical perspective that permits us to appreciate its interior source, we will be better able to come to grips with it.

### *The Apeiron: Its Repression and Resurgence*

The Greek word *peras* means limit or boundary, and “*a-peiron*,” means without boundaries, boundless or indeterminate. *Apeiron* is variously interpreted as “the unintelligible; the many; the moving; the ugly; the bad...the inchoate flux of opposites or contraries...the principle of disorder or disharmony” (Angeles, 1981, pp. 14–15). We can associate *apeiron* with the boundless chaos of primordial nature.

Mention of the *apeiron* is first heard in what is taken as the oldest fragment of Western philosophical thought, the Anaximander fragment of the 6<sup>th</sup> century BCE. Here *apeiron* is portrayed as the “boundless giver of boundaries.” With this, Anaximander intimates that the world hardly comes ready-made, already parceled out into pre-existent neatly bounded categories. Instead we are confronted with the paradox that boundaries arise from a natural world that is itself devoid of boundaries.

To the ancient Greeks, the *apeiron* posed a significant challenge. The Greeks were involved in a struggle for individuality that pitted human reason against the irrational forces of primal nature. In the raw ambiguity of *apeiron*, there can be no clear-cut unity, no stable center of identity, no indivisible core of being, no *individual*. So it seemed to the early

Greeks. It was therefore imperative for them to tame *apeiron*, given the primary impulse that motivated their action. To paraphrase Protagoras, “man must be the measure of all things.” What this basically required was the ascendancy of the autonomous individual. More generally stated, from the outset Western culture has been spurred by the drive toward differentiated being or individuality, toward *individuation*. Achieving this end essentially has meant containing what at first appeared uncontainable: the boundless *apeiron*.

For over two thousand years, Western culture did its best to deny *apeiron* and cultivate unambiguous boundaries. It is true that, if Anaximander was correct, *apeiron* is in fact the *source* of all boundaries. But during the long historical period when boundaries were still being formed, when the distinctions drawn by human consciousness were still somewhat vague and in need of further clarification, it was necessary to repress their boundless origin in *apeiron*. If a backward glimpse had been allowed, the delicate process of differentiation could have been disrupted and a regressive lapse into profound confusion could have taken place. So the history of Western culture from the time of Plato to the mid-nineteenth century was a history of boundary-making in denial of the boundless *apeiron*. From Plato’s dualistic division of being and becoming, to Aristotle’s dichotomous logic of either/or, to the scientific and technological revolutions of the Renaissance and Enlightenment periods—*apeiron* remained underground as our culture was busily engaged in sharpening its focus on all sorts of boundaries (physical, geographical, mathematical, perceptual, etc.).

Then, in the middle of the nineteenth century, a watershed was reached and *apeiron*

began to resurface. This was evidenced most basically in the breakup of classical space and time. Why space and time?

To say that *apeiron* is boundless is to say that it is spaceless and timeless. In forming boundaries, in drawing clear-cut distinctions of any kind, a spatial context is required. Plato knew this and spoke accordingly of the “receptacle” (1965, p. 70), an early notion of space. But Plato’s spatial container was given to “leaks,” discontinuities that obstructed the clear-cut formation of boundaries (see Rosen, 2004). Not until the post-Renaissance thinking of Galileo, Descartes, and Newton was the concept of space refined to the point where it could be deemed perfectly continuous. And this changed everything. Now nature could be seen as contained within a well-delineated, sharply bounded framework—what philosopher Martin Heidegger has called the “uniform space-time context” (1962/1977, p. 268). It was this objectification of our experience of nature, this bringing of nature into focus as definitively representable in space and measurable by time, that made the whole scientific enterprise possible. From it there followed the development of modern experimentation (which relies on “objective observation,” on precise measurements of events occurring in space and time), and new mathematical advances (e.g. the use of the Cartesian coordinate system and of the calculus to analyze space-time motion), and these, in turn, gave rise to technological innovations that transformed our world.

Scientific progress continued in this way into the nineteenth century, reaching an unprecedented level of exactitude. Yet, ironically, this refinement of science brought to view certain limitations of it that previously had gone unnoticed. A primary example of this

was the work of Michelson and Morley on the physics of light. An accurate method for directly measuring the velocity of light had recently been developed, allowing these researchers to conduct an experiment that, in effect, would confirm the expectation that light was transmitted through space in a continuous way, like any other object. (I am skipping technical details here. In actuality, the Michelson-Morley experiment tested the viability of the *luminiferous ether*, which, in the nineteenth century, served as the surrogate for classical space. A more complete account is given in Rosen, 2004). To the amazement of the scientific community, the expectation was upset, and this raised fundamental questions about space and time themselves. The banishment of *apeiron* had depended on the existence of a “uniform space-time context,” a continuous medium in which the phenomena of nature could be probed and measured with complete certainty. Now—with the finding that conventional thinking about space and time could not deal with a phenomenon as basic as light—science’s sense of certainty was seriously shaken.

The resurfacing of the boundless *apeiron* did not obey disciplinary boundaries. In the 1880s—the same decade that the findings of Michelson and Morley were calling classical space into question in the field of physics—space was also being disrupted in the field of art. A primary example was Edouard Manet’s renowned work, *Bar at the Folies-Bergère*, which is described by art historians Paul Vitz and Arnold Glimcher as an instance of *fractured space*: “two or more discrete lines of view [are] present at the same time in a given portrayal of space: these separate but simultaneous views break or fracture what was once (seen as) homogenous” (1984, p. 118). Vitz and Glimcher note that this juxtaposition of opposing perspectives leaves the viewer in an ambiguous state. Beyond the fields of

physics and art, many other examples could be given of the nineteenth century fracturing of classical space and reemergence of *apeiron* (non-Euclidean geometry, photography, existentialist philosophy, and so on; see Rosen, 2004). For present purposes, I will proceed to explore Western culture's *response* to resurgent *apeiron*. I am going to show that *apeiron* was definitely not welcomed with open arms, and that the continuing need to deny *apeiron* led to a whole new cultural movement.

### *Modernist and Postmodern Responses to Resurgent Apeiron*

Einstein's theory of relativity is commonly interpreted as saying that "everything is relative." This could not be further from the truth. In fact, Bertrand Russell (1925) claimed that the theory was misnamed, since it is *anything* but relative. Einsteinian relativity became the most celebrated theory in the history of science because it answered the critical challenge of the Michelson-Morley experiment in a way the conservative world of science could accept. When the old notion of three-dimensional space plus time was subverted by the findings of Michelson and Morley, far from embracing the spaceless and timeless *apeiron*, Einstein proposed and worked out in mathematical detail a new and more abstract order of space and time, the four-dimensional space-time continuum. So, while the concrete space and time of everyday experience had lost their absolute certainty and could no longer serve as adequate containers for the tempestuous *apeiron*, Einsteinian space-time provided a new context in which certainty could be maintained and *apeiron* still denied.

Einstein's theory is quintessentially modernist. I suggest that modernism was our culture's general way of responding to resurgent *apeiron*. With twentieth century

modernism, the uncertainties that arose in the nineteenth century were neither simply denied nor were they genuinely accepted. Instead they were circumvented by imposing a new order of certainty at a higher level of abstraction. This was clearly evident in modernist art. The field of art evolved in such a way that it did not merely challenge the classical outlook by introducing more and more ambiguity. In the transition from Manet to the Cubism of Braque and Picasso, there was an implicit move toward *resolving* the uncertainty. It was not that the images the Cubists portrayed were no longer ambiguous but that, in carrying artistic expression to a higher level of abstraction, the artist could now detach him- or herself from said ambiguity thereby establishing a vantage point from which certainty could be reclaimed. Cubism therefore has been described as providing a “God’s eye view” of reality (Pioch, 1995), and the art critic Ernst H. Gombrich has noted that Cubism was “the most radical attempt to stamp out ambiguity and to enforce one reading of the picture” (1960, p. 281).

Since the modernist response to the resurgence of *apeiron* cuts across our whole culture, it involves many disciplines and dimensions of life, not just physics and art. Additional examples can be found in cinema, literary theory, psychology, philosophy, and so forth (Rosen, 2004). For now, I would like to pose the question of how successful modernism has actually been in containing *apeiron*.

Einstein in fact authored two theories of relativity. Ten years after the 1905 publication of his special theory of relativity, the general theory was unveiled. In the latter approach, the gravitational force was now taken into account. How was this done? Both theories employ the four-dimensional space-time continuum. In the general theory,

gravitation is represented by the *curvature* of space-time: the greater the force of gravity, the more the continuum is curved (space-time is completely flat in the special theory).

Now, while Einstein found it necessary to adopt this approach, he soon realized that it had its limitations. If the gravitational mass of a body were great enough, the curvature of space-time would become so extreme that a tear would be produced in the continuum. What this meant is that analytic continuity would be lost and the theory would fail! However, for that to happen, the mass density of the gravitational body would certainly have to be enormous. When the general theory was first presented in 1915, the existence of such astrophysical bodies was purely hypothetical. But, as the twentieth century wore on, the possibility of stellar objects whose masses were sufficient to produce “black holes” in space began to be taken more seriously (these stars are “black” because their gravitational fields are so strong that light cannot escape from them). This led some physicists (e.g. Brandon Carter, 1968) to raise explicit doubts about Einstein’s theory: Could it survive its prediction of gravitational collapse? By the end of the twentieth century, empirical evidence for black holes had only grown stronger, and now, as we begin the twenty-first century, the evidence seems irrefutable.

Summing up the course of development of Einstein’s two theories, the first was conceived as an attempt to circumvent the discontinuity that was created by the *Michelson-Morley* findings, which had brought up serious questions about classical space and time. Einstein would plug the gap in three-dimensional space by postulating a four-dimensional space-time continuum. In generalizing this new account to gravitation, he assumed the curvature of space-time. What we are seeing, in effect, is that the four-dimensional method



used to compensate for the absence of continuity in three-dimensional space winds up re-introducing *discontinuity*, black holes in space. So it seems that the moment curved space was applied to generalize Einstein's remedy for discontinuity, a new order of discontinuity was prefigured! More bluntly stated, Einstein's solution did not work; at bottom, it did not effectively address the mid-nineteenth century crisis brought on by the resurfacing of *apeiron*.

Seen in broader cultural terms, I suggest that *modernism* does not really work. While this approach does initially seem to resolve *apeiron's* ambiguity, it is ambiguity that prevails in the end. Modernism collapses into postmodernism. The same pattern is evident in the field of art.

Following the devastation of the Second World War, the postmodern deconstruction of modernist art began to take shape. We see this particularly in Jasper Johns's and Andy Warhol's irreverent send up of "high art" by celebrating the banalities of popular culture. After the rise of Pop Art, a diverse assortment of other strategies and styles began to proliferate: the absurdist "happenings" of Performance Art, the sometimes-apocalyptic emotionality of Neo-Expressionism, and so on. As the artworld has unraveled over the last quarter century into a pluralistic hodgepodge of divergent approaches, the only threads of unity that have remained appear to be negative ones: the continuing emphasis on uncertainty, fragmentation, and eccentric absurdity; the agreement that art can never be fully defined; the effort by art to call into question its own existence. Here is the crux of the difference between the now-prevalent postmodern art and its modernist predecessor: Whereas modernism sought unitary meaning beneath the surface play of ambiguities, for

postmodernism, there is *only* that surface.

In short, postmodern art intimates the collapse of rational order into the chaos of *apeiron*. It is not so much that *apeiron* is recognized and acknowledged as such: as the boundless arational force of primal nature. Rather, postmodern art is essentially a negative enterprise. It negates modernism without offering a viable alternative; as a consequence, modernism—instead of being surpassed—lingers on in its own wreckage. Behind the addictively obsessive quality of postmodern art—exemplified by the endless repetition of a single image in the works of Andy Warhol and others—lies the inability to end the modernist quest for abstract unity, even though it is now obvious that the quest has failed. So the contemporary artworld confronts its own “black hole.”

### *Embracing the Paradox of Apeiron*

With the illusion of modernism shattered, the genie is out of the bottle and there is no way to get it back in. Like it or not, *apeiron* is here in earnest and must be honestly faced (not sidestepped or finessed, as in modernist efforts). But how can we do this without being blown away?

Some might say that *postmodernism* faces up to *apeiron*, but I do not believe that that is the case. Negating the positivity of modernism should not be confused with honestly confronting *apeiron*. There is a subtle dialectic at play here that needs to be teased out. From the viewpoint of the modernist ego, who—governed by Aristotelian logic—can only think in terms of sharply bounded positives and negatives, the ambiguity of *apeiron* certainly is a negation. But *apeiron* itself is not Aristotelian. The ambiguity that it embodies

is neither negative nor positive; it is simply *ambiguous*. It seems that ambiguity or paradox is much harder for us to accept than mere negation. So, when we see our modernist efforts slipping into paradox, rather than *staying* with the paradox, engaging with it understandingly and in a concrete way, we tend to choose negation, the postmodern option. A good example of this is the work of the poststructuralist writer Jacques Derrida (1976), who ultimately rejected the ambiguous interplay of identity and difference in favor of pure difference, *différance*, and who in recent years even seems to have embraced a form of negative theology (Caputo, 1997). What the modernist and postmodernist have in common is their penchant for purity, whether positive or negative. Neither can bring themselves to face the “impure,” hybrid nature of the *apeiron*. I would add my opinion that it is this puritanical streak in our culture, this one-sided clinging to sharply drawn boundaries, dichotomies, and dualisms, that is bringing us to rack and ruin. Think, for example, of the ethnic purists who want to cleanse each other into oblivion; of the fanatical religious purists both East and West; and of the ideological purists currently occupying the White House, for that matter.

What I am suggesting then, is that *apeiron* needs to be accepted. With what has been happening in our culture over the last 150 years, it seems clear that *apeiron* is with us and there is no use trying to deny it (whether in a positive or negative way). After all, *apeiron* is not some alien force, though this may be difficult for us to believe. Recall Anaximander’s original intimation that our cherished boundaries in fact *derive* from the boundlessness of *apeiron*. This is supported by the phenomenological philosophy of Maurice Merleau-Ponty and Martin Heidegger. In his translation of the Anaximander

fragment, Heidegger (1946/1984) associates *apeiron* with *Being*. As Heidegger sees it, Being is not some remote god controlling the world from afar, but is a primordial organic process immanent to the world. Being, says Heidegger, is the prespatial action “that provides the space in which space as we usually know it can unfold” (1962/1972, p. 14). Here Heidegger seems to be paraphrasing Anaximander’s assertion that *apeiron* is the boundless giver of boundaries. Similarly, Merleau-Ponty speaks of “brute” or “wild Being” (1968, p. 170)—meaning organically grounded, primally embodied Being—and characterizes it as “both natal space and matrix of every other existing space” (1964, p. 176). So, far from simply being alien to us, at bottom *apeiron* is the source of the bounded world that is so familiar to us, and of the boundaries that constitute our own identities.

It is a little ironic then that we have strongly resisted *apeiron* for fear of *losing* our boundaries. The further irony is that our resistance is actually what is keeping us from *strengthening* our boundaries, from achieving a greater sense of individuality. My development as an individual depends on my self-awareness. If there is one secret I have kept from myself, it is my origin in *apeiron*. This is understandable. As long as I am preoccupied with the process of forming the boundaries that shape my identity and my place in the world, I really do not want to be reminded of the paradox that these boundaries come from a boundless source. But a point in development evidently is reached when we can go no further with the individuation process *without* acknowledging its underlying paradox. When this point is arrived at and the acknowledgment is still not forthcoming, the consequences can be disastrous, as I believe we are currently seeing in the world around us.

I can well appreciate the difficulty of coming to terms with paradox, since it remains a challenge for *me*, and I have been thinking, teaching, and writing about this for over thirty years. Let me just emphasize that embracing the paradox of *apeiron* does not mean thinking less clearly, but thinking *differently*, rethinking ourselves from the ground up. Conventional thinking will need to be turned upside down and inside out. To come to know *apeiron*, we will have to think dialectically, to engage in hybrid blendings of thought that transgress long-cherished categories, indeed, that fly in the face of categorial thinking as such. Only through such apeironic self-knowing will we be able to deal with the fragmentation presently tearing us apart. That is my conviction. Wholeness is what we require, an epistemic healing or “epistemotherapy” (de Quincey, 2002; Rosen, 1994) that, in moving us toward individuation, re-grounds us in the lived body. Indispensable to such an aim is the thinking of *apeiron*.

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This afternoon, an email alerting me to alleged viruses on my computer itself turned out to contain a virus. The friend I mentioned at the outset of this article continues to experience the “identity crisis” that resulted from the theft of his credit card. Another bomb has gone off in Madrid and more civilians and soldiers have been killed in Baghdad. Any time now, the U.S. government will be raising its “terror alert” from “yellow” to “orange.” So it goes. With *apeiron* still unacknowledged, it continues wrecking havoc. And it will go on that way, I suspect, until the day we can summon the courage to look into the mirror and see *apeiron* gazing back at us.

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