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THE “METAPHOR OF LIFE”: HERDER’S PHILOSOPHY OF HISTORY  
AND UNEVEN DEVELOPMENTS  
IN LATE EIGHTEENTH-CENTURY NATURAL SCIENCES

ELÍAS PALTI

ABSTRACT

The origins of the evolutionary concept of history have normally been associated with the development of an organicist notion of society. The meaning of this notion, in turn, has been assumed as something perfectly established and clear, almost self-evident. This assumption has prevented any close scrutiny of it. As this article tries to show, the idea of “organism” that underlies the emergence of the evolutionary concept of history, far from being “self-evident,” has an intricate history and underwent a number of radical and successive redefinitions from the mid-eighteenth century up to approximately 1830 (the heyday of Romanticism and the period in which the first modern “philosophies of history” took form). More specifically, this paper traces some of these transformations in order to contextualize and shed some new light on Herder’s philosophy of history and the complex process of its inception—a process that was not concluded by the end of his intellectual career. As the article shows, Herder did not actually succeed in solving some key problems involved in an evolutionary concept of history. The difficulties he found were analogous to those that emerged at that very moment in the development of a dynamic, ontogenetical theory (that is, a theory of the embryo’s transformation), and both were ultimately linked to the combination of some uneven developments produced in the natural sciences of that time. Herder’s philosophy of history thus appears as a paradoxical (and highly unusual, seen from an epistemological point of view) case of a system of thought that formulates problems which it is still radically unable to solve, lacking the tools to devise a possible solution for them.

Johann Gottfried Herder’s (1744–1803) philosophy of history is commonly regarded as a landmark in the emergence of the modern notion of history as an organic, evolutionary course. For authors like Friedrich Meinecke this “discovery of history” was the greatest achievement of social thought in the nineteenth century.<sup>1</sup> Other critics underlined instead its alleged potentially negative political consequences. For them, Herder’s historical concept “prefigured the Hitlerian theory of *Blut und Boden*.”<sup>2</sup> Either way, there is a general agreement that Herder

1. F. Meinecke, *Historism: The Rise of a New Historical Outlook*, transl. J. Anderson (London, 1972), 491–492.

2. Max Rouché, *La Philosophie de l’histoire de Herder* (Paris, 1940), 25 and 91. A. Gilles opens his classical *Herder* (Oxford, 1945) by affirming that “his function seems to me to be the counterpart of that of Kant, his great opponent, in the making of the mind of modern Germany [remember that it was written in June, 1944]. He formulated its emotional content, as Kant formulated its intellectual content” (v). In *Herder: His Life and Thought* (Berkeley, 1955), Robert T. Clark qualifies that concept.

is situated at the center of a kind of geological fault in the course of Western intellectual history produced at the end of the eighteenth century. As Edgard Schlick remarked, "Herder in his imagination reveals an organicist worldview in an essentially mechanistic and anti-vitalist age."<sup>3</sup>

However, this portrayal of Herder is actually obscure and, ultimately, misleading. The meaning of the categories at stake here (organicism and evolution) is not self-evident, as is often assumed. These concepts are historical, changing constructions. In fact, the ideas of "organicism" and "evolution" underwent a number of successive and dramatic redefinitions in the last quarter of the eighteenth century and the first two decades of the nineteenth century. Thus, before inquiring whether Herder held an "organicist worldview," we should first understand what he meant by an "organic and evolutionary historical course" (categories whose meanings were neither "natural" nor consistent),<sup>4</sup> and, particularly, what Herder's contemporaries defined as the "mystery" of self-generation (allegedly, the proper and distinct—and conceptually problematic to understand—attribute of "organized bodies" or organisms): how living beings were generated and transformed (without any kind of supernatural intervention) over time.

This article intends to demonstrate two things. First, as different authors have observed, Herder's raising of the question of self-generation in history expressed an intellectual transformation which was congruent with the development of a set of new biological doctrines produced at the end of the eighteenth century. However, for this very reason, his philosophy of history cannot be defined as a shift from mechanicism to organicism, terms which were undergoing a series of reformulations. A better definition will result from relating this transformation to the emergence of the modern concept of the self (or the organism) as a *Subject* (that is, a *relation*, something one and the same with its own predicates), a concept that in turn entails a specific conception of temporality. Reading Herder's philosophy of history in this light will lead us to revise some inherited perspectives about the process that resulted in a new kind of historical consciousness.

Second, as many critics have also insisted, the figure of Herder certainly does occupy an intermediary place in the above-mentioned process of conceptual redefinitions. However, this does not mean that his historical philosophy was a

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Against Kant, Clark praises Herder's "courage" to refuse the imperialist attempts of his own nation against the Russians' pretensions in the European East; however, Clark affirms, Herder, "like some russianphiles of the XXth century, was not able to see that the East's giant was potentially much more dangerous [this was written a few years after the rupture of the allied front and the beginning of the "Cold War"] than the monster that existed in the hegemony of the Habsburg's dynasty" (338). As we see, interpretation of Herder's thought has always been strongly determined by contemporary, mainly political, issues.

3. Edgar Schlick, *Metaphorical Organicism in Herder's Early Works* (Paris, 1971), 119.

4. Actually, we meet here a kind of "hermeneutical circle": the study of the natural sciences of his time clarifies fundamental aspects of Herder's historical view, and, conversely, the analysis of Herder's philosophy allows us to better understand how the above-mentioned process of redefinitions took place.

mere anticipation of doctrines that fully matured with his followers, just as the models of science he successively endorsed were not merely some other incomplete forms of a “true” model that was fully revealed later (a view that presupposes the progress of science as a linear, accumulative process). As we shall see, Herder’s historicism emerged from a breach opened in historical thought. It was, in turn, the result of a series of uneven developments produced in the natural sciences of his time. As such, it becomes an unusual example of vaster epistemological consequences in which new categories were defined, opening a horizon to a number of questions which could not be answered by the means available within that same horizon.

#### I. THE DIVORCE BETWEEN CAUSES AND PURPOSES

In *Historism*, Meinecke defined Herder’s philosophy as an attempt to solve a contradiction Romanticism inherited from the Enlightenment. For Meinecke, two opposite trends always co-existed and overlapped in the latter without being integrated into one single system: the moralist–finalist (teleological) and the causal–determinist (mechanicist).<sup>5</sup> However, far from being tense, as Meinecke asserted, the relationship between causes and purposes in history simply did not appear as a problem within the universe of the late Enlightenment’s philosophies of history. In the idea of the “education of mankind,” both causes and ends coalesced. The question about the meaning and ultimate goal of human history, and the means to realize it, would become visible only when one of the fundamental assumptions of the Enlightenment was questioned: the existence of a uniform human essence (the “man in general”) and a common goal for the whole of humankind (reason). This was ultimately the touchstone of modern *historicism*.

Herder’s “early” work, *Another Philosophy for the Education of Mankind* (1774), has been portrayed as marking the emergence of modern historicism, that is, the consciousness of the irreducible peculiarity of every national and cultural formation (*Volksgeist*). In effect, each “spirit of the people” constituted for Herder a meaningful whole that, like Leibniz’s monads, formed a closed universe realizing by itself the entire biological cycle of growth, development, decline, and death. However, this portrayal is one-sided; it overlooks the fact that the “happiness” specific to each culture to which Herder referred in his famous maxim (“each nation carries in itself the center of its own happiness, like each sphere carries inside its center of gravity”),<sup>6</sup> alluded to a “sensible happiness,” to which he opposed an “absolute happiness,” common to all mankind, and which would unfold over time in a continuous and progressive way.<sup>7</sup> It is precisely this tension between particular purposes and universal ends which crosses through and articulates his entire historical view, rendering it problematic.

5. Meinecke, *Historism*, 491–495.

6. Herder, *Auch eine Philosophie*, 44–45 [this and other translations from foreign languages to English are mine].

7. *Ibid.*, 124.

This problem has led several authors to postulate that Herder's work was torn apart by the juxtaposition of two systems of thought in mutual conflict: the historicist and the enlightened. But even if that were the case, this very tension in his thought should still be explained. The point is that Herder actually did have a whole net of categories available with which to figure out an image of the nature of that bond linking particular and universal purposes. Although perhaps for some authors this may seem paradoxical, the fact is that the very natural sciences of the period which Herder supposedly rejected provided him the grounds not only to break with the Enlightenment's concept of "man in general" but also to think of, on a new basis, the idea of the structure of the divine plan of Creation considered as a whole (including the necessity of its mysteries), and, particularly, how these two systems of purposes (particular and universal), apparently mutually contradictory, are articulated in actual reality.

In *The Shape of German Romanticism*, Marshall Brown insisted on the importance of "shape" in Romantic thought. This idea of "shape" gives us a clue to better understand Herder's philosophy of history and its connection with the natural sciences of his time. To Herder, "the line of *perfection* is the *circle*, where everything shines out of one center and falls back into it."<sup>8</sup> The perfect is self-contained, carries with it its very idea. Like Leibniz's monad, it is a self-engendered and self-regulated organism, bearing its inherent finality within. However, according to Herder, perfection is not given to man, nor to his world, confined as it is from Copernicus onwards in a dark, hidden corner of the universe. The harmony of forces contained in it is only contingent; its circularity is such only if seen from inside it, but never in an absolute sense. Kepler had already argued the imperfection of the created universe in order to justify his hypothesis of the elliptical orbit of planets. But the ellipse expressed a simple imperfection, with no connection with the absolute. Towards the end of the eighteenth century the image of the universe's order had turned more complex, thereby offering Herder a model of how the system of relative purposes could be connected to an absolute center without becoming reducible to it, nor emanating linearly from it.

Just as the world rotated around the sun, it was then thought that the sun, in turn, rotated around a galactic center, and so on. Following this concept, the true course of heavenly bodies was the cycloid ("Our Earth is an orb, which revolves around its own axis, and in oblique direction towards the Sun," wrote Herder<sup>9</sup>), whose shape was, therefore, specific to each of them, resulting from the particular superposition of infinite orbital trajectories. "Satellites," said the leading late-Enlightenment astronomer, Johann Friedrich Lambert, "exhibit in small, every thing that happens in great: as they unquestionably move in cycloids, we easily perceive that the elliptic is not the only species of motion that obtains in the world. Our theory, however, requires motion which becomes more complicated in proportion as bodies are distant from the universal center."<sup>10</sup> Stars thereby

8. Herder, "Plastik," in *Werke* (Berlin, 1877), VIII, 64; cited by Marshall Brown, *The Shape of German Romanticism* (Ithaca and London, 1979), 29.

9. Herder, *Outlines of a Philosophie of the History of Man* (London, 1803), I, 16.

10. Lambert, "Cosmological Letters," in *Theories of the Universe*, ed. M. Munitz (New York, 1957), 258.

became reduced to the status of satellites. But paradoxically, this final blow to Aristotle's distinction between natures involved the reintroduction of a system of hierarchical levels among the relative centers. And this meant in turn that there had to be an absolute center of the universe around which planets and stars rotated, explaining, moreover, the regularity of their displacements. As Kant (who was working on his cosmology at the time Herder was his disciple) explained, this universal center was also its source of organization:

A constitution of the world which did not maintain itself without a miracle, has not the character of that stability which is the mark of the choice of God. . . . A scattered swarm of systems, however—for they might be separated from each other—would, by an unchecked tendency, hurry to disorder and destruction, unless a certain relative disposition were made by reference to a universal center, the center of the attraction of the universe.<sup>11</sup>

The Late Enlightenment's cosmologies then would strive to discover this hidden order of the cosmos,<sup>12</sup> and in this way complete the astronomical revolution initiated by Copernicus. This was known as the *source-of-organization* problem. Discovering this source entailed fundamentally a critique of appearances (Copernicus had already revealed that the stars' movement was just an illusion due to terrestrial movement): the order of the universe spread from a center situated beyond our senses. This was not immediately given to our senses because of our eccentric position. But this displacement of human beings from the cosmic center was compensated for by the gift of ubiquity (the capacity to be placed at the same time at different points of view) which humans, as rational beings, inherited from the late-Medieval God. Kepler was the first to speculate how the sky would look if seen from the moon. Lambert (whose *Cosmological Letters* Herder called later "a glory of the human intelligence")<sup>13</sup> systematically developed this model of combining different points of view to discover the hidden order of the universe and to accede finally to a vision of the universal attraction center from which all parts of the universe would lose their chaotic appearance and reveal their internal harmony.<sup>14</sup>

Herder imagined a type of orbital superposition in history analogous to the one Lambert and Kant postulated for the universe. Every person, every epoch, feels itself, he said, to be the center to which the whole historical course converges.

11. Kant, "Universal Natural History and Theory of the Heavens," in Munitz, ed., *Theories of the Universe*, 241.

12. The first to propose this was Thomas Wright who, in *An Original Theory or New Hypothesis of the Universe* (1750), affirmed that "This is the great order of nature which I shall now endeavor and thereby solve the Phaenomenon of the *Via Lactea*" (in Munitz, ed., *Theories of the Universe*, 228).

13. Cited by Hans Blumenberg, *The Genesis of the Copernican World*, transl. Robert Wallace (Cambridge, Mass., 1987), 539 (the source is not provided, but it is Herder's newspaper, *Adrastea* [see below, p. 341]).

14. The idea of combining different points of view in order to obtain an "objective history" was first proposed by the German theologian Martin Chladenius (*Allgemeine Geschichtswissenschaft worinnen der Grund zu einer neuen Einsicht in allen Arten der Gelehrtheit gelegt wird* [Leipzig, 1752]; see Lionel Gossman, *Between History and Literature* [Cambridge, Mass., 1990], 20).

And in a certain way, they are; "we are all means and purpose at the same time,"<sup>15</sup> he affirmed. This meant that an absolute and unconditioned center, one with regard to which we all were transitory means, mere instruments to a superior purpose without ceasing to be purposes in our own determined time and place, had to exist. Thus, the Enlightenment's cosmologies provided the model of how to conceive a diversity of particular purposes articulated in a unified system without losing their particularity (their own center). In sum, the cycloid was also the "shape" of Herder's historical thought around 1774. Yet the extrapolation of this model to history opened a new series of questions insofar as we enter here the kingdom of purposes and values.

First, the absolute center for which Herder was now looking was no longer a merely topological center, but an ideal one. Therefore, it could not be located in any given place ("Where is," he asked, "the great circle of all those waves, rays and apparent centers? Where is it, what is it, what is it for?"<sup>16</sup>). Second, this was for him an essentially dynamic center, a *force* (*Kraft*), and this entailed a reformulation of the source-of-organization problem. He announced this in his reading of Lambert, whose cosmology he considered only as a preliminary step to the understanding "of the aurora of the Creation."<sup>17</sup> Thus he introduced a dynamic dimension that was absent in Lambert's cosmological model. Unlike Lambert, Herder did not interrogate himself about the structure of his universe (in his case, the historico-social universe) but on the way it had become such. (That is why Herder insisted on the idea of an asymmetry between social and natural processes, since only in connection with the former was it possible to speak of a progressive constitution; "only man," he said, "is in a contradiction with himself."<sup>18</sup>) In short, understanding history, unlike nature, demanded a *genetical method*.<sup>19</sup>

Actually, Kant had already introduced a dynamic astronomical perspective. His cosmology was, in fact, a cosmogony—a description of the process of formation and consolidation of the universe out of a primeval nebula. In this way strictly mechanical laws (the only ones Kant considered scientifically valid) could perfectly account for the origin and evolution of the universe. However, translated into the historical realm, the genetical method posed a more general problem that revealed the inherent limitations of all kinds of mechanical explanatory models.

Every causal explanation necessarily referred back to an anterior cause, *ad infinitum*. In order to prevent such an infinite regression, an end-term was necessary: the original source. However, as Kant had also remarked, that original source lay beyond the reach of our senses; having an insight into this source

15. Herder, *Auch eine Philosophie*, 66.

16. *Ibid.*, 104.

17. Cited by Blumenberg, *The Genesis*, 539.

18. Man's contradictory character, he affirmed, was "the seal of God in our nature; the tree which transforms the Knowledge of God and Evil into an eternal Tree of Life" (Herder, *Sämtliche Werke*, IX, 540; cited by Clark, *Herder: His Life and Thought*, 246).

19. Herder, "Essay on Lyrical Poetry" (1766), *Selected Early Works, 1764-1767* (University Park, Pa., 1991), 70.

demanded what Kant termed an *intellectus archetypus* (one which, starting from an intuition of the totality, proceeds deductively to the derived forms). For our *intellectus ectypus* (which necessarily begins from derived forms and proceeds discursively—that is, abstractly, and therefore, fragmentarily—to the original ones) the primitive source was irretrievable. The source-of-organization problem thus re-emerged only insofar as the above-mentioned idealization of the universal center was combined with a break with the Enlightenment's idea of reason's gift of "ubiquity." Hence, for Herder there was no possible perspective of history from outside our particular time and place (any Archimedean point): always already-inscribed within the circle of their own culture, human beings had no way of "composing" the different possible views of history in a single image. "The origin of human achievement," Herder said, "is for us cast in darkness, and we grope nowhere as blindly as when we pursue the question, *How and in what manner did something come to be.*"<sup>20</sup> But in Herder the problem of the irretrievability of the origins became linked to questions not merely of an epistemological nature, but of a fundamentally ontological one.

What he called the "second cause of the darkness of the origins" lay in the fact that we cannot mechanically trace a formative process, going from one cause to the preceding one, and thus traverse the causal chain back towards its source, because true evolutionary developments were not produced mechanically. "Development" meant that a later stage was not fully contained in its precedent stage. Pre-existent elements and conditions provided the material for a new generation, but the emergence of a new form of life or culture also entailed a new principle of organization. A culture, like "all work of genius," he said, "came not into being on the basis of regularity," but involved "chance,"<sup>21</sup> that is, amounted to a true "invention."<sup>22</sup>

It was here that the Lambertian concept found its ultimate limit. The model of the cycloid did not explain how a "universal center" could be progressively formed in a process that involved both structural determination and chance (that is, creativity). Translated into the historical realm, the equivalent of Lambert's "universal center" should be both a source of organization and the principle for a kind of development that was not reducible to deterministic laws. To Herder this was still inconceivable. He had no models with which to think of this: how could order proceed through changes, how could a physical agent be at once the source of organization (the guarantor of the stability and systematic reproduction of determined forms of life) and the source of change (generator of qualitatively new forms—that is, "substances," in Spinoza's sense, or, more precisely, something similar to what Fichte would later call the "one indivisible fundamental

20. *Ibid.*, 71.

21. *Ibid.*, 82.

22. This explained the fragmentation of human cultures out of a common root. As he wrote, "to be sure, all human races on this earth are of one blood; however, transmigrations have so much deprived them of any knowledge of their fathers that we encounter each people by itself in that most miserable and deprived state that compelled it to invent itself all necessities as it never had possessed them before" (*ibid.*, 76).



force" (*untheilbare Grundkraft*). However, to see in this impossibility only a particular expression of a kind of eternal contradiction between determinism and arbitrariness, or between "rationalism" and "spiritualism," would mean losing sight of the specific type of dilemmas Herder was trying to tackle. The universe of problems operating here had a different origin from the one we have seen so far (the late Enlightenment's astronomies), though it was equally permeated by natural-scientific doctrines—more precisely, those of the biological sciences of the second half of the eighteenth century.

## II. *EVOLUTIO* AND *GENERATIO* IN THE LATE ENLIGHTENMENT'S "NATURAL HISTORY"

As we saw, Herder's concept of *Volksgeist* followed the idea of the Leibnizian monad. In turn, the model for the conception of such a self-regulated and self-contained system (the monad) was provided in the natural sciences by Marcello Malpighi (1628–1694), who first formulated the theory later known as biological preformism.<sup>23</sup> According to this theory, if we rule out the hypothesis of a continuous supernatural intervention in the development of every single organism, we must suppose that all its later stages are already contained—at least as a potential alternative of development—in its germ. The discovery by Jan Jakob Swammerdam (1637–1680) of the perfect preformation of the butterfly in the chrysalis seemed to confirm this hypothesis. This consolidated a "fixist" vision of nature.<sup>24</sup> This was the precondition for Linnaeus's taxonomical project: the universe of living species had to lose its mobility so that its subjacent Order—the "chain of Being"—could be fixed. Leibniz turned this notion into a philosophical system. For this, he re-elaborated the Scholastic distinction between *fulguratio* and *evolutio* to differentiate the genesis of a new form of life (*fulguratio*)—which can only emanate from God, since, as Spinoza remarked, no substance could be without contradiction the attribute of another substance—from its subsequent development (*evolutio*). In its origin, the concept of evolution had an opposite meaning from the one that it came to acquire only very much later: far from supposing any idea of transformation or generation of new forms (*fulguratio*), this concept meant a mere development of the already preformed characters.<sup>25</sup> Such a fixist (anti-evolutionary) concept allowed Leibniz to limit divine

23. Leibniz made preformism explicit in several texts. "Nothing is better qualified than the preformation of plants and animals," he said in *Theodicy*, "to confirm my System of the Pre-established Harmony between the soul and the body. For in this the body is prompted by its original constitution to carry out, with the help of the eternal things, everything it does in accordance with the will of the soul. So the seeds by their originating constitution carry out naturally the intentions of God" (Leibniz, *Theodicy: Essay on the Goodness of God, the Freedom of Man, and the Origin of Evil* [New Haven, 1952], 65–66).

24. According to the up-to-then reigning concept, the transmutation of animal species, as well as of metals, was perfectly conceivable.

25. "The production of modifications has never been called creation, and it is an abuse of terms to scare the world thus. God produces substances from nothing, and the substances produce accidents by the changes of their limits" (Leibniz, *Theodicy*, 395).

intervention to the single moment of Creation<sup>26</sup> and thus to elaborate Nature conceptually as a system. The doctrine of germinal preformation constituted, therefore, the basis of the Enlightenment's "natural history."

However, in the late eighteenth century, this doctrine was challenged by the re-emergence of two opposing views, of older origins: *vitalism* and *epigenetism*. Vitalism was a doctrine whose modern roots must be traced back to William Harvey (1578–1657), who in *Exercitationes de generatione animalorum* (1651) assigned the progressive formation of embryos to the action of a vital fluid. This fluid resided, for him, in the male semen, which transmitted its vital power to the germ ("like the magnet lends its magnetic force to iron") thus activating the generative process. In the eighteenth century, vitalism was updated by Georg Ernst Stahl and stood against the materialistic theories that explained voluntary motion, sensation, and thinking on the basis of purely causal mechanisms. Best known for his theory of phlogiston, Stahl, in his *Theoria medica vera* (1798), affirmed that the soul or life (*anima*) was something prior to and independent from matter, a kind of immaterial substance that simply circulated through bodies in their organic juices, preventing the decomposition that they would undergo if left to physical forces alone. This notion thus attempted to account for that element differentiating living beings from inanimate mechanisms. Although influential, it retained mystical connotations that undermined its scientific credibility.

More decisive in the dislocation of the Enlightenment's "natural history" was the raising of modern epigenetism. This doctrine, which conceived of the formation of bodies not as an internally generated process but as a result of the composition of organic molecules originally isolated, received an important impulse from Buffon. Unlike preformation, epigenetism eventually opened the doors to the possible transformation of the species through the action of purely mechanical causes. However, the defenders of preformation could still easily demonstrate that epigenetism was not only counterintuitive, but also—and fundamentally—theoretically untenable on its own terms. Just as Leibniz showed that Locke's empiricism already entailed human capacities, which therefore could only be innate (the *intellectus ipseus*), Charles Bonnet (1720–1793) remarked how Buffon's epigenetism always presupposed at least one element of preformation. In fact, Buffon postulated the existence of some "internal molds" articulating the generative process. As Bonnet showed, these "internal molds" were the ones that explained the systematic reproduction of specific forms of life and, finally, the visible stability of the universe of living species.

26. "Unless it be said that God forms organic bodies himself by a perpetual miracle," Leibniz said, "or that he entrusted this care to intelligences whose power and knowledge are almost divine, we must hold the opinion that God has *pre-formed* things in such sort that new organisms are only a mechanical consequence of a preceding organic constitution. Even so do butterflies come out of silkworms, an instance where M. Swammerdam has shown that there is nothing but development" (*Theodicy*, 65). This idea lay at the core of his debate with Newton Clarke, who assumed the defense of Newton's point of view that God had to intervene permanently in the world in order to keep it ordered (See H. G. Alexander, ed., *The Leibniz-Clarke Correspondence* [New York, 1956]; see also the analysis of this debate by A. Koyré, *From the Closed World to the Infinite Universe* [Baltimore, 1968]).

The concept of germinal preformation (intimately connected to a fixist view of nature) explains two fundamental aspects of the early Herderian philosophy of history: the model underlying his concept of *Volksgeist* and also, fundamentally, why it was not possible within this conceptual framework for him to think of an articulation between different historical epochs. As Arthur Lovejoy showed, even though Leibniz in his *Protogea* (1693) outlined a transformist hypothesis, this led to insoluble contradictions within his system. The temporalization of the "chain of Being" actually questioned the two fundamental principles on which the idea of the "chain of Being" was founded: the principles of continuity and sufficient reason.<sup>27</sup> This was not only because, as Lovejoy affirmed, the idea of the mutation of the living species implied the existence of "holes" to be filled in the order of Creation (a signal of divine "imperfection")—a possibility that those principles excluded—but more importantly because the temporalization of the "chain of Being" shattered the very object around which those principles coalesced: if a particular germ contained relatively plastic capacities of development, the explanation for its confluence towards the specific forms of life that defined its particular species would involve the re-introduction of the hypothesis of a guide and a permanent providential warden over the world.

The first of the problems (the one Lovejoy remarked) would soon be overcome: after the earthquake of Lisbon in 1755 (converted by Voltaire to a symbol of the wider transformations operating in European thought accompanying the decline of the *ancien régime*), the idea of the perfection of Creation's physical order would be questioned. At the same time, the discovery of fossils of extinct species brought Bonnet himself, among others, to postulate the idea of "geological ages" divided by cataclysms, each of them with its specific fauna. This hypothesis would later be called "catastrophist." But the second of the questions would become even more of a mystery. The systematic reproduction of the world of living species after each cataclysm rendered the mechanist-epigenetist explanations *à la* La Sage—who in *The Newtonian Lucretius* (1748) imagined Genesis as a result of a random sliding of atoms—completely insufficient. The preformist doctrines were better prepared to explain this, but only under the assumption that after every catastrophe, the germs of organic preformation subsisted intact. However, the usual answers now appealed to a combination of the action of natural forces (subsistent germs) and supernatural ones (fluids activating latent forms of life). We thus see how, just as epigenetism presupposed an element of preformation, the temporalization of the chain of Being re-introduced a vitalist component (or occasionalist, in Malebranche's sense) in the preformist doctrines. *While fixist preformism was the precondition to the taxonomic fixation of the world of living species, vitalist-catastrophism was the first way of thinking its historicity.*

The originality of Herder's early philosophy consisted precisely in the application of this concept to history, thus combining a preformism *intra-* with a vital-

27. Arthur Lovejoy, *The Great Chain of Being: A Study of the History of an Idea* [1936] (Cambridge, Mass., 1964), chapter 9: "The Temporalizing of the Chain of Being," 242-287.

ism *inter-* spirits of the peoples. Upon the idea of *Volksgeist* (of a preformist matrix) Herder superimposed a vitalist concept (of clearly theological connotations), which allowed him to figure out something that up to then seemed inconceivable: the way human history was articulated in order to constitute a meaningful whole. Thus, against epigenetism, Herder endorsed Bonnet's doctrine that no external reorganization of pre-existent matter (*epigenesis*) could explain the transformations of the internal spiritual forces which lived inside it (the "active element which links all [material factors] and transforms them in God's living creature"<sup>28</sup>). But, against preformism, he asserted the creative character of historical evolution, something unthinkable within the frameworks of the preformist concept. As he knew, it found its limit at this point: "Neither can Bonnet's philosophy, as it is called, the system of germs, be our guide here; for, in respect to the transition to a new existence, it is partly devoid of demonstration, partly inapplicable. No one has discovered in our brain a spiritual brain, the germ of a new existence."<sup>29</sup> For him, every truly historical process supposed the destruction of pre-existent germs ("the course of Providence," he affirmed, "reaches its destiny passing over millions of corpses"<sup>30</sup>) and successive creations of new forms of life. Herder's first conclusion was, naturally, that these transformations could only emanate directly from a supernatural source. Only providential intervention could, at the critical moments, instill new life in dead matter. As he said in connection with language in *The Oldest Document of Mankind* (1773), "It must be, therefore, an external force (*Kraft*) which wakes this conscience, that is no more than a capacity, i.e. receptivity; otherwise, it would have remained asleep, in darkness, dead, for ever."<sup>31</sup>

According to what we have seen so far, the early Herderian solution to the issue of the relationship between causes and purposes in history seems to consist of a mere translation of the problem of historicity proper, a distribution of domains, rather than of a radical redefinition of it. Herder would have simply moved the unitary and universal instance in human history to a super-sensitive realm in order to make the widest room in the secular realm for the infinite variety of its empirical manifestations (without losing its intelligibility, whose source was now located elsewhere). Herder's "relativism" would thus be limited to the positive level of history. Considered as a "spiritual entity," history would display the same linearity as it had for his Enlightenment predecessors. Seen in this light, Herder's philosophy of history looks doubly "reactionary": it betrayed his alleged historicism, and at the same time lost the basic achievement of the Enlightenment's "natural history" by re-introducing in history what the preformist doctrines tried to exclude from it: the idea of a continuous supernatural intervention.

However, it was on this "reactionary" side (or rather, in the combination of "vitalism" on the level of mankind, and "preformism" on the level of the "spir-

28. Herder, *Auch eine Philosophie*, 60.

29. Herder, *Outlines*, I, 186.

30. Herder, *Auch eine Philosophie*, 125.

31. Herder, *Sämtliche Werke*, VI, 299ff.; quoted by Clark, *Herder: His Life and Thought*, 169.

its of the peoples") where we can find the origin of a true epistemological revolution in historical thought. *Even though Herder's philosophy of history preserved the idea of the unity of God's plan, he now introduced a dynamic dimension absent in the Enlightenment's world views; its realization no longer referred back to the single, original act of Creation, but involved a series of successive stages (and, consequently, a number of historically produced "fulgurations").* Thus, just as in the physico-natural world, in the socio-ethical one vitalist catastrophism was also the first avenue for thinking of its radical historicity. With it, Herder produced the first version of what we call today "the arrow of time." From then on, time became a constitutive dimension in the order of the world; its basic structure was no longer fixed once and for all, but was historically constituted (and did not just "unfold" over time).<sup>32</sup> Thus, the historical course acquired an irreversible character ("in the world," Herder said, "there are not two identical moments"<sup>33</sup>), involving qualitative transformations, and, ultimately, chance (that is, the action of non-mechanical, non-deterministic causes).

Nevertheless this solution was still precarious. Actually, Herder's notion superimposed two kinds of temporalities: empirical irreversibility and conceptual linearity; they referred to two different levels of historical causation, without integration. This was so because with his search for the "origins," Herder pointed beyond the horizon of problems of the Enlightenment, while at the same time his concept was still intersected by the opposition, inherited from the Enlightenment's "natural history," between the ideas of *fulguratio* and *evolutio*. Herder's preformist vitalism did not succeed in breaking—but rather reproduced and made explicit—the typical Enlightenment correlation between complete randomness in the origins of a new being (whether as a result of a natural event—the sliding of atoms—or of a supernatural action—Creation) and absolute determinism in its later development. Ultimately, Herder's superimposition of a vitalist component (the idea of a providential intervention) on a preformist matrix of thought did not provide an answer to the "genetical problem." Rather, it appeared as a kind of *asylum ignorantiae*. As he said in "Essay on a History of Lyric Poetry," the idea of a supernatural intervention "does not explain anything; rather, it itself calls for an explanation. It does not explain anything because it merely states that I see effects that I cannot trace to natural causes, therefore they come from God, a conclusion founded upon charity that suspends all further examination."<sup>34</sup>

It was then that Herder introduced, in order to design and give a more precise formulation to, his concept of the formative forces which originated every new and determined form of life, the idea of *Kraft* ("force").<sup>35</sup> Strictly considered, this

32. This was not so according to the preformist concept. In it, the development of the embryo was conceived of as a mere growth due to the ingestion of food. If we could invert this process, we would lead it back to its original state.

33. Herder, *Auch eine Philosophie*, 37.

34. Herder, "Essay on Lyrical Poetry," *Selected Early Works*, 79.

35. The idea of "force" was applied by eighteenth-century scholars to explain chemical processes. Force theories contended with ether theories. The latter invoked imponderable fluids and atomic collisions to account for chemical processes. These were termed *mechanical*. Force theories, instead,

was no longer a purely material power, although it was meant to signify a principle existing in nature. In actual fact, this was still only the name put to a problem. The pending question, around which Herder's entire later work as well as the whole of European thought in the first decades of the nineteenth century would revolve, was how to introduce a dynamic component into the matrix of preformist thought (which excluded, by definition, any transformist idea) without resorting to the action of mysterious, supernatural powers.

### III. THE PHYSICALIST TRANSLATION OF THE *QUALITATES OCCULTAE*

Considering what we have discussed thus far, it is not surprising that the writings of 1773–1774 (and especially *The Oldest Document*) had a unanimously adverse reception.<sup>36</sup> These writings provoked the rupture between Herder and Goethe who, in 1774, wrote *Satyros*, mocking Herder's concept of *Kraft*.<sup>37</sup> With this concept, Herder seemed to be trapped in the paralogisms of reason Kant spoke about. Nevertheless, the enigmatic character of that force did not seem to be particularly irritating in itself, nor does it completely explain the unfavorable reaction that Herder's early writings provoked. Actually, Herder took the idea of *Kraft* from Kant; and Newton had explicitly affirmed the mysterious nature, incomprehensible to reason, of forces such as gravity. The troublesome aspect of Herder's concept of those communicating fluids (demanding an explanation for both his theist and rationalist contemporaries) lay in the fact that for him (as well as for Blumenbach and later Lamarck), those forces displayed an essentially active character, creating new forms of life, in a sense whose specific nature, however, Herder could not still define. As he recognized, "I do not say that I *explain* anything thereby; I have not yet known any philosophy which explains what 'force' (*Kraft*) is, whether it is active in one or more beings. What philosophy does is notice, arrange, clarify, after assuming force, stimulus, and effect, from the very beginning."<sup>38</sup> Herder's uneasiness makes manifest the fact of facing a conceptual dilemma: in order to think of history as an evolutionary course, Herder had to put together two ideas mutually incompatible in principle; that is, he had to imagine the vitalists' "forming forces" according to Bonnet's model of germs.

Herder's immediate reaction to the bitter criticism his 1774 writing received was a regress to religious orthodoxy, as *Insights in the New Testament*, published in 1775, bears witness. This allowed him to obtain the position of Ordinary

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explained them by appealing to attractive and repulsive forces between atomic centers. Since active powers were here involved, these theories were called *dynamical*. Both parties, however, were founded in Newton's writings. The "dynamists" had as their source the "Queries" to the *Opticks*. In these, Newton appealed to "forces" to explain action at distance (see Trevor Levere, *Affinity and Matter: Elements of Chemical Philosophy, 1800–1865* [Oxford, 1971], "Introduction").

36. Hamman was obliged to defend Herder from the rationalists' attack, but in a letter to his disciple he confessed that that work seemed to him a "*monstrum horrendum*" (quoted by Clark, *Herder: His Life and Thought*, 170).

37. The Satyr was a genius gifted with powers, who persecuted and raped the innocent Psyche.

38. Herder, *Sämtliche Werke*, VIII, 178, quoted by Clark, *Herder: His Life and Thought*, 226.

Professor of Theology and University Preacher in Hannover, where he was later promoted to *Generalsuperintendent* (a position equivalent to that of bishop). But this religious turn came, perhaps paradoxically, along with an attempt to reduce the mystical character of the vital forces or *qualitates occultae*. Some new relationships he established then were crucial in this process. After (temporarily) breaking off his relationship with Goethe, Herder initiated an active correspondence with Lavater, the father of modern physiognomy,<sup>39</sup> from whom he borrowed some of the tips with which to unveil the enigma of the *Kräfte*.

As early as 1767, in *On the Modern Use of Mythology*, Herder, in connection with aesthetic questions, had raised the problem of *Darstellung* (the sensitive representation of the idea). "Allegory," he said, "represents abstract concepts in terms of the senses."<sup>40</sup> Lavater's development of the physiognomic concept finally enabled him to expand this idea of "allegory" to encompass nature as a whole,<sup>41</sup> which was thus converted into a "sign." The physiognomic feature, as a "sign," did not represent anything anterior to it. As R. Klages said about the symbol, "it is not something that is in the place of something else;"<sup>42</sup> the feature was the knot in which matter and idea merged. A feature always synthesized a multiplicity of effects. Placed at the intersecting point of opposite movements, it became the visible trace of its own genetic process: it was nothing but its own history. That is why the feature was worthwhile not for what it concealed but for what it was, just as the "personality" of any individual is nothing but the way it expresses itself. "Looking at man's present figure," said Herder, "everything in his history is explicable; without it nothing is capable of explanation."<sup>43</sup> This concept opened to him the possibility of breaking the Enlightenment's traditional dichotomies. The fact that the ordering principle he tried to penetrate was not placed on the level of the visible surface of the system of analogies and differences no longer meant that that principle exerted its influence over the phenomenal world from beyond or outside it. Yet the principle could be objective, make itself present in the world of external forms, and at the same time (like gravity, electricity, and other material-immaterial substances), be placed beyond the reach of the senses. In short, this refuted Kant's rigid dualism between the phenomenal and the noumenal.

As we see, the physiognomic concept allowed Herder to think of how a generative force, despite not being empirically verifiable, made itself manifest in the phenomenal world. Yet this did not say anything about the specific nature of this force. Its definition, its characteristics and mode of operation, demanded a different categorial apparatus. This was being elaborated in physiology, which was

39. Before leaving Bückeburg, he wrote a series of articles for the *Auserlesene Bibliothek*, most of them dedicated to reviewing Lavater's recently published *Physiognomical Fragments I and II*.

40. Herder, *Selected Early Works*, 217.

41. As Ennemoser said later in his *Physiognomical Observations* (1820): "In the whole nature there is nothing that does not reveal any active life, spiritual or interior, through its external physical existence, or in it. Each being expresses, by virtue of its personality, the permanent qualities of a singular spirituality. There is, therefore, a physiognomy of everything which belongs to nature" (quoted by A. Göde von Aesch, *Natural Science in German Romanticism* [New York, 1941], 272).

42. Quoted by Göde von Aesch, *Natural Science in German Romanticism*, 250.

43. Herder, *Outlines*, I, 123.

at that time taking form as a distinct field of study. As Herder soon discovered, the concept that articulated form and process was that of *function*, in which the idea of an immanent organic *finality* was condensed. It was precisely the attempt to incorporate the finalist processes in the realm of empirical relationships that marked Herder's radical departure from Enlightenment thought.

Significantly, the development of these disciplines was mainly linked to a series of transformations produced within vitalist currents of thought. In the 1780s, Herder learned of the new vitalist theories through Albert von Haller (1708–1777). As we saw, the vitalist tradition rejected the materialistic concept that voluntary motion, sensation, and thinking could be explained purely on the basis of causal mechanism. For Stahl, this demanded a soul's operation connected with a capacity specific to it, which he defined as *sensitivity*. In the 1750s, Haller introduced a distinction between "irritability"—the body's property to contract itself before an external stimulus—and "sensitivity"—by which fibers, after contacting an external object, carried its subjective impression to the soul. The former was, for him, a property of muscles; the latter, of nerves. Thus, by demonstrating the immediate relationship between irritability and muscular reactions, Haller refuted Stahl's hypothesis that all relationships between external impulses and internal responses had to be mediated by an excitement of the soul. Irritability (*vis insita*) was a force inherent in a particular type of matter (animal muscle tissue) that operates automatically under proper conditions of stimulation.

In von Haller's model, Herder found a paradigm of "vital forces" that inhered in bodies like an immanent property. This was a material-immaterial substance. Like gravity, irritability could be deduced from phenomena, yet its ultimate cause lay beyond the reach of observation. Based on this concept, he tried, as he affirmed in *Vom Erkennen und Empfinden* (1778), to fill the gap, still present in Leibniz, between soul and body, spirit and matter: insofar as they could both be referred to a common *Kraft*, they could perfectly interact. This also allowed him to reformulate the fundamental problem pending from the former decade, that is, the genesis of a new historical principle (Leibniz's *fulguratio*). But to do that, he first had to reduce the plurality and specificity of Haller's *vires* or *Kräfte* (each specific for fulfilling a particular function) to a single, common principle or *Kraft aller Kräfte* (the equivalent of Stahl's *anima*). The coordination of different, autonomous impulses had led Haller to reintroduce the hypothesis of a providential guide, a superior architect. Instead, in *On the Knowledge of the Human Soul* (1778), Herder started to speak about a sensitive fiber which, stimulated, could be considered as a first manifestation of life. In a 1785 essay, he called the generating function of the sexual union an "electric spark."<sup>44</sup> However, this idea would appear as empirically confirmed only a decade later, when Galvani managed to reactivate dead matter by means of electric shocks.<sup>45</sup> This was the con-

44. Quoted by Hugh Barr Nisbet, *Herder and the Philosophy and History of Science* (Cambridge, Eng., 1970), 146 (source not provided). We know that Herder received electrical treatments (minor shocks), as the Galvanists suggested, in order to re-establish the inner balance of forces.

45. Galvani's experiments with frogs' legs (1789) marked a watershed in the history of our images of nature. According to his experiments, muscular movements could be explained as result of the action of "animal electricity," later called "galvanism." It would soon be concluded from this that all



text in which Mary Shelley's *Frankenstein: Or the New Prometheus* (1800) was conceived. By then, science had begun to define a new research program: if it aspired to elevate man to God, it had to be able not only to share with Him the gift of ubiquity (as in Lambert) but also to dispute His monopoly of the creative capacity.<sup>46</sup> In some ways, *Ideen zur Philosophie der Geschichte der Menschheit* (1784–1791),<sup>47</sup> Herder's *magnum opus*, anticipated this program in trying to penetrate an unexplored terrain. In this adventure Herder faced a series of theoretical as well as practical problems he did not, and could not, succeed in solving.

#### IV. EVOLUTION AND SKEPTICISM

*Ideen* has been seen as marking Herder's return to the Enlightenment tradition.<sup>48</sup> In fact, Herder now endorsed some of the epigenetist motives (the only evolutionary ones within a mechanistic matrix), in Buffon's fashion. However, although he no longer despised mechanical explanations, he still understood that they would never wear out philosophy's object: "no flower," he insisted, "blossoms by means of the external dust."<sup>49</sup> For him, every vital development supposed the existence of an internal "genetic force" on which external circumstances could exert their influence. Rather than a regression to a mechanical perspective, we should say that Herder took a "naturalistic turn" while remaining within his former preformist–vitalist matrix of thought (something that, up to then, seemed to be a contradiction in terms, but not so by 1784).

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the movements of the vegetal and animal organisms, and indeed of the whole universe, responded to the action of an agent of this kind. This, in turn, would lead to the thought that inorganic matter was subject to the same laws of animate organization. This was in great part the background for the emergence of romantic philosophies of nature (and also of the animist tendencies that prevailed in its literature). Ritter, whose lectures are landmarks in the development of German Romanticism, did not doubt the possibility of reducing those hidden forces to demonstrable physical essences. He affirmed also that man would soon produce mirrors to reflect electricity and magnetism (J. W. Ritter, *Fragmente aus dem Naclasse eines jungen Physikers* [Heidelberg, 1810], I, 161–162, quoted by Blumenberg, *The Genesis*, 621). The other milestone in this history is Volta's invention of the electric pile (1800). In connection with these developments, Humphry Davy stated that "[they] promise to afford instruments capable of destroying the veil which Nature has thrown over the operation and properties of ethereal fluids" ("Letter to D. Giddy," 20 Oct. 1800; quoted by Levere, *Affinity and Matter*, 36).

46. At the end of the eighteenth century, diverse theories competed in this field. Jung-Stilling, together with Mesmer, affirmed the priority of magnetism. "Animal magnetism," Jung-Stilling said, "demonstrates that we indeed possess an inner being, a soul, which is the divine spark of the eternal spirit that possesses will and reason, and a cover of light, inseparable from it. The luminous matters, electrical, magnetic and galvanic, and the ether's, all seem to be the same being, under different modifications" (quoted by Göde von Aesch, *Natural Science in German Romanticism*, 71). F. Mesmer, who gave new life to the belief in the planets' influence over human destinies, supposed the existence of a magnetic *fluidum universale*, and explained illnesses as the product of a decompensation of those forces in the individual. When he died in 1815 the Prussian government established the chair of animal magnetism.

47. English translation: Herder, *Outlines of a Philosophie of the History of Man* (London, 1803).

48. Meinecke, in *Historism*, vulgarized this point of view.

49. Herder, *Outlines*, I, 108.

Actuality then became for him the manifest, external sign of the invisible principle which made it to be such.<sup>50</sup> “Every external form in Nature is an index of her internal operations: and, thus, great mother of all, we approach the most sacred of the sublunary works, the laboratory of human understanding.”<sup>51</sup> In this attempt, Herder then develops the core notion of his “mature” philosophy of history: “Humanity.”<sup>52</sup> This now appeared to him as that hidden principle or genetic force that gave life to its particular forms and presided over its subsequent development towards its final goal.<sup>53</sup> Reason and Freedom. These concepts were synthesized in the notion of Justice: the ideal of a perfect correlation between external manifestations and inner principle, that is, form and function, respectively.<sup>54</sup> As such, this was not any state or set of features, but a *telos* to be achieved and the drive (*Bildungstrieb*) to produce it, an *energia*, always in the making. “Humanity,” he said, “is the character of our species, which, although innate, is only a project.”<sup>55</sup>

This in fact meant a reversal of his “genetical method.” The converging point of history was now situated not in the origins but in the common horizon towards which all epochs and cultures tended to converge. But such a reversal did not necessarily involve a revision of his early historicism. It is true that, as different authors have remarked, in *Ideen* the emphasis was placed on the unitary instance that articulated the historical-universal course as a meaningful whole, rather than in its particular components.<sup>56</sup> However, he still insisted that this did not necessarily entail an idea of *progress* in an accumulative sense. Even though they were part of the same evolutionary process between two epochs, each possessing its particular principle of development, there was no instance of continuity. No immediate articulation between them was possible; they were always separated by a catastrophe after which nothing old was preserved.

In it we everywhere perceive destruction, without being able to discern, that what rises anew is better, than what was destroyed. Nations flourish and decay: but in a faded nation

50. Hence it was no longer necessary for him to appeal to any mysterious *qualitates occultae* to explain the generation of new forms: “The same when I speak of the *organic powers of the creation*: I do not imagine, that they will be considered as *occult qualities* [*qualitates occultae*], since their operations are apparent to us, and I know not how to give them a more precise and determinate name. At some future period I intend, to enter more fully into these and other subjects, at which I must here give no more than a cursory glance” (*ibid.*, I, xiv).

51. *Ibid.*, I, 139.

52. “I wish I could extend the signification of the word *humanity*, so as to comprise in it every thing I have thus far said on the noble confirmation of man to reason and liberty” (*ibid.*, I, 173).

53. “The end of our present existence is the formation of *humanity*, to which all the meaner wants of this Earth are subservient, and which they are all contrived to promote” (*ibid.*, I, 218).

54. He defined Justice as “stability of human values [i.e., *Humanity*]” (*ibid.*, II, 302). This physiological notion had been anticipated in one of his early works. “A book destined to the formation of man and the Christian! This will begin with the knowledge of himself, of the wise structure of bodies and the spirit; it will show the final causes and the special characters of every member of the bodies and the soul, the diversity that prevails there and therefore, that each thing is not possible nor good but in the measure it is effectively realized in us” (Herder, *Journal de mon voyage en l’an 1769*, transl. M. Rouché [Paris, 1942], 81).

55. Herder, *Idea de la Humanidad* (Buenos Aires, 1954), 46.

56. Herder, *Outlines*, II, 294.

no new flower, not to say a more beautiful one, ever blooms. Cultivation proceeds; yet becomes not more perfect by progress; in new places new capacities are developed; the ancient of the ancient places irrevocably pass away.<sup>57</sup>

Hence, if there was a common origin (as his genetical method demanded), every trace of a primitive plan was inevitably lost in the midst of such a destruction. That is why the only alternative left to think about the link between diverse epochs was to invert his former scheme placing the closing point of historical logic not in the origins, but in the moment towards which all its particular formations tended to converge (Humanity), leaving their respective points of departure undetermined in order to preserve the specificity of their particular development. But the problem then was that since the logic of preformation would thus be broken, such a convergence toward the predesigned goal could only be explained, again, by the permanent action of a superior understanding. In short, insofar as this aim was not inscribed in humankind since its inception, it could not simply be unfolded in time as an immanent drive.

In the final instance, then, the "naturalist turn" in Herder's "mature" philosophy of history only made evident a contradiction already implicit in his early work. Thus, Herder's "mature" philosophy seemed to abandon the idea of the incommensurability of God's action with respect to human knowledge, only to become torn apart by a double antinomy: between the particular and the general, on the one hand, and between the natural and the supernatural, on the other. Having lost the *tertium* that mediated between the opposite poles of his original formula ("destiny, chance, God!"), his philosophy could no longer find its point of balance. However, Herder could now perceive more clearly that such a problem was due not to an intrinsic contradiction of the evolutionary concept, but to the inherent limitations of the system of biological preformation. The point is that Herder could not find an alternative model. He appealed to the model of the imponderous fluids as an analogy to conceive of "Humanity" only to end up discovering shortcomings present in the model itself. Ultimately, as he thought, he could not escape from the limitations of his own time. "Most of my books," he affirmed, "show that a philosophy of the history of man cannot yet be written, though it will perhaps before the end of this millennium, if not in this present century."<sup>58</sup>

#### V. THE MAGNETIC PROBLEM

In light of this picture, it is not surprising that the first derivation of Herder's "naturalistic turn" (as well as in his entire thinking at the end of the eighteenth century) was a skeptical slide. The more familiar he became with the new sciences, the less convinced he was of the possibility of gaining an insight into the intrinsic nature of genetic forces. "We have no sense adapted for this purpose,"<sup>59</sup>

57. *Ibid.*, II, 266.

58. *Ibid.*, I, xv.

59. *Ibid.*, I, 206.

he concluded. In fact, he then found himself trapped in the intersection of paths whose trajectory was to be clarified only years later.

His anthropological pessimism ("throughout life the brute prevails over the man," he said<sup>60</sup>), of pietistic origin, helps partly to explain this skeptical turn. Definitively, he did not believe that his own era of Enlightenment revealed any certain progress. "In many countries," he said, "the Muslim call the European unclean beasts; and this is not merely from religious antipathy."<sup>61</sup> In this skeptical attitude we may see the traces of a certain aristocratic disdain in Herder, and perhaps a nostalgic melancholy for the epoch in which religious ideas could be proclaimed as indisputable dogma.<sup>62</sup> However, we can also perceive at work here questions of other than an ideological nature. As we have seen, epistemological reasons also intervened in determining the character of his late philosophy of history. Certainly, his own work manifests a noticeable awareness of the limitations of the natural sciences of his time, where their weak points lay, and why they did not provide the appropriate framework for his intellectual project. The relative stagnation of the biological sciences in particular appeared to him as mainly responsible for that sad result:

Buffon, with his bold hypotheses, is certainly but the Des-Cartes [*sic*] of this branch of knowledge, whom soon a Kepler or a Newton will outstrip and confute by unsophisticated concordant facts. The new discoveries, that have been made respecting heat, light, fire, and the various effects on the composition, resolution, and constituent parts of terrestrial substances; the simple principles, to which the electric matter, and in some measure the magnetic, are reduced; appear to me, if not near approximations, at least considerable advances which will in time enable some happy genius, by the aid of some connecting idea, to explain our geogony on principles as simple as those, to which Kepler and Newton have reduced the solar system. How great a step would it be, could many powers of nature, hitherto deemed *occult qualities*, be thus referred to physical properties, the subjects of demonstration!<sup>63</sup>

Evidently, these words are symptomatic of an epistemological malaise which was corroding old certainties. As he himself said, he was "driven by a vague unrest that sought another world, but never found it."<sup>64</sup> This unrest announced the imminence of a decisive turn in that field. However, it would come about only after the outburst of the French Revolution.

The French Revolution (of which Herder approved since he saw it as a reaction against Enlightenment monarchies such as Frederic II's, with whom he did not sympathize) not only removed, at least partly, his ideologically-motivated pessimism, but also opened the doors to the emergence of new scientific disciplines (galvanism, animal magnetism, chemistry, embryology) that provided new tools for his philosophy of history. In his answer to Dalberg's *Observations on*

60. *Ibid.*, I, 227.

61. *Ibid.*, I, 334.

62. A different perspective can be found in Frederick Beiser's *Enlightenment, Revolution, and Romanticism: The Genesis of Modern German Political Thought, 1790–1800* (Cambridge, Mass., 1992), 201–215. Beiser holds that Herder endorsed radical, and even anarchist, political views.

63. Herder, *Outlines*, I, 13.

64. Herder, *Sämtliche Werke*, VIII, 18, quoted by Meinecke, *Historism*, 296.

*the Universe* (1777), Herder had already begun to consider that not only man (as a spiritual being) was in contradiction with himself. At the end of the following decade he finally found a concept which allowed him to articulate his ideas of nature and history and view the dynamics of both as ruled by one and the same principle.

New studies on magnetism provided Herder the key to reformulate his "genetical method" and explain how a *nexus finalis* (an active force operating at the end point) became a *nexus effectivus*. Ultimately, they made available a model of historical "shape"—the pendulum—different from the Lambertian cycloid. It was then that he launched his attack against his former teacher—the so-called "campaign against Kant"—which was initiated with *Metakritik* (1799) and *Kalligone* (1800), works intended as a "metacriticism" of Kant's *Critique of Judgment* (1797)—and founded a newspaper (1800–1804) whose title, *Adrastea* (the name of the Greek goddess Nemesis, the goddess of "destiny," dispenser of happiness and avenger of the evil), expressed this new historical concept.

The pendular movement (a process not less blind than the providential guide of 1774) had, in the spirits of the peoples, its center towards which it gravitated. The pendulum was perfect, that is, self-contained ("all perfection of a thing," he said in *God: Some Conversations*, "is its reality"<sup>65</sup>); like the monad, it contained its own idea within. But this center was no longer the generating nucleus from which everything radiated, but the result of the intersection of opposed forces, the *juste milieu*. The drop served him as an example:

The drop is a sphere. In a sphere all the parts homogeneously surround a central point in harmony and order. The sphere rests upon itself; its center of gravity is in the middle. Its form is thus the most beautiful state of persistence of homogeneous entities which enter into connection around this middle point and counterbalance one another with equal forces. Thus a world comes into being in the drop according to necessary laws of harmony and order.<sup>66</sup>

Similarly, the pendular movement could be seen as resulting from the tension produced by the interaction of the two poles situated in the extremes of the arch drawn by an object oscillating between them. The interplay of forces in the system of polarities ruled the whole universe and defined the particular dynamics of each body. "Thus you have in the magnet," he said, "the most beautiful image of what hate and love in nature are, and I am sure that the identical thing will be found in many, and perhaps all fluids."<sup>67</sup> Now, the problem was how to deduce from this basis a certain idea of development: "can you conceive," he asked himself, "of an unceasing life, a continually operative force without continual operation, that is, an advancement without advancement? . . . It seems a contradiction." And he answered,

And it certainly is! Every force that takes on appearances in space and time must indeed remain within the limits that space and time gave to it. But with every activity it makes

65. Herder, *Sämtliche Werke*, XVI, quoted by Brown, *The Shape*, 30.

66. Herder, *God: Some Conversations*, 178.

67. *Ibid.*, 180.

its subsequent activity easier. . . . None of its operations, no activity in creation was in vain. There must be progress, advance in the realm of God, since there can be no standstill, and still less a regress.<sup>68</sup>

Perhaps a better image (or “shape,” in Brown’s sense) to explain this idea is a pendulum moving up and down on its vertical axis (probably by “leaps” at the beginning of every new revolution). This “shape,” though not postulated by Herder himself, can help illustrate the reasons for the importance that the *juste milieu* acquired in Herder’s thought: as the point of convergence of a people’s trajectory with the plane of the pendulum’s vertical axis, this marked not only its most perfect (stable) state but also the one whose perspective would provide a vision of the complete trajectory of the historico-universal course. At least provisionally, its particular center would coincide with that absolute one that Lambert (to whom Herder dedicated his best praise in *Adrastea*) looked for in the universe. Herder’s idea of the pendular coincidence between the particular and the universal actually referred back to another concept originally postulated by Lambert. Lambert had already posed, as a hypothesis, the possibility that once in a period of millions of years all the planets and stars would be situated in the same plane, revealing thus the harmony of the cosmos’ structure to any observer situated at any of its infinite points (that is, even when seen from our eccentric perspective).<sup>69</sup>

The *juste milieu* was, in short, that point where particular happiness and absolute happiness coincided, the point where “extreme oscillations from side to side” converged and “settled in the desirable means of lasting fitness in a regular movement.”<sup>70</sup> However, it always entailed, in the context of the thought of Herder’s time, the idea of a loss as well as that of a deviation from the natural, rational course. “Races and peoples,” he said, “try opposite extreme attitudes, until the whole reaches the repose’s center, as the pendulum does.” In a sense, the metaphor of the pendulum supposed a certain return to the same concept that brought Kepler to discover the elliptical trajectory of planets: the oscillations stemmed from radical human imperfection; they did not involve any necessary condition of history’s logical development; humanity gained nothing from them except pain and frustration.

Thus Herder finally found a solution to the problem that concerned him from his first works (the relationship between the particular and the general), but only at the expense of moderating his juvenile historicism. Nevertheless, this outcome resulted from contradictions present in the natural sciences of his time stemming from uneven developments produced in them rather than from the re-emergence of an older—but persistent in Herder’s thought—rationalism of the Enlightenment’s roots which his spiritualist vein could not ever tame. Ultimately, he represented one of those extremely exceptional cases in the history of thought in which new categories began to be defined, opening a horizon of interrogation for

68. *Ibid.*, 188-189.

69. Lambert, *Cosmological Letters*; in Munitz, *Theories of the Universe*, 252.

70. Herder, *Outlines*, II, 310.

which these very categories could not provide viable answers. In fact, the more Herder became familiar with the sciences of his time, the more he moved away from the Enlightenment. However, in this move he did not anticipate, not even partially, a supposedly "eternal" model of science that would later take shape in Darwin.<sup>71</sup> Actually, the synthesis towards which all Herder's thought gravitated but did not reach crystallized some years later, when the preformist concept in biology was redefined, incorporating a dynamic element (something that, up to then, seemed a contradiction in terms). Such a development would issue, this time, from the field of embryology.

In 1812, J. F. Meckel (1781–1833) renewed the theory originally proposed by Caspar Friedrich Wolff in his *Theoria Generationis* (1759), which had been forgotten for a long time. Wolff had discovered that, contrary to the postulates of germinal preformism, in the course of the embryo's development new parts and organs appeared that were not originally preformed in it. He described this development as the result of a process of segregation and solidification of organic substances propelled by a formative force (*vis essentialis*). Through it he could explain how the embryo develops from its own forces without resorting to pre-existing structures. It is against this theory that von Haller had raised the issue (which led to the setting aside of Wolff's theory) of how to explain the fact that transformations which operated on an originally unorganized substance could constitute an internally coherent system of life. However, embryos in Wolff's theory do not start in a state of absolute homogeneity. As Shirley Roe has remarked, Wolff's organic matter or *vis essentialis*, unlike the views of traditional vitalist thinkers, was not a passive entity, but one possessing form, qualities, modes, and attributes (*materia qualificata*). Yet embryos' initial heterogeneity was of a potential nature, based only on physical factors, which produced the structures of organisms through a gradual but automatic sequence of events.<sup>72</sup> This concept involved a radical departure from traditional vitalism. Wolff's misleading use of the old vitalist terminology tended to obscure this fact; however, this would become apparent with his nineteenth-century followers, who would later be known as the "fathers" of modern embryology.

The "rediscovery" of Wolff's ideas is owed to Meckel. This allowed him to reformulate ontogenetic ideas originally postulated in 1793, although under a mystical form, by L. F. Kiemeier. For Meckel, mammals, including humans, underwent an embryonic development beginning with the simplest animal stage (the polyp) and rising up in the chain of being reaching progressively upper stages of

71. Herder has been seen among other things as an "early positivist" (Martin Schütze, "The Fundamental Ideas in Herder's Thought," *Modern Philology* 18 [1920–1921], 65–78; cited by Nisbet, *Herder and the Philosophy and History of Science*, 8). The classical text that opens the debate, and whose title is already explicit enough, is Max Rouché, *Herder Précurseur de Darwin? Histoire d'un Mythe* (Paris, 1940). W. Zimmerli has denounced the anachronism implicit in this view ("Evolution or Development? Questions Concerning the Systematic and Historical Position of Herder," in *Herder Today: Contributions from the International Herder Conference*, Nov. 5–8, 1987, Stanford, California, ed. Kurt Mueller-Vollmer [Berlin and New York, 1990], 5).

72. See Shirley A. Roe, *Matter, Life, and Generation: Eighteenth-Century Embryology and the Haller–Wolff Debate* (Cambridge, Eng., 1981) 146–147.

organization (worm, crustacean, and so on), until they acquired those forms and characteristics specific to their own species. This was seen as the first formulation of the doctrine later popularized by Haeckel that “ontogenesis recapitulates phylogenesis.” And it was. However, there is no linear continuity between both theories. The actual development of this dynamic ontogenetic concept contradicted the possibility (on the phylogenetic level) of an evolutionary view of nature. Karl E. von Baer’s theory clearly shows this.

In *History of the Evolution of Animals* (1828), von Baer elaborated the first systematic concept of the embryo’s progressive formation. Just as Meckel reformulated Kiemeyer’s idea by resorting to Wolff’s, von Baer, in turn, reformulated Meckel’s idea by endorsing Cuvier’s doctrine of correlation, which had allowed the latter to become the leading paleontologist of his time. This doctrine explained animal economy on the basis of the mutual dependency of organs and parts. As he showed in his *Leçons d’anatomie comparée* (1800–1805), only certain organs could coexist. Cuvier’s standard example was the carnivore, which, if it were to survive, required sharp teeth and claws to catch its prey, as well as stomach and intestines suitable for digesting flesh, and so on. The key concept here was that of “conditions of existence” (“commonly called ‘final causes’,” as he admitted), which stated that, since no animal could exist without the conditions which rendered its existence possible, the parts of an animal were necessarily correlated to assure internal harmony as well as harmony with its environment. Following this principle, he affirmed that he could reconstruct a whole animal out of a single bone. Thus, by combining function and structure, Cuvier’s theory introduced a new twist in the development of modern physiology. His was a functional–holistic view, which contradicted the “principle of continuity” on which the Enlightenment’s “natural history” (as well as the old physiological doctrines of the vitalists) rested. For him, not all kinds of beings were functionally viable; once a major organ was modified, all the organs must be modified. This seemed to prove the untenability of evolutionary theories: it would be impossible to pass from one combination of organs to another by insensible gradations. As a consequence, Cuvier, against Geoffroy (a follower of Buffon), denied the idea of one single plan of organization for the whole universe of living species, affirming the existence of four, radically discontinuous, major plans.<sup>73</sup>

Von Baer translated this concept to the ontogenetic level. To the idea of *gradation*, the embryological correlate of Geoffroy’s transformism, von Baer opposed the idea of *formation*, meaning genetic processes which follow specific “plans of development” (von Baer distinguished, following Cuvier, four fundamental plans). He reinterpreted embryonic development as the successive passage through different, but functionally correlated, forms as the process of progressive differentiation of the species. According to this model, at an early stage of development we can observe in the germ general features that are common to all species; later, those corresponding to each specific class; and successively

73. See Toby A. Appel, *The Geoffroy-Cuvier Debate: French Biology in the Decades Before Darwin* (Oxford, 1987), 40–47.



those of its order, its particular species, and finally, its characteristics as an individual. By means of this synthesis of Cuvier's and Wolff's ideas, von Baer pretended to discuss both. Against the preformist doctrines (Cuvier), he affirmed the idea on an ontogenetic level of a formative process. Against the vitalist doctrines (Wolff), he rejected the concept of primordial "motor forces" different from the forms in which they were manifested. The result was a new concept of preformation: germinal evolution became a process of increasing individualization of living beings. Thus, embryology formulated the model of a system of progressive formation in which what was preformed was not a set of definite features, but the principle which conforms them. This principle, however, contrary to the ideas of the old vitalists, was not any kind of substance but ultimately a certain logical order of successive, mutually correlated transformations (similar to what we call today a "genetic program").

Von Baer's embryological concept, let us say, is part of a system of knowledge to which Herder served as a preamble (some authors have even considered Herder as a precursor of von Baer and Kiehmeyer).<sup>74</sup> This concept also shows a continuity with some typically late-Enlightenment concepts, which explains Meinecke's observation about the presence of profound links between both periods of thought (the Enlightenment and Romanticism). There is indeed an "inner dialectics" connecting the Enlightenment's "natural history" and Romanticism's "physiology." However, the latter did not emerge linearly from the former, as Herder's intellectual trajectory illustrates. The passage from history to History (as Foucault defined, a historicity which comes to objects from within)<sup>75</sup> involved putting together two notions that in the framework of late-Enlightenment philosophies represented a true contradiction in terms, namely the introduction of a dynamic component in a preformist matrix of thought.

Still, Herder's historical thought cannot be projected linearly to the future as a mere anticipation of a "true" evolutionary concept that later became fully developed. His own philosophy had definite antievolutionary foundations. As we saw, the kind of synthesis towards which his whole philosophy tended, without ever reaching it, crystallized only a few years after his death. However, such a synthesis would become feasible only after some of his core notions were redefined, such as the particular ideas of "evolution" and "organism" on which his philosophy rested. More importantly, it would not come from where he had been looking. Herder's "naturalistic turn" was still determined by an intellectual make-up that denounced a vitalist, typically late-Enlightenment substratum of thought that led him to conceive of the last source of life or *Kraft* (towards whose discovery

74. O. Temkin, "German Concepts of Ontogeny and History around 1800," in *The Double Face of Janus and other Essays in the History of Medicine* [Baltimore, 1977], 384-385: "Herder's influence over Kiehmeyer is so obvious that it has escaped the notice of neither modern historians nor Herder's own contemporaries [Note: According to E. Jacobshagen, . . . Herder's *Ideen* were the starting point for the whole biological movement around 1800, including not only Kiehmeyer, but also Goethe, Cuvier, and Pfaff]."

75. See Michel Foucault, *The Order of Things: An Archeology of the Human Sciences* (New York, 1970).

his whole “genetic method” was oriented) in terms of a sort of *Substance* (or “imponderous fluid,” like electricity or magnetism). This substance was thought of as a material principle that runs through bodies and produces their diverse organs. But as such this substance appeared as something prior to, and different from, the results of its action (an “I” that holds its predicates but exists independently from them). According to this concept, between this inner (invisible) principle and its external (visible) forms there was, ultimately, a merely contingent, not a conceptual, relationship. The conception of History would imply instead making humankind a *Subject*, something (as with von Baer’s germs) one and the same with its own attributes forming a progressive relation (*Bildung*) constitutive of itself.

Thus, if Herder serves as a paradigmatic figure, it can only be as an example of the epistemic malaise produced by the combination of unequal developments in the natural sciences of his time. As such, it is not hard to find inconsistencies in his philosophy. Yet they can hardly be seen as stemming from the confrontation of supposedly eternal (such as rationalism and spiritualism) or quasi-eternal (such as democracy and authoritarianism) antinomies, but rather from the fact that his philosophy was always pushed, by the unequal developments that it expressed, to confront its own limit. That is, his philosophy became obliged to answer a question that, from inside its own economy, emerged as inevitable but at the same time “unthinkable”: the idea of an order of the world which was constituted progressively just by following its own immanent tendencies of development. Here we meet the basic dilemma behind Herder’s philosophy which propelled his intellectual turns and twists. His was not merely an unfulfilled quest for an elusive truth, a transitional formation, one step in a vaster march, each marking higher degrees of consciousness and knowledge. As the analysis of Herder’s intellectual trajectory suggests, this is not the way conceptual transformations are produced. In her excellent study of the emergence of Wolff’s biological conception, Roe made this point clear:

It is significant to note that neither Wolff nor his epigenetist successors “solved” the “source-of-organization” problem in the terms it was enunciated by seventeenth- and eighteenth-century mechanists. Wolff’s rationalist program allowed him to redefine the question in such a manner that his epigenetic explanation based on qualified vegetable matter accounted for the hereditary phenomena of living organisms. Just so, the early nineteenth-century epigenetists viewed embryonic organization not as a problem to be explained, but as a starting point for embryological research.<sup>76</sup>

In their attempt to account for formative processes, the “founding fathers” of modern embryology would no longer attempt to explain the world’s structure, as the systematizers of “natural history” did. They would simply assume it as a given, a datum. This assumption constituted the premise on which the entirety of their specific system of knowledge rested. This ultimately shows why Herder’s quest was *conceptually* (that is, not just contingently, temporarily) unsolvable. His very problem (if it were to yield a “solution”) was “ill-formulated.” Con-

76. Roe, *Matter, Life, and Generation*, 155.

ceiving a principle of development intrinsic in nature and history (a History) *involved simply leaving aside the question of the source-of-organization, as posed by late-Enlightenment philosophers.* Yet, Herder still insisted on elaborating a system that brings a solution to both questions at the same time. Hence his inconsistencies.

Finally, these were determined less by "what he still did not know" than by "what he could not forget." His intellectual adventure began with his denunciation of the *blind spots* present in his predecessors' system of thought. Its tragedy lay in the fact that he could not yet identify his own blind spots (something indispensable for a system of thought to be constituted). This makes manifest the ultimately contingent character of the foundations of every system of knowledge. In the last instance, it shows that ignorance and knowledge conceptually entail each other, or, to paraphrase MacIntyre's words, that no philosophy can "fully think by itself if it wants to think fully by itself."<sup>77</sup>

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77. Alasdair MacIntyre, *Whose Justice? Which Rationality?* (Notre Dame, Ind., 1988), 396.