Médecin-philosoph: Persona for Radical Enlightenment

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In 1772 a book appeared in Germany which officially inaugurated an intellectual pursuit that had been emerging over the course of the century and which would become the “royal science” of the rest of the century in Germany, Ernst Platner’s Anthropologie für Ärzte und Weltweise. What I want to consider is how that combination of Ärzte (physicians) and Weltweise (philosophers) got into Platner’s title. I want to explore a peculiar mode of philosophical self-presentation that became crucial in Europe around the middle of the 18th century, the “médecin-philosoph.” I would like to begin my narrative with a curious mistake in ascription by the eminent German theologian from Halle, Sigmund Baumgarten, in 1745, when the latter identified the author of the anonymously published Natural History of the Soul as “the physician [Denis] Diderot.” Baumgarten was wrong, of course, on two counts: the book was not by Diderot (but by Julien Offray de La Mettrie), and Diderot was no physician. Yet the mistake was thoroughly comprehensible, because the book sounded like Diderot, and Diderot sounded like a physician (having shortly before translated into French one of the most imposing tomes of English medicine with the aplomb that only a medical doctor should have possessed). He also believed that medicine offered a distinctly privileged entrée into the key philosophical issues of his day. Masks and meanings are equally a propos. Diderot and La Mettrie will be at the center of my tale, which will take me from Paris to the Netherlands to return, at last, to Germany and the context behind Platner’s text.

Panagiotis Kondylis has made the important argument that the Enlightenment undertook


3 R. James, Dictionnaire universel de médecine, chirugie, anatomie, ed. française par Diderot, Eidous, Toussaint (6 vols., Paris, 1746-48).

4 For his medical fascination, see Kathleen Wellman, “Medicine as a Key to Defining Enlightenment Issues: The Case of Julien Offray de La Mettrie,” Studies in Eighteenth-Century Culture 17 (1987), 75-89, especially 89, n43: “Diderot said of medicine: ‘It is very hard to think cogently about metaphysics or ethics without being an anatomist, a naturalist, a physiologist, and a physician.’” She found this passage cited in Arthur Wilson’s biography, Diderot (NY: Oxford UP, 1957), 93.
a “rehabilitation of sensibility” not simply in the sense of taking sensual experience seriously in
cognition but in recognizing and attaching positive value to the animal nature of man.\(^5\) Rejecting
what it envisioned as “Cartesian” dualism, the 18\(^{th}\)-century science of man sought to “rehabilitate
corporeality” from negative associations which actually had their sources long before Descartes
in Platonism and Christianity.\(^6\) The new physiological psychologists believed even “the most
impalpable and spiritual functions of man were to reveal themselves empirically, to exhibit
sensible signs, and to permit an empirical analysis.”\(^7\) This was the special project of the
“philosophical physicians.” In medicine the categorical dualism of body and soul made no sense
at all. The register was not initially or essentially metaphysical or theoretical. It wasn’t even
simply diagnostic. It was \textit{therapeutic}. The concern of physicians was a health which required
the harmony of body and soul, and they had to attend to their mutual determinations. Medical
thinkers made the “whole man” an issue. They had no choice but to intrude into the sacrosanct
spheres of metaphysics, to become \textit{philosophical} physicians.\(^8\)

The \textit{médecins-philosophes} found the anti-metaphysical thrust of empiricism distinctly to
their liking.\(^9\) They adopted \textit{influxus physicus} as a methodological premise, even if they
recognized that they could achieve no metaphysical solution to the conundrum of the
\textit{commercium corporis et mentis}.\(^10\) In its more concrete practice, eighteenth-century medicine

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7 Ibid. As Gary Hatfield puts it, “Ontological questions were bracketed in order to concentrate on the study of
mental faculties through their empirical manifestations in mental phenomena and external behavior.” (Gary
Christopher Fox, Roy Porter and Robert Wokler (Berkeley: University of California Press, 1995), 31-52, citing 188.)

8 Hans-Jürgen Schings, “Der philosophische Arzt,” in Schings, \textit{Melancholie und Aufklärung} (Stuttgart: Metzler,
Jürgen Barkoff and Eda Sagarra (Munich: Iudicium, 1992), 24-52.

in Zelle, ed., “Vernünftige Ärzte”: Hallesche Psychomediziner und die Anfänge der Anthropologie in der

10 Eric Watkins, “The Development of Physical Influx in Early 18\(^{th}\)-Century Germany,” \textit{Review of Metaphysics} 49
(1995), 295-339. The mind/body problem was allowed “to recede,” according to Karl Figlio, that is, the new ideas
“were not so much philosophical solutions as they were physiological doctrines which spawned experimental
inquiry.” (Figlio, “Theories of Perception and the Physiology of Mind in the late 18\(^{th}\) Century,” \textit{History of Science}
12 (1975), 177-212, citing 180.)
was caught up in the similarly polarized field between Hermann Boerhaave’s mechanism and Georg-Ernst Stahl’s animism, between Boerhaave’s “humoral” and Stahl’s “animist” theory of disease.\textsuperscript{11} But the philosophical physicians were determined to let “experience and observation alone ... guide us here.”\textsuperscript{12} As Wolfgang Riedel observes, “independently of the discussion about humoral, nervous or spiritual causes of illness, the therapeutic measures aimed at one and the same time at body and at soul.”\textsuperscript{13} The \textit{médecins philosophes}, “because of their own observations as practicing physicians[, ...] accepted the decisive argument that physiological states affected all human behavior, including intellecation, acts of will, and moral behavior.”\textsuperscript{14}

The term \textit{médecin-philosoph} came to prominence in France as a rubric especially for the school of Montpellier.\textsuperscript{15} Théophile Bordeu was among the most explicit in identifying himself as a \textit{médecin-philosoph}.\textsuperscript{16} The maverick La Mettrie, the most notorious example, insisted that philosophical physicians, and only they, could penetrate through the labyrinth of man.\textsuperscript{17} The French \textit{médecins-philosophes} adopted the “optimistic attitude that a physiological consideration of man would throw light upon obscure epistemological and moral-legal problem constellations.”\textsuperscript{18} This was not unique to France; it was a transnational impulse of the European

\begin{thebibliography}{99}
\item Andrew Cunningham and Roger French, eds., \textit{The Medical Enlightenment of the Eighteenth Century} (Cambridge: Cambridge University Press, 1990).
\item Kathleen Wellman, \textit{La Mettrie: Medicine, Philosophy, and Enlightenment} (Durham: Duke University Press, 1996), 130.
\item For the crucial role of the medical school of Montpellier, see Elizabeth Williams, \textit{The Physical and the Moral: Anthropology, physiology, and philosophical medicine in France, 1750-1850} (Cambridge: Cambridge University Press, 1994).
\item La Mettrie, \textit{Machine Man}, 5.
\end{thebibliography}
Enlightenment. Thus the same impulse animated the Scottish Enlightenment. John Gregory was unquestionably a “philosophical physician.” In his important work, *A Comparative View of the State and Faculties of Man with Those of the Animal World* (1765), he “drew on Bacon’s methodological legacy and developed a natural historical, comparative method, which incorporated the investigation of both body and mind, along with their interconnections.” He “recommended as ‘a very important enquiry to a physician’ the investigation of the ‘laws relating to the mutual influence of the mind and body upon each other’, along with the study of the ‘history of the faculties of the human mind’.”

That phrase clearly evokes John Locke. It has perhaps been underappreciated that Locke was one of the most important physicians of his day, and that he might well be looked upon as a “founding” philosophical physician. He transformed the most fundamental of all the philosophical disciplines, logic, in a starkly psychological direction, broadening the inquiry associated with logic to a far wider conspectus; he “compared the operations of the human mind with those of the higher animals” and with the “mental states of idiots and madmen,” and indeed, sought evidence from “the whole course of Men in their several Ages, Countries, and Educations.” Breaking free from mere introspection, Locke “opened up new perspectives on the relevance of history, anthropology, and the comparative study of languages for the science of the mind.” He was the unquestioned source from whom Condillac, “the leading psychologist of the eighteenth century,” drew inspiration, as Condillac in turn proved the inspiration of the

19 And, as I shall discuss, the German. See, esp. Carsten Zelle, ed., “Vernünftige Ärzte”. For the Scottish case, see Charles Withers and Paul Wood, eds., *Science and Medicine in the Scottish Enlightenment* (East Linton, UK: Tuckwell, 2002).


21 Ibid., 93.

22 Wellman, “Medicine as a Key,” 87, n.13.


Encyclopédistes and of Charles Bonnet.\(^{25}\)

One of the central premises of the new view was that human life should always be conceived as situated in nature.\(^ {26}\) Hence the importance of “environment,” of milieu and climate, in the reconstruction of human experience, inaugurated by Montesquieu, developed by the Comte de Buffon, and systematized by the Scottish Enlightenment.\(^ {27}\) But the synthetic impulse reached out even more widely than this. Not only the study of primitives conjoined with the history of civilization, but also the question of animal-human comparison, the origins of language, the nature of sexuality, the problems of monsters and insanity -- all seemed to be relevant to a grasp of human nature, which was, as Robert Wokler notes, a foremost obsession of the eighteenth century.\(^ {28}\) That suggests, in turn, an essential methodological parallelism between the new discourse of the “science of man” and the larger “natural philosophy” of the eighteenth century.\(^ {29}\)

Decisive for this reorientation to “natural history” was Buffon. He inaugurated the consideration of the human species as an object of natural history.\(^ {30}\) His enormously influential *Histoire Naturelle*, the first three volumes of which appeared in 1749, was grounded in his earlier methodological and philosophical studies in mathematics, probability theory, and epistemology.\(^ {31}\) Accordingly, Buffon insisted on the distinction between “physical” and

\(^{25}\) Vidal, “Psychology in the 18\(^{th}\) Century,” 89-90.

\(^{26}\) Two of the greatest thinkers in this vein made this point explicitly. Adam Ferguson insisted that in emphasizing human artifice it should never be forgotten that in humans, art is nature. And Johann Blumenbach similarly insisted that the history of man was a natural history.


\(^{29}\) Moravia developed this idea in “From *homme machine* to *homme sensible*: Changing Eighteenth-Century Models of Man’s Image,” *Journal of the History of Ideas* 39 (1978), 45-60.

\(^{30}\) “Anthropology sprang from a great thought of Buffon. Up to his time, man had never been studied, except as an individual; Buffon was the first who, in man, studied the species.” (M. Flourens, “Memoir of Blumenbach,” in Blumenbach, *Anthropological Treatises* (London: Longman, 1865), 55.)

\(^{31}\) He began his career as a mathematician, the translator and commentator of Newton’s *Fluxions* (1740). He took to heart the powerful criticisms of the conflation of mathematics and metaphysics in Newton’s natural philosophy regarding absolute space and time, especially as these were formulated by Fontenelle and Berkeley. (Phillip Sloan,
“abstract,” and, above all, on grounding science always in particulars. Hence the recourse of natural science should be ever to induction and, in the absence of perfect knowledge, to probability. In the “Preliminary Discourse” to the *Histoire Naturelle* (1749), he wrote: “one progresses from observation to observation in the sciences of the real [sciences réelles].” His entire enterprise was to “achieve some kind of immanent, connected understanding of [actual] phenomena.” Essentially, “the basis of the argument ... is not intrinsically biological or even empirical, but epistemological,” yet its outcome was “opening to true historicity in the concept of species.”

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32 As Sloan puts it, “Mathematical truth, at least in the sense of the reasoning of geometry is only ‘abstract’ and concerns only the relation of ideas. Such abstractions have no immediate contact with reality. Reality is reached by what Buffon terms ‘physical’ truth.” (Phillip Sloan, “The Gaze of Natural History,” in *Inventing Human Science*, 112-151, citing 129.)

33 Cited in ibid., 129.

34 Ibid.

35 Sloan, “From Logical Universals,” 123. “The location of human beings among the animals was combined with a radical historicizing and naturalizing of the human species that would pursue zoogeographical analysis of humanity in connection with a gradually developing schema of a naturalized account of cosmological and geological history.” (Sloan, “The Gaze of Natural History,” 126)
The “Vital Materialist” Breakthrough in the 1740s

In a very short span of years around mid century, the French natural philosophers Pierre Maupertuis, Buffon, Diderot, and La Mettrie opened the way for a new “vital materialism” in the life sciences.36 This theoretical mutation began in the early work of Maupertuis and Buffon, who were in close contact at the time.37 Together they challenged the adequacy of the mechanist paradigm for the life sciences. Shortly before departing France for his new post as President of the Berlin Academy, Maupertuis published his provocative Vénus physique (1745).38 It was a pioneering effort whose influence on science in the mid-eighteenth century deserves greater recognition. In his short text, Maupertuis argued that the two claims he believed observation and experience warranted -- biparental contribution to, and epigenetic development of, the embryo -- implied a theory of active matter, of “vital materialism.”39 It was materialism, in that it recognized in nature the power of self-formation.40 But it was vital in that it argued that the mechanical principles of physics did not suffice to account for the phenomenon.41

The original edition of Vénus physique went through three printings by 1750.42 In the

36. Sergio Moravia has documented the shift in medical thought from the "iatromechanical" to the "vitalist" orientation in the school of Montpellier and in the thought of men like Maupertuis, Buffon, Bordeu, and Diderot. (Sergio Moravia, "From homme machine to homme sensible," 45-60.) Aram Vartanian has conceptualized the impetus of these crucial years in terms of the transformation in Denis Diderot: “From deist to atheist,” Diderot Studies 1 (1958), 46-63. “Man considered as a machine gave ground for the hope that one could unlock the mystery of the wholeness of man via insight into his physical organization.” (Gerald Hartung, “Über den Selbstmord,” 41)

37 Maupertuis and the Comte de Buffon became close friends starting in the early 1740s. This very important relationship deserves further study, and without the presupposition that Buffon was the senior partner, as in Jacques Roger, Les sciences de la vie dans la pensée française du XVIIIe siècle (Paris: Armin Colin, 1963), 475-6.


39 “These active properties allow for many possible outcomes, within certain parameters, and they locate the capability to produce order in matter itself.” (Mary Terrall, “Salon, Academy, and Boudoir: Generation and Desire in Maupertuis’s Science of Life,” Isis 87 (1996), 217-229, citing 223.)

40 That is, it embraced “the idea that matter contained a plastic, vital, even divine principle continuously at work,” in the terms of C.U.M. Smith, The Problem of Life (NY/Toronto: Wiley, 1976), 268.

first volumes of his *Histoire Naturelle* (1749), Buffon vigorously affirmed Maupertuis’s achievement: “The *Vénus physique* ... although very brief, gathers together more philosophic ideas than there are in many large volumes on generation.” Its author was “a man of spirit who seemed to me to have reasoned better than all those who have written before him on this matter.”

In his own work, Buffon advanced the argument: “By reinterpreting the issue of generation in epigenetic terms, Buffon provided a means by which the contingencies of geography and climate, acting upon the *molécules*, could affect the actual reproductive lineage of the species.”

In the *Système de la nature: Essai sur la formation des corps organisés* (1752), Maupertuis went decisively further, suggesting that generation should be construed as part of a universal dynamism of nature, advancing to higher and higher degrees of organization from inanimate matter to living organisms to man. Maupertuis set about elaborating a general theory of active matter, a plausible theory of hylozoism. He found evidence of this self-formative capacity in crystallization, as in the “tree of Diana.” Maupertuis concluded that plants and even crystals exhibited some elements of the self-organization that he discerned definitively in animal sexual reproduction, and accordingly he offered the prospect of a unified theory of natural process.

Maupertuis’ *Système de la Nature* triggered some of the most pointed debates on the nature and method of science at mid-century, drawing responses from Diderot and from

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46 Hoffheimer, “Maupertuis and ... Preexistence,” 126. Hoffheimer observes, very strikingly, that this “hylozoism converges with various forms of the Leibniz-Wolffian philosophy” then current in Germany (ibid., 136). Terrall makes the important point that Maupertuis endeavored to make this theologically and scientifically palatable. (*The Man Who Flattened the Earth*, 329)

47 Maupertuis, *Système de la nature*, 167. Already in *Vénus physique* Maupertuis developed this idea of self-formation in inorganic forms and offered the example of the “tree of Diana” from crystallography. (Maupertuis, *Vénus physique*, 119; tr. 54)

48 Maupertuis, *Système de la nature*, 166-167.
D’Alembert which are themselves landmarks of the paradigm shift.\footnote{On the centrality of Maupertuis’ debate with D’Alembert, see Mary Terrall, “The Culture of Science in Frederick the Great’s Berlin,” \textit{History of Science} 28 (1990), 333-364. In Germany both Mendelssohn and Kant were thoroughly embroiled with Maupertuis’ thought. So was the crucial young physiologist at Halle, Caspar Friedrich Wolff.} Maupertuis’ work served as the exemplary instance of recent natural science in Diderot’s \textit{Pensées sur l’interprétation de la nature} (1754). That, in turn, occasioned Maupertuis’ rejoinder: \textit{Réponse aux objections de M. Diderot}.\footnote{Diderot, \textit{Pensées sur l’interprétation de la nature}, in Diderot, \textit{Oeuvres complètes}, ed. Jean Verloot (Paris: Hermann, 1981), vol. 9; Pierre Maupertuis, \textit{Réponse aux observations de M. Diderot}.} Their exchange achieved contemporary notoriety due to its imbrication with “Spinozism.”\footnote{See Aram Vartanian, “Diderot and Maupertuis,” \textit{Revue internationale de philosophie} 38 (1984), 46-66. I do not agree with much in this essay, but it raises the right issues; see also, for a more persuasive account, André Robinet, “Place de la polémique Maupertuis-Diderot dans l’œuvre de Dom Deschamps,” \textit{Actes de la journée Maupertuis} ( Créteil, 1er décembre 1973) (CNRS; Paris: Vrin, 1975), 33-46, and the discussions in Beeson and Terrall.} Thus, in the comment noted at the outset of my essay, Baumgarten suspected the “physician” Diderot already in 1745 of perfidious “Spinozism.”

“Spinozism” was a pejorative epithet hurled at, but then defiantly embraced by the “materialists” of the new life science.\footnote{Zammito, “‘The Most Hidden Conditions of Men of the First Rank’ --The Pantheist Current in Eighteenth-Century Germany ‘Uncovered’ by the Spinoza Controversy,” \textit{Eighteenth-Century Thought} 1 (2003), 335-368.} If they were “Spinozists,” though, they were of a quite different stripe. The radical difference in “Spinozism” was twofold: a vitalism entailed in the proposition that all matter is sensible, and a stress on organic growth. Far from Spinoza’s “geometric” mechanism, these thinkers emphasized an immanent creativity in nature that mechanism simply could not account for.\footnote{Despite his enormous erudition, Jonathan Israel seems tone-deaf to this difference between the original thought of Spinoza and its eighteenth-century reception and revision as “Spinozism.” See Israel, \textit{The Radical Enlightenment} (Oxford/NY: Oxford University Press, 2001), esp. 704-714.} It was Leibniz, not Spinoza, among the traditional metaphysicians, who offered them the most conceptual scope.\footnote{See Condillac’s dissertation on the monad, submitted to the Berlin Academy for the contest of 1747 and published together with the winning entry for that prize contest shortly thereafter (Condillac, \textit{Les Monades}, ed. Laurence Bongie (Oxford: Voltaire Foundation, 1980); and Diderot, “Leibnizianisme,” in the \textit{Encyclopédie}.} Through Leibniz, “nature as a whole appeared like a vast living organism.”\footnote{Paul Vernier, \textit{Spinoza et la pensée française avant la Révolution} (2 vols.; Paris: Presses Universitaires de France, 1954), 530.} As Paul Vernier classically summarizes it, “to
the geometric monism of Spinoza succeeds a vitalist monism dominated by the idea of nature.”

The thrust of “neo-Spinozism,” according to Vernière, was to “refashion a monism more in accordance with the findings of science.” Neo-Spinozists were “not abstract speculators; they were scientists; taking their point of departure from precise experiments in embryogenesis and animal physiology, they profess[ed] to have found in matter itself the laws which preside over the origin and development of life.” La Mettrie wrestled with the allegation of “Spinozism” in the introduction to his collected works (1751), noting that he had never seriously studied Spinoza and that if they had come to the same conclusions, it was by entirely different routes. Like Diderot, he operated simply from the conviction that only natural science could warrant philosophical claims.

The new “Spinozism” found its most succinct and decisive formulation in Diderot’s remarkable little article, “Spinosiste” in the Encyclopédie (vol. 5; 1765). The entirety of that text deserves citation:

One should not confuse the old spinozists with the modern spinozists. The general principle of the latter is that matter is sensible, which they demonstrate by the development of the egg, an inert body which, by the sole instrumentality of gradual warming, passes into the state of being sensitive and alive, and by the growth of every animal which at the outset is nothing but a point and which, by the nutritive assimilation of plants – in a word, of all substances which provide nutrition, emerges as a large, sensitive and living body occupying a large space. From this they conclude that there is nothing but matter and that it suffices to explain everything. For the rest, they follow the older spinozism in

56. Ibid., 553.
57. Ibid.
58. Ibid., 529.
all its consequences. Diderot was responding, in short, to a new breakthrough in science. “A new domain seemed to have been won for science which required a fresh, direct contact with things, new methods for their investigation, and which promised the discovery of the concrete ‘individual qualities of things.’”

After 1750, on the heels of developments in the life sciences and medicine, Diderot felt he could predict: “we are on the threshold of a great revolution in the sciences.” Clearly, his anticipation exceeded the actuality, but a paradigm shift was taking place. His De l’interprétation de la nature attacked the preponderance of the mathematical (and mechanist) paradigm in natural science on behalf of the physique expérimentale emerging in the new fields of “chemistry, physiology, and biology.” Diderot’s inspiration came largely from Buffon and Maupertuis, and perhaps, less congenially, from La Mettrie. As earlier noted, one of the central projects of Diderot’s work was to come to terms with Maupertuis’ Système de la Nature. From Buffon and Maupertuis Diderot explicitly drew his grand hypothesis: “It appears that nature is disposed to vary the same mechanism in an infinity of different ways. It never abandons a type


65. Dieckmann argues that Diderot “adopts and follows ... confessedly the ideas of Maupertuis and Buffon.” (Dieckmann, “The Influence of Francis Bacon,” 39) Diderot cites both authors, but omits any mention of La Mettrie, except in the strange “post script” to the advertisement he inserted into the second edition: “Always keep in mind that nature is not God; that a man is not a machine; that a hypothesis is not a fact...” (Diderot, De l’interprétation de la nature, 173) As Wellman observes, Diderot expressed disdain for La Mettrie in other publications: “He said of La Mettrie: ‘Dissolute, impudent, a buffoon, a flatterer; made for life at court and the favor of nobles. He dies as he should have, a victim of his own intemperance and his folly. He killed himself by ignorance of the art he professed.’” (Wellman, “Medicine as a Key,” 86, n.6.)
of product until it has proliferated its tokens into all possible forms." In particular, this led Diderot to conjectures about organic forms. "Might one not willingly believe that there has never been but one original animal, prototype of all the animals in which nature has done nothing more than elongate, shorten, transform, multiply, obliterate certain organs?" "For Diderot there was no difference between the organic and the inorganic except in the degree of organization. His whole world was dynamic. The universe was a great animal, and it was also one enormous elastic body conserving vis viva." Diderot wrote to Duclos in 1765: "Sensibility is a universal property of matter, a property that lies inert in inanimate objects [but one] that becomes active in the same objects by their assimilation into living animal substance..." These insights achieved their most brilliant articulation in 1769 in Diderot’s *D’Alembert’s Dream.* Taken together with his essays in the *Encyclopédie,* this work and his earlier *De l’interprétation de la nature* make Diderot one of the most percipient philosophers of science of the eighteenth century. Significantly, he devoted considerable energy to drawing together the best minds of French medicine – most from the School of Montpellier – to compose all the articles on life science for the *Encyclopédie.* The most famous contributor was Théophile de Bordeu, whom Diderot fictionalized in *D’Alembert’s Dream* to expound the new ideas of vital materialism. Later, in a sustained monograph of his own, *Éléments de*

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67. Ibid. 187.


70 Diderot, *D’Alembert’s Dream* in Diderot, *Rameau’s Nephew/D’Alembert’s Dream* (Harmonsworth: Penguin, 19..) Composed in summer 1769, this text circulated in manuscript and was published only in 1784 upon the death of D’Alembert.


73 “Bordeu and the other doctors from the medical school at Montpellier criticized the distinction that Haller made between irritability and sensibility. Bordeu claimed that all living matter was sensible and that irritability was only a special case of sensibility.” (Hankins, *Science in the Enlightenment,* 125)
physiologie (1778), Diderot attempted a synthesis of the whole view. What was clear by then is that Diderot unequivocally believed that the medical approach – vital materialism – was the only viable philosophy. He had, in a word, adopted the persona of a médecin-philosophe.

La Mettrie' L’Homme Machine: A Tale of Two Students of Boerhaave

Though "a convinced Newtonian mechanist," P. H. Reill points out, Hermann Boerhaave “introduced the Trojan horse of substantialized forces” into the life sciences from his dominant post as professor of medicine at Leiden. In that context of theoretical dissonance, Boerhaave's two most famous students, Albrecht von Haller and Julien Offray de LaMettrie, carried the revisionist impulse to a breakthrough around mid-century. Haller was simply the most important pioneer in physiology of his generation, yet his religious and philosophical orientation remained very traditional. It was just this embarrassment which LaMettrie exploited. He recognized that Haller's physiological research signaled new breakthroughs in the life sciences, but that his personal religious commitments could not accommodate their implications. Callously, he exposed Haller's contradiction by dedicating the anonymous and scandalous L'Homme Machine (1747) to him. The nasty exchange which ensued between the two figures exposed the crisis of metaphysical and theological commitments that natural scientific developments were occasioning.

La Mettrie studied with Boerhaave at Leiden after having completed his medical education at Paris and determining that it had been worthless. He set about propagating to a


76 Wim Klever, "Hermann Boerhaave (1668-1738) oder Spinozismus als rein mechanische Wissenschaft des Menschen," in Spinoza in der europäischen Geistesgeschichte, 75-93, is correct in his description of Boerhaave's mechanism but fundamentally misguided about the persistence of this mechanism in the later eighteenth century. Holbach’s System of Nature (1770) is, in this light, retrograde, not exemplary relative to the developments in natural philosophy. La Mettrie, by contrast, is far more in step with these developments.


78 Raymond de Saussure, "Haller and La Mettrie," Journal of the History of Medicine (Autumn 1949), 431-449. “La Mettrie had known perfectly well that his action would undermine the vulnerable position of a man who, in the eyes of all Europe, was one of the most respected personifications of the fusion of scientific eminence and orthodox piety.” (Aram Vartanian, La Mettrie's L'homme Machine: A Study in the Origins of an Idea (Princeton: Princeton University Press, 1960), 104)

79 Wellman, La Mettrie.
French audience what he took to be Boerhaave’s superior (but not flawless) approach by translating the master’s key work: *Institutiones* (2 vols, 1740).^{80} Then he translated into colloquial French Haller’s critically annotated edition of Boerhaave without crediting Haller in the title (1743-48, 6 vols. with commentary).^{81} Haller was outraged – as author and as theorist. He charged La Mettrie with plagiarism.^{82} Then Haller reviewed La Mettrie’s *Histoire naturelle de l’âme* in the same vein.^{83} “The dedication of *l’Homme machine* to Haller was La Mettrie’s revenge for this second review. To discomfit his accuser, La Mettrie seemingly concurred in the charge of plagiarism to the point of publicly acclaiming Haller as the source of inspiration of his own ‘scandalous’ ideas.”^{84} The dedication was “an exercise in mockingly exaggerated praise with erotic innuendoes that parody a youthful and well-known poem of Haller’s...”^{85}

*L’Homme Machine* was published anonymously in Holland, occasioning real ambiguity of authorship: “An English translation, attributing the authorship to the Marquis d’Argens, was published as *Man a Machine* in London by W. Owen in 1749, then reprinted in 1750 giving the author correctly as La Mettrie...”^{86} Haller’s review of *l’Homme machine* solemnly made known the extreme distaste he felt at finding himself linked in any way to the doctrines expressed in the anonymous volume. He described *l’Homme machine* as an “epitome of the poem of Lucretius ... merely augmented by a few observations and discoveries of the modern period.”^{87} Haller

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80 “Boerhaave, in La Mettrie’s hands, must be acknowledged as a crucial figure in defining objections to Cartesian physiology and as a primary source for the interpretation of Locke as a materialist and a medical figure...” (Ibid., 126)

81 “Haller’s commentary is essentially a series of Latin footnotes explicating particular words or phrases of Boerhaave’s numbered, aphoristic remarks. La Mettrie incorporates much of the content of Haller’s notes, so Haller certainly had grounds for his vehement complaints and outraged charges of plagiarism... However, La Mettrie’s commentary is different in both style and substance. La Mettrie did not simply replicate a disjointed series of Latin footnotes. Instead he provided a connected commentary written in French in a conversational style...” (Ibid., 107)

82 Haller, Review in *Göttingische Zeitungen von gelehrten Sachen*, June 1745, 377-78.


86 La Mettrie, *Machine Man*, tr. note, 2.

charged “that everything l’Homme machine had said about irritability had been derived either from his own publications, or from certain experiments performed by [his assistant and successor at Leiden] Bernhard Siegfried Albinus.”

Ironically, “Haller’s serious-minded response to La Mettrie’s jests caused him to be regarded by an amused public, despite his being the morally injured party, as in some measure deserving of the ridicule he met with.”

La Mettrie was as notorious in the middle of the eighteenth century for materialism as Spinoza had been for the prior century, but his materialism carried within it a great deal of the scientific novelty of the age. We must at last “recognize the organic nature of La Mettrie’s physiology...” His concept of Nature helped incite “the rise of transformistic naturalism in the Enlightenment.”

Leonore Rosenfield caught exactly what was important about his work: “What he was driving at was that man and beast are commensurable parts of the universal chain of being. If one has soul, so has the other; if one is a machine, so is the other. In line with a whole naturalistic tradition, he aimed to stress the essential community of all forms of life. On the one hand he was pleading the transformist cause in biology; on the other, he was striving to make of psychology a physiological rather than a theological study. Therein lies his significance.”

Nature as “something in process” – natura naturans – was the key idea linking La Mettrie with Diderot, Buffon, and the transformation of natural history. “By taking an extreme polemical position so early in the Enlightenment, more flamboyant than subtle and more

88 Vartanian, La Mettrie’s L’Homme Machine, 87.
89 Ibid., 200.
90 “La Mettrie represented human nature as the organizing power of living matter, deliberately earning himself a shocking reputation as a materialist.” (Roger Smith, “The Language of Human Nature,” 99.) “Man a machine” – is the title La Mettrie’s argument? His contemporary respondents (as well as subsequent scholars) often read the title rather than the book. “Scholarly attention has focused almost entirely on the text of L’Homme machine and even more narrowly on its title.” (Wellman, La Mettrie, 172.) Wellman aptly notes “the independent status of l’homme machine as a term that has taken on a life and a history of its own.” (Ibid., 171) LaMettrie’s title and LaMettrie’s text are two quite different things: there is a great deal more vitalism in LaMettrie’s materialism than there is mechanism.
91 Wellman, La Mettrie, 172.
92 Vartanian, La Mettrie’s L’Homme Machine, 109.
94 Vartanian, Diderot and Descartes, 75.
controversial than persuasive, La Mettrie played a crucial role in setting the terms in which philosophical issues would subsequently be discussed.”

Wellman stresses convincingly that “in terms of structure, argument, and evidence, *L’Homme machine* seems to be an 18th-century medical text,” and that La Mettrie used that device to incite “a redefinition of the philosopher and to demonstrate the methodology and the concerns of the médecin-philosoph.” That is: “the findings and methods of medicine and physiology must be used to critically reappraise philosophy.” “The crux of any argument [should be] the empirical evidence of case studies. Physiological evidence weighed far more heavily than metaphysical conventions.” Methodologically, in La Mettrie’s own words, “experience and observation alone should guide us here.” “Man is a machine constructed in such a way that it is impossible first of all to have a clear idea of it and consequently to define it... Therefore let us take up the staff of experience and ignore the history of all the futile opinions of philosophers.”

There were crucial epistemological consequences, as Wellman notes: “Relying on medicine rather than mathematics as an ideal meant that La Mettrie advanced lower expectations for certainty and that he had a much less abstract notion of nature, human nature, and morality...”

La Mettrie raised to polemical heights the contention that the path from medicine to philosophy was the only sound one. As a “philosophical physician,” he believed his metaphysical convictions drew upon sound empirical evidence. “The physician is the only philosopher who deserves well of his country.” That is because the only relevant evidence can be “...found in abundance in the annals of physicians who were philosophers, not in those of

95 Wellman, *La Mettrie*, 138.
96 Ibid., 186.
97 Ibid., 137.
98 Ibid., 136.
100 Ibid., 5.
101 Wellman, *La Mettrie*, 166.
philosophers who were not physicians. Physicians have explored and thrown light on the labyrinth of man; they alone have revealed the springs hidden under coverings which keep so many marvels from our gaze... Once again, these are the only natural philosophers who have the right to speak on this subject.”

By contrast, theologians have nothing to contribute. “Break the chains of your prejudices and take up the torch of experience, and you will honour nature in the way she deserves,” La Mettrie demanded. “I reject here all prejudiced men who are neither anatomists nor versed in the only philosophy that is relevant here, that of the human body.”

His bold provocations made urgent the methodological and the metaphysical issues of the paradigm shift to a “vital materialism.”

“So lively was the hostility aroused by the appearance of l’Homme machine that it ranks as perhaps the most heartily condemned work in an age that saw the keenest competition for such honors.” It offended “all classes of ‘right-thinking’ people.” The furor was strongest in Germany, because of Haller and because of Frederick II’s protection of La Mettrie. The most noteworthy charge, as we have seen, was “Spinozism,” i.e., vital materialism, with its “atheistic” implications. Figures like Haller, Bonnet, and Buffon found themselves torn between metaphysical allegiances to dualistic spiritualism and models in empirical life science which clearly undermined such neat distinctions. One of the ways in which these figures, most of them committed like Haller on religious or philosophical grounds to some form of dualism, could work in this field was to distinguish between a “rational soul,” which was immaterial and spontaneously active, and an “animal soul,” which was corporeal and if not entirely passive, at least susceptible to a “simple model” of causation, which we might anachronistically call “stimulus-response.” The model was Haller’s “irritability.”

103 La Mettrie, Machine Man, 5.
104 Ibid., 38.
105 Ibid., 39.
106 Vartania, La Mettrie’s L’Homme Machine, 95. Debate about text in Holland centered around freedom of the press. (Ibid., 97)
107 Ibid., 7.
109 “Irritability seemed to be a property of the material of the muscle itself and did not depend on the action of the
While it is important to emphasize the undeniable vitalism of this research program as empirical science, Haller in particular could never affirm that vitalism in its philosophical implications. Thus he could not accept Buffon’s definition of species or Caspar Friedrich Wolff’s epigenetic theory of embryology for metaphysical, not simply methodological reasons. Like Haller, Bonnet strove, despite his own theorizing of the law of continuity, to enforce a thorough demarcation between animals – apes in particular – and man. Buffon, for all his other differences with Bonnet, was at one with him here. He insisted that the “ape was no mediating link between the human and the animal orders of nature, but ‘in truth just a plain animal.’” Buffon refused to erase the boundary between man and animals. What physiology could not define, he was prepared to stipulate in terms of reason and language as irrefutable evidences of a spiritual nature in man irreducible to natural elements. Indeed, anatomical similarity only reinforced the claim that the difference which constituted humankind had to be sought in a separate, spiritual dispensation. Reason and language belonged to a divine, spiritual intervention: that was the line which all these thinkers tried to hold.

110 The distinction between the vitalism of Haller and the animism of Stahl is one of the linchpins for an effective understanding of what was taking place in the life sciences in the late eighteenth century. Kenneth Dewhurst & Nigel Reeves, Friedrich Schiller: Medicine, Psychology and Literature (Berkeley & LA: University of California Press, 1978), 98, stress “a significant difference between Hallerian vitalism and Stahlian animism.”


112 Bonnet, Considérations sur les corps organisés (1762).

113 It is hard to reconcile Buffon’s extensive, published formulation of the immateriality of the soul with Jacques Roger’s claim that Buffon was a closet atheist-materialist. (Jacques Roger, “Buffon et Diderot en 1749,” Diderot Studies 4 (1963), 221-36) Claude Blanckaert has developed a strong case that Buffon’s main philosophical commitments were uncongenial to the “research programme” for anthropology that emerged in his name at the end of the century, and so these parts of his thought were simply suppressed. (Blanckaert, “Buffon and the Natural History of Man,” History of the Human Sciences 6 (1993), 13-50, citing 20, 26, 40)


115 And that explains the centrality of the controversy over the origins of language, from Condillac to Herder. See Hans Aarsleff, “The Tradition of Condillac: The Problem of the Origin of Language in the Eighteenth Century and
Bonnet’s influential psychology was as caught up in these quandaries as his theory of preformation. As Hatfield explains, “Bonnet’s psychology shared many features characteristic of the new psychological naturalism: he accepted dualism and the immateriality of the soul, without claiming to achieve an analysis of the substance of the soul; his arguments for the soul’s immateriality sprang from the unity of consciousness and contrasted with the conglomerate nature of material mechanisms.” At the same time he sought to assign the origin of all ideas to sense and describe the mechanism of their transmission to the mind in terms of “vibrations of nerve fibers and motions set up in nerve fluid,” and especially to elaborate “the ‘mechanics’ (brain fiber physiology) of each sense with special thoroughness.” That made him Kant’s target in his critique of “physiological” anthropology, even as it made him Kant’s target in both the first and the third _Critiques_ for advocating “transformationism.” For Kant, and not just for Kant, Bonnet seemed to be sliding into materialism. But that is just the problem: _all_ these anxious thinkers charged the others with sliding into materialism. The boundary line was blurring beyond retrieval. All of these figures inevitably developed elements that _could_ be taken in a strictly materialist vein. They dreaded just that. It was La Mettrie’s grand offense to do what they were so afraid of. He made it clear that Haller, Bonnet, and Buffon, despite themselves, could be grist for an atheist-materialist mill. La Mettrie made the persona of the _médecin-philosophe_ an unequivocal stance for radical Enlightenment, for “vital materialism” or “Spinozism.”


118 Ibid.

119 Indeed, Bonnet is a regular target of Kantian disparagement. See Kant, _Critique of Pure Reason_ A668/B696; “Über den Gebrauch teleologischer Principien in der Philosophie,” (Berlin: Akademie Ausgabe/de Gruyter, 1910), vol 8, 80n.
Ernst Platner’s *Anthropologie für Ärzte und Weltweise*

For science after mid-century the divide which separated progressive from regressive “research programmes” (in the Lakatosian sense) came to be precisely the question of willingness or unwillingness to explore and explain the *continuities* of mind and body, man and animal.\(^{120}\) By that test, the greatest German scientist and the greatest German philosopher of the eighteenth century (Albrecht von Haller and Immanuel Kant, respectively) appear strikingly conservative. But even in Germany the idea of the philosophical physician came to prominence.

Perhaps the key founder of German “philosophical medicine” was Johann Gottlob Krüger (1715-1759), a member of the medical faculty at Halle then, later in his career, at Helmstedt. Krüger was a dedicated disciple of Wolffian *Wissenschaftlichkeit*, and he sought in his three-volume *Naturlehre* (1740-1749) to offer a rigorously causal account of human health grounded not merely in empirical (“historical”) knowledge but in rational principles, hence a “philosophy of the human body.”\(^{121}\) His later *Versuch einer Experimental-Seeelenlehre* (1756) was another crucial text in the emergence of “philosophical medicine.”\(^{122}\) His key theoretical recourse was to the physiology of Albrecht von Haller. Krüger’s interpretation of the body was “vitalist,” but not “animist.” He explicitly rejected Stahl.

Another leading “philosophical physician” in Germany was Krüger’s student, Johann August Unzer.\(^{123}\) In *Philosophische Betrachtungen des menschlichen Körpers überhaupt* (1750), Unzer maintained that there was a complete duplication or correspondence between every mental and every physical event in the human organism.\(^{124}\) From 1759 to 1764 Unzer edited *Der Arzt*,

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122 Krüger “wanted to show philosophers that medicine could make a contribution to philosophical knowledge of the soul, and that mathematics could be applied to this subject matter.” (Hatfield, “Remaking the Science of Mind: Psychology as Natural Science,” 201) Through clinical case histories and quantitative brain physiology, Krüger hoped not only to make observations but to develop a rigorous experimental methodology. His approach to brain physiology “adopted a vibratory conception of nerve activity,” and he sought to quantify this. (ibid., 201-203)

123 “Unzer was one of the most important physiologists of the eighteenth century. His specialty was in showing the lines of connection between medical science and philosophy,” (Gerald Hartung, “Über den Selbstmord,” 43.)

124 Ibid.
the most important periodical advocating “philosophical medicine” at mid-century. Another key figure was Karl Wilhelm Friedrich Struve, who published *Anthropologia naturalis sublimior* in 1754. He called it *sublimior* because it included a discussion of the “higher faculties” within a general discussion of man; indeed, Mareta Linden sees Struve as the key forerunner of Ernst Platner in stressing the wholeness of man as the essential feature of anthropology. After Platner’s own book appeared in 1772, Melchior Adam Weikard launched a journal entitled *Der philosophische Arzt*, that ran from 1775 to 1777.

Platner was the most important figure in the emergence of anthropology in Germany, defining the discipline for a generation. His book of 1772 set out from the mind-body quandary, arguing bluntly that this aporia of metaphysics allowed a new, empirical natural science to intervene, “anthropology” under the aegis of the “philosophical physician.” Platner was more concerned to convince physicians that philosophy was worth their attention than to persuade philosophers to consider the medical issue seriously. He used the precedents of Boerhaave and Haller (and also Tissot and Zimmermann) to constitute for himself a tradition of “philosophical physicians” upon which to base his own enterprise. He characterized the field in terms of three sciences: first, a physical science of anatomy and physiology; second, a mental science or psychology (in which he included logic, aesthetics, etc.): and finally his own science,

125 Kant made fun of him in this capacity in his newspaper article, “Versuch über die Krankheiten des Kopfes,” (Berlin: Akademie Ausgabe/de Gruyter) vol. 2, 257-272.

126 Linden, *Untersuchungen zum Anthropologiebegriff*, 36-37.

127 Platner was born in Leipzig in 1744, the son of a surgeon. His father’s early death left his education under the care of the great Leipzig philologist, Johann August Ernesti, whom we have recognized as a pioneering advocate of popular philosophy in Germany. In Platner the two currents of popular philosophy and philosophical medicine were fused from the outset. His university studies fused medicine and philosophy and he became extraordinary professor of medicine at Leipzig in 1770. (Alexander Kosenina, *Ernst Platner* (Würzburg: Königshausen und Neumann, 1989), 12-13.) He was a brilliant teacher, “an unconventional, witty-ironic scholar who encouraged his students to make use of their own understandings.” (Ibid, 13) He was, as one of his students observed, a philosopher for the world, not a speculative metaphysician. Eventually, however, Platner sought accommodation to Kantian philosophy, not least out of anxiety that his former student, Karl Reinhold, head of the Kantian circle at the University of Jena, would beset him with the same polemical vigor with which Reinhold and the Kantian circle assaulted the popular philosophers at Göttingen, whom Platner long admired, but whose reputations, he saw, were permanently destroyed by the polemic. (Ibid., 22-23)

128 Platner, *Anthropologie für Ärzte und Weltweise*, ix-x; the metaphysics of soul-body relations was an “impenetrable mystery,” yet understanding it was indispensable for human well-being. (Ibid., xii).

129 Ibid., viii.
anthropology, which achieved a synthesis of the two prior sciences: “body and soul in their mutual relations, limitations and interactions.” Wolfgang Riedel observes: “Platner’s concept of anthropology marks the exact point at which physical and moral anthropology, which [the two most important German philosophical lexica of the first half of the century] had kept strictly separate, enter into interaction.”

Platner saw himself synthesizing the work of Albrecht von Haller and William Cullen, creating a new “central science” by binding together “physiological, vitalistic and neuropathological medicine.” All in all, Platner relied heavily on Haller for his conception of the nervous system and its relation to the soul. Given this fascination with the nervous system, Platner was very interested in the question of a “place of the soul [Sitz der Seele]” in the body, which, for Platner, could only be at the center of the nervous system, in the brain. The problem, as Platner put it, was to conceptualize “the ways and means by which, out of movements of matter ideas emerge in the soul, and out of ideas of the soul movements emerge in matter.” Still, Platner was sanguine about the prospects. “The question of the influence of the body on the soul is therefore no more difficult that the question of the influence of any simple element upon another.” That is, “the attraction of magnets, the reproduction of animals – among other recognized mysteries of nature – are to be sure incomprehensible [unbegreiflich], that is, the external possibility of their effects is unknown by virtue of an absence of experiential knowledge; nevertheless it is possible to offer all sorts of possibilities and hypotheses about

130 Ibid., xv.
131 Riedel, Anthropologie des jungen Schiller, 15.
132 Christa Kersting, Die Genese der Pädagogik, 122.
133 Platner, Anthropologie, 93. “Platner’s ‘Anthropology’ follows Haller’s neurological model in all its parts: brain and nerves are a ’system of canals’ in which a ‘fluid material’ called ‘nerve fluid’ or ‘spirit of life’ moves.” (Riedel, Anthropologie des jungen Schiller, 98)
134 Ibid., 44. This was the sort of thing Kant could never tolerate, either in Platner in 1772 or in Thomas Soemmerring in 1795.
135 Platner, Anthropologie, x. “The great difficulty for Platner ... lay in the question how one could describe the mediation of the physical with the psychic domains. The physician spoke of an inner movement of the nervous fluids in the brain and a setting of itself in motion by the powers of the soul. The reaction of the soul on the physical mechanism evaded all explanation.” (Gerald Hartung, “Über den Selbsmord,” 45) See Harald Schöndorf, “Der Leib und sein Verhältnis zur Seele bei Ernst Platner,” Vierteljahresschrift für Theologie und Philosophie 60 (1985), 77-87; J. Lachelier, “L’Observation de Platner,” Revue de métaphysique et de morale 11 (1903), 679-702.
Platner’s work was reviewed prominently in the best journals in Germany. Johann Feder reviewed the work in the *Göttingische Anzeigen*, Christian Garve reviewed it in *Neue Bibliothek der schönen Wissenschaften*, and Marcus Herz reviewed it in *Allgemeine Deutsche Bibliothek*. Like the others, Herz offered a positive assessment. As one of the most prominent physicians in Berlin, if not Germany altogether, Herz fully endorsed the concern for the empirical relation between body and mind. He saw a clear therapeutic imperative: bodily remedies affect the mind just as mental regimens have positive physical effects. Herz asserted that medicine could not proceed *a priori* in its methodology but must resort to observation and experience, yet he postulated that there must be a systematic and exact correlation between mental states and physical states.

These reviews were uniformly positive, and so was the wider reception. Platner’s book became the text for a number of anthropology courses that developed over the last quarter of the century in Germany. More important, it was cited as the seminal text in the field by a generation of authors. The young Friedrich Schiller steeped himself in this literature in preparing his various medical dissertations between 1779 and 1780. The impetus culminated in Karl Philipp Moritz’s journal, *Gnosse Seauton: Magazin für Erfahrungsseelenkunde* (1783-1793).

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138 Much to the only somewhat circumspect disgruntlement of Kant. See Kant to Herz, en format of 1773 in *Briefwechsel* (Berlin: Akademie Ausgabe/de Gruyter, 1910), vol. 10, 145-46.

139 Herz, Review of Feder, 27.

140 Ibid., 29.

141 Mareta Linden has surveyed this material in detail, pointing especially to such key figures as Johann August Ulrich, Christian Erhard Schmid, and Johann Karl Wezel. (Linden, *Untersuchungen zum Anthropologiebegriff*, 53, 82ff, and passim)

142 Dewhurst & Reeves, *Friedrich Schiller*, passim.

Davies demonstrates effectively how Moritz’s agenda for *Erfahrungsseelenkunde* derived from his Berlin medical milieu, especially the thought of Marcus Herz. Specifically, as Davies notes, the medical practice out of which Moritz developed his ideas involved “the assumption that the task of diagnosis is concerned with both the physical and moral nature of man.”

While this indigenous tradition of the “vernünftiger Arzt” might seem less “radical” than that of the French *médenin-philosoph*, I would like to consider Carsten Zelle’s defining characteristics of German philosophical medicine and correlate them with that of the broader European and even with the specifically radical-French form. Zelle identifies five key commitments: (1) recourse to empiricism, i.e. experiment and observation; (2) a new appreciation of sensibility; (3) development of the “eclectic” method of Thomasius, i.e., a pragmatic approach; (4) interdisciplinary concern for the “whole man”; and (5) a more popular and accessible style. To be sure, few of these figures were flaming “atheists,” but they were committed empirical *naturalists*, and they were prepared to take *unorthodox metaphysical stands* in that pursuit. I would argue this can be most richly documented in the work of Johann Gottfried Herder. The first books of his *Ideen* (1784) might very well have appeared to many to be the work of a “*médenin-philosoph*.” And so might well the key texts in *Naturphilosophie* of his admirer, Friedrich Schelling, at the century’s end.

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145 Ibid., 21.


Endnotes