

The role of physiology in Schopenhauer's metaphysics of nature

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In a letter to his disciple Julius Frauenstädt, Schopenhauer suggested the importance of studying physiology for the development of his philosophy. And during a conversation with Frédéric Morin he admitted the central role of physiological research for understanding his metaphysics:

Germany must understand Bichat in order to understand me [...]. The true metaphysics [...] is grounded on the connection between the internal and external experience, it is the deep intuition of the invisible will [...] which is the substrate of all physiological phenomena.¹

Such a strong declaration reminds us that the human body is at the very beginning of Schopenhauer's metaphysics: the insight that the will is the essence of the world comes out from our own body. It is the privileged "medium" for knowledge and it is perceived by the subject as *will*,

[...] the key to his own appearance, [which] reveals to him the meaning and shows him the inner workings of his essence, his deeds, his movements. The body is given in two entirely different ways to the subject of cognition [...] as a representation in intuition by the understanding, as an object among objects and liable to the same laws; but at the same time the body is also given in an entirely different way, namely as something immediately familiar to everyone, something designated by the word will.²

From the discovery of the will in the body Schopenhauer concludes by analogy that behind the world of representation there is the will as its real being and essence. This is the very foundation of the "real" metaphysics of nature, that part of speculation where philosophy meets scientific knowledge, and first of all physiology as the study of living organisms. In a 1817 manuscript he is adamant

1 Schopenhauer, Arthur: *Gesammelte Briefe*. Hrsg. von Arthur Hübscher. Bonn, Bouvier 1987, pp. 295–297 (12 October 1852). Schopenhauer, Arthur: *Gespräche*. Hrsg. von Arthur Hübscher. Stuttgart-Bad Cannstatt, Frommann-Holzboog 1971 (March 1856).

2 Schopenhauer, Arthur: *The World as Will and Representation*. Translated and edited by Judith Norman, Alistair Welchman and Christopher Janaway. Cambridge 2010, p. 124.

on the important relation between the *philosophische Wahrheit* grounded in the body and physiological dynamics: “every change, occurring in my *body*, from outside according to the law of causality, also always has reference to my *will* as pain or pleasure” (HNI, § 650).

Physiology’s development at the beginning of the 19th century offers to Schopenhauer new perspectives for investigating the relationship between science and metaphysics. According to him, physiology illustrates ambitions and limits of scientific inquiry, because its explanation of living organisms is essential in order to dismiss false beliefs coming from religion and ignorance. Nonetheless he knows that “no science can be exhaustively proven, any more than a building can stand in mid air.”³ This is the reason why a philosophy of nature, as a real unity of science and metaphysics which sheds light on the inner essence of phenomena, is required.

Physiology is the inquiry into matter in the state in which it is “the most immediate object [...] the human organism.”⁴ Inside the body metaphysical knowledge meets physiological research and the truth of the one reflects the validity of the other. According to the project of listing the main confirmations of his philosophy by the sciences, he explains that “the parts of the body must therefore correspond perfectly to the principal desires through which the will manifests itself.”⁵ Such a project will be accomplished in 1836 with the book *On the will in nature*, where Schopenhauer states that “true physiology”, according to the doctrines of Cabanis and Bichat, is coherent with “true metaphysics”.⁶

Schopenhauer analysed Cabanis’s *Rapports du physique et du moral de l’homme* (1802) and Bichat’s *Recherches physiologiques sur la vie et la mort* (1800) after 1820 and was impressed by their refusal of the dualistic Cartesian conception in physiology. Their balance between the denial of materialism and the exigency of sophisticated philosophical approach to physiology was perceived by Schopenhauer as akin to his own view of both metaphysics of nature as central in speculation and physiology as displaying the most intimate connection between science and philosophy. In his personal copy of Bichat’s book Schopenhauer underlined passages expressing the necessity and the limits of the relationships between science and metaphysics. It was not only the physiological content which agreed with Schopenhauer’s agenda, but also methodology, the views on connecting physiology to metaphysics, and the necessity of philosophy in order to complete the path of knowledge.

3 Ibid., p. 91 (§ 14).

4 Ibid., p. 51 (§ 7).

5 Ibid., p. 133 (§ 20).

6 Schopenhauer, Arthur: *On the Will in Nature*. Translated by E. F. J. Payne. Oxford, Berg 1992, p. 35.

Bichat had written in his *Recherches physiologiques* that the human understanding cannot arrive at a knowledge of primary causes and consequently has no access to the very principles of nature through deduction. Only “rigorous experience” could establish reliability of the principles, while primary causes remained mysterious.⁷ Schopenhauer judged these thoughts as expressing, from the scientist’s point of view, his own ideas on the relationships between science and metaphysics: the first being capable of offering material and concreteness to the second and the second being able to give completeness and certainty to the discoveries of the first.

Something similar happened while reading Cabanis. His view of the body as expression of the “moral” and the “physique”, considered as two qualities of the same substance and not as two separate substances, sounded as the scientific counterpart of Schopenhauer’s idea of body as will and representation. Moreover Cabanis assessed the importance of physiological research as connected to a broader philosophical view and his maxim was: “la philosophie dans la médecine et la médecine dans la philosophie.”⁸

Historically, however, Schopenhauer did not derive from Bichat or Cabanis his notions about the role of physiology. He had already analysed and developed such arguments in the 1810s, during the writing of his major work. When, many years later, he read the French physiologists’ books he enthusiastically realised that his views were sustained by some men of science too.

Schopenhauer was not interested in physiology in order to deal with philosophical problems, as commentators have sometimes sustained. Physiology was not instrumental to philosophy, rather it was an autonomous and fertile scientific discipline which could provide valuable insight on the human body and life, in particular on some aspects which were relevant for philosophical inquiry too. That was something Schopenhauer had learned many years before reading Cabanis and Bichat; something that had oriented his decision to do his own research in physiology in his juvenile essay *On vision and colours* (1816).

Before enrolling into the Faculty of Philosophy at Berlin University, Schopenhauer had already studied for two years (1809–1811) at the Göttingen University’s School of Medicine. There he attended classes on natural history, comparative anatomy and physiology held by the most renowned German natural historian of the time, Johann Friedrich Blumenbach (1752–1840). Schopenhauer’s notes, which are scrupulous summaries of the teacher’s lectures, show that Blumenbach was Schopenhauer’s first information source on the most up-to-date physiological research of the time (from Haller to Reil, from Bathez to

7 Bichat, Xavier: *Recherches physiologiques sur la vie et la mort*. Paris, Bresson-Gabon, III ed., 1805, pp. 73–74.

8 Cabanis, Pierre Jean Georges: *Rapports du physique et du moral de l’homme*. In: *Œuvres complètes de Cabanis*. Paris, Bossange-Didot 1823–25, vol. III–IV, p. 46.

Gall) and its philosophical consequences as regards vitalism and materialism. Blumenbach suggested to Schopenhauer the idea of close collaboration between physiological research and philosophical speculation and provided him with the conceptual tools to read and comprehend scientific literature on physiology.

In order to contextualise this suggestion from Blumenbach, it is important to note that at the beginning of the 19th century physiologists were building their own identity as scientists within a new and autonomous discipline. They distinguished physiological research from the practice of medicine and introduced the idea of founding the scientific elements of medicine on physiology. This historical development is clearly exemplified in the figure of Johann Christian Reil (1759–1813), who promoted the professionalization of physiology through the founding of a disciplinary periodical: *Archiv für die Physiologie* (1796–1815).⁹

Within this context, here necessarily simplified, Schopenhauer grounded his first interests in physiology, mainly oriented to sustain his philosophical investigation on the notion of subject and the relationship between the subject and the world through the human body. His manuscripts dating 1813–14 clearly attest to his interest in physiology: Carl Friedrich Kielmeyer (1765–1844), one of the most influential physiologist-philosophers of the time, is frequently mentioned because of his conception of polarity as privileged conceptual tool in explaining the physiology of the human body (HN I, §§ 91 and 107)¹⁰. Blumenbach and Reil are cited too, the former in order to support a moral argument: “the highest degree of asceticism [...] is the *voluntary death by starvation*” (HN I, § 99), the latter in a long passage attempting to explain animal magnetism (HN I, § 502). Physiology is also widely employed to provide analogies or explanations for the fundamental concepts of his philosophy – the will to live, life as objectivity of will, sorrow, boredom: “procreation is a will-to-live at a enhanced potential” (HN I, § 203); “our walking is a continuously prevented falling; and in the same way the life of our body is a continuously prevented *dying*, and the alertness and activity of our minds a continuously deferred *boredom*” (HN I, § 117).

Schopenhauer’s interest in physiology was probably destined to remain restricted to such subjects, generally related to philosophy, as was the case for other philosophers of the time. However, an exceptional event did occur, marking a turning point in Schopenhauer’s attitude towards physiology: his meeting with Johann Wolfgang Goethe (1749–1832). From November 1813 to May 1814 Schopenhauer associated with Goethe, at his home in Weimar, working on optics, carrying out experiments and testing the ideas of Goethe’s monumental book *Theory of colours* (1810). For the first time Schopenhauer actively took

9 See Lohff, Brigitte: *Die Suche nach der Wissenschaftlichkeit der Physiologie in der Zeit der Romantik. Ein Beitrag zur Erkenntnisphilosophie der Medizin*. Stuttgart, Fischer 1990.

10 Citations are from the English edition of the manuscripts (*Handschriftlicher Nachlass*): Schopenhauer, Arthur: *Manuscript Remains*. Translated by E. F. J. Payne, vol. I. Oxford, Berg 1988.

part in a scientific enterprise. During those months he not only proved the limitations of Newton's optical theory, according to Goethe's perspective, but tested Goethe's own idea of colours as real objects. Through observations and experiments (HN I, §§ 179 and 455), he put aside Goethe's theory and claimed that the activity of eyesight, not the passive reception of light (coloured) radiation, explains colours. He formulated therefore a theory, which brought him into conflict with Goethe, a theory of colours as subjective products, physiological effects of the polar activity of the retina:

[...] we must start from the *eye* [...], in other words from the affection of the *retina*, not from the means by which this affection is brought about, for the means are not the essential thing, but the affection itself is. (HN I, § 444)

The publication of *On vision and colours* (1816) followed, a book which met with substantial success in the scientific milieu at the time. In this case physiology was not instrumental for philosophical investigation, it was the focal point of the undertaking. The work describes in detail the experiments proving his theory of colours (*On vision and colours*, chap. 5). Many of them take into account phenomena of image persistence on the retina and analyse how retina activity and the passage from activity to rest affect the image colour on the retina itself.

It was the same experimental approach followed, in those same years, by Jan Evangelista Purkinje (1787–1869), whose conclusions on the essential role played by the activity of the visual system in the production of colours immediately won the approval of the scientific community. Even Schopenhauer's research on physiology of vision and colours was appreciated: during the solemn opening lecture on 12 October 1824 at the Bavarian Academy of Sciences in Munich, Ignaz Döllinger (1770–1841) mentioned Schopenhauer, together with Purkinje, among the protagonists of physiological research on vision; and in 1830 Justus Radius published an abridged Latin version of *On vision and colours* in an ophthalmology compendium of medical and physiological essays.¹¹

Research in physiology of vision opened new questions to which the young philosopher tried to find answers: on the relationship between the senses and perception, and the reliability of the senses in mediating between the human body and the external world. He approached the question following Blumenbach's lessons, which presented the senses as graduated along a scale of increas-

11 Döllinger, Ignaz: *Von der Fortschritten, welche die Physiologie seit Haller gemacht hat. Eine Rede gelesen in der zur Feier des allerhöchsten Namensfestes Sr. Majestät des Königs am 12ten October 1824 gehaltenen festlichen Sitzung der Königl. Akademie der Wissenschaften von Dr. Ignaz Doellinger*. München, Lindauer 1824. Schopenhauer, Arthur: *Commentatio undecima exponens Theoriam Colorum Physiologicam, eandemque primariam*. In: *Scriptores Ophthalmologici minores*, volumen tertium, edidit Justus Radius, Lipsiae, Sumptibus Leop. Vossii, MDCCCXXX, pp. 1–56.

ing perfection: touch, taste, smell, hearing, and sight (HN I, §§ 282, 310, 388, 460). He soon widened his spectrum of inquiry and learned from the latest scientific literature that a new research field was on the rise: physiology of the brain, which promised a completely new approach to the questions concerning perception and the senses. The most important scientists in the field were Reil, Samuel Thomas Soemmerring (1755–1830), Franz Joseph Gall (1758–1828), Charles Bell (1774–1842), and François Magendie (1783–1855). Their investigations had shown that science was mature enough to confront one of the most complex and difficult issues concerning human beings: the nature of consciousness and thought. The anatomical investigation of the brain and the localisation of its functions could unveil the mystery of soul.

Schopenhauer was intrigued by such a research field and did not stop himself to passive reading of the most recent scientific literature: he went further and did develop an inquiry which brought him to suggest a new view on the subject. In 1815 he wrote a long and articulated text entitled “Suggestion of an Explanation of Animal Magnetism” (HN I, § 502). Relying on Reil’s research on the bipolar activity of the central nervous system and the ganglionic system, Schopenhauer accounted the counterposition between normal mental activities and extraordinary psychic phenomena showed by magnetized individuals. Such a physiological hypothesis reflected the dual nature of the human body (and of the world) as representation and will. “Magnetizing or mesmerizing”, said Schopenhauer, “decreases the power of the brain and increases exclusively that of the ganglionic system”, and as the activity of the ganglionic system is the vegetative life, which is “the will itself”, “the marvel of magnetism consists in its opening to knowledge the doors to the secret workshop of the will”.

Even though he was pleased with such an argument, Schopenhauer was conscious that it was not a completely original idea. Reil’s investigations had already been employed in similar ways and moreover doubts had risen about the absolute isolation of the ganglionic system from the nervous central system; and without isolation the explanation of animal magnetism failed. This is the reason why Schopenhauer put aside the hypothesis and did not publish about the subject until 1851, in the *Essay on vision of ghosts* that appeared in the first volume of *Parerga and Paralipomena*. He was aware that scientific inquiry did not convincingly support any kind of explanation and waited for new evidence and new suggestions from empirical research.

In the 1851 *Essay* he attributed the origin of mesmeric phenomena to the conjoint activity of brain and cerebellum. In the waking-time the brain is stimulated by the external world whereas in natural or magnetic sleep it is more stimulated by the internal sensations of body organs. When internal sensations are strong, they break brain isolation and connect it with the external world through the cerebellum, designated by physiological investigations as coordinator of

body movements. This is the reason why magnetized individuals can interact with the external world without being conscious.

I have given attention to Schopenhauer's work in and about physiology *before* 1819 in order to provide evidence that he had been interested in the discipline throughout his life. Scholars have sometimes sustained that physiology entered into, and heavily affected, his philosophy in the period following the publication of his main work. They call it the process of "physiologization" of his philosophy¹² and mention as examples the physiological interpretation of genius in chapter 31 of the second volume of *The world as will and representation* or the many physiological arguments in the second edition of the dissertation *On the fourfold root*.

"Physiologization" is a misleading term because in fact Schopenhauer did not transform philosophical arguments into physiological ones. He introduced physiology in order to enrich his case and to establish a closer relationship between science and metaphysics. The physiological interpretation of genius was combined with, and did not substitute for, the philosophical explanation according to the metaphysics of will. And the neurophysiologic explanation of mesmerism was beside the philosophical explanation based on will and representation. He expressed himself clearly on the subject:

The *physiological view* is therefore a necessary supplementation of Kant's transcendental considerations, since it enables us to see these from a standpoint that is situated *outside them*. (HN IV, Cogitata I, § 19)

Physiology is important because it provides contents and evidence to support his metaphysics. Vital processes, generation, transformation of the living organisms are all representations of the original activity of the will. In order to cast light on such a mysterious hustle and bustle the living world is much more helpful than a falling stone, even if it is will in action too. Physiology mediates between the world as representation and the world as will, and enlightens the natural side of the will and the physical process of the representational activity. According to Schopenhauer, metaphysical truth is empty without scientific knowledge, scientific knowledge is blind without metaphysics.

12 See Schmidt, A.: Schopenhauer und der Materialismus. In: *Drei Studien über Materialismus*. München, Hanser 1977, pp. 21–79. Mandelbaum, M.: The physiological orientation of Schopenhauer's epistemology. In: *Schopenhauer. His philosophical achievement*. Ed. by M. Fox. Sussex, The Harvester Press 1980, pp. 50–67. Schmidt, A.: Physiologie und Transzendentalphilosophie bei Schopenhauer. In: *Jb.* 70 (1989), pp. 43–53. Vigorelli, A.: Premessa. In: Schopenhauer, Arthur: *La quadruplicata radice del principio di ragione sufficiente*. Milano, Guerini e Associati 1990, pp. 9–14. Schmidt, A.: Von den philosophischen Ärzten des 18. Jh. zu Feuerbach, Schopenhauer und Nietzsche. In: *Philosophie des Leibes. Die Anfänge bei Schopenhauer und Feuerbach*. Ed. by M. Koßler and M. Jeske. Würzburg, Königshausen & Neumann 2012, pp. 11–57.

There is no “physiologization” in Schopenhauer’s approach to metaphysics, theory of knowledge and philosophy of science after 1819. The main difference is quantitative, not qualitative: physiological knowledge was growing and provided more and more arguments to Schopenhauer’s research in the relationships between science and metaphysics. If there is no physiology of genius in the 1819 work, it is because physiology did not provide reliable knowledge on the subject. In a 1817 manuscript Schopenhauer had tried to connect some psychic qualities of genius to physiology (HN I, § 649), but the content was not sufficient and deep enough for a satisfying discussion of the subject. Another example comes from the physiological observations on sexuality in the very first years: it was not until 1844 that they were gathered, together the most recent scientific literature, in the *Metaphysics of sexual love*.

Schopenhauer had clear in mind the distinction between science and metaphysics but was also convinced that it was necessary to provide a common space for their convergence and confrontation. It is a lesson we have to keep in mind.