REVIEW


It has become a commonly-accepted academic ritual for any mention of Georges Canguilhem to be directly linked to Michel Foucault’s latest text – ‘Life: Experience and Science’. According to Foucault, Canguilhem is part of a well-grounded French tradition of concept philosophy, which includes among its practitioners Jean Cavaillès, Gaston Bachelard and Alexandre Koyré, a tradition which opposes the philosophy of experience and subject promoted by Sartre and Merleau-Ponty. Despite an austere work, distinctly circumscribed to the particular field of the history of sciences, Foucault claims that Canguilhem’s research has influenced, in a discreet but lasting manner, the post-1968 debates in France, whether we refer to political aspects, to Lacanian psychoanalysis, or to structuralism and post-structuralism. From the very moment Foucault wrote these lines, up until today, Canguilhem has increasingly become the focus of academic thought, and there has been a noticeable rise in the colloquia and volumes that have been dedicated to him. Moreover, Vrin publishing house has started the publication of a series of complete works in six volumes, each consisting of over one thousand pages.

We can anticipate that with the publication of this documentary corpus, the reception of Canguilhem’s work will reach another stage, hence offering a new perspective, both on the epistemology of life sciences and on the influences exerted by Canguilhem over the French intellectual field.

The two books we will discuss here are in line with this new reception. Thus, Stuart Elden's book, simply titled *Canguilhem*, aims to work as a complete reading guide, designed for readers who wish to be better acquainted with the main arguments of the French philosopher. Alternately, Samuel Talcott's work, *Georges Canguilhem and the Problem of Error*, proposes a somewhat more speculative interpretation by following the way in which the concept of error unfolds and progressively colonizes Canguilhem’s entire intellectual production.
As stated above, Stuart Elden’s book is a very erudite reading guide that can lead the reader through the intricate maze of this polymorphic work, spanning over 50 years. After an introductory chapter where he points out the main milestones of Canguilhem’s life, Stuart Elden moves on to a synthetic presentation of the French philosopher’s first published work, namely the prominent doctoral thesis in the field of medicine, *The Normal and the Pathological*.

Without resorting to a linear reading, Elden brings forth as a reading clue the hypothesis that the book in question is a critique of a consolidated nineteenth century thesis that considers the pathological as a mere quantitative variation of normality. This medical dogma functions as a direct result of the hegemony imposed by positivism and biological mechanicism. Throughout a consistent argumentation where the names of François-Joseph-Victor Broussais, Auguste Comte, Claude Bernard, and Henri Marie René Leriche appear, Stuart Elden adopts Canguilhem’s strategy of freeing the pathologist from this reductionist perspective. According to Elden, this strategy is carried out in two steps, the first being to demonstrate that the norm cannot be reduced to a statistical frequency but is much more fluid, depending on the context. Similarly, unlike the norms that fulfil a function *qua* standard in various fields, biological norms are not static but productive or formative. The second step of this strategy is to demonstrate that pathological phenomena, far from being able to be analysed as quantitative variations of the norm, represent *alterations* in the etymological sense of the term, i.e., *trans-formations* of a certain regime of normality. Such a perspective also leads to a reversal of physiology’s status, as this discipline is no longer tasked with establishing a norm in relation to which to analyse the distancing(s) of the pathological; rather, it must follow the way in which life itself represents an unfinished process of establishing norms. Therefore, Stuart Elden shows that *The Normal and the Pathological* can also be regarded as a testing laboratory in which certain ideas were outlined, ideas which will accompany Canguilhem throughout his entire work, namely: a vitalistic and anti-mechanistic perspective thrown over the life sciences, but also the hypothesis according to which medicine cannot represent a simple application of the science of physiology. The therapeutic activity and its resultant healing do not belong to the order of returning to a previous condition but to that of establishing a new order. Likewise, as reported by Elden, it is important to note that *The Normal and the Pathological* is not only an academic work but also one that reflects – even secondarily – a certain political conduct of the author, who, at the time of writing it, was already part of the Resistance. The political message of the book has a pronounced anti-Nazi component due to the very fact that life is an uninterrupted production of normative orders, rendering the single normativity promoted by the Nazis impossible.

This perspective on life as a creative flow is extensively analysed by Elden throughout the third chapter of his book, which is dedicated to the philosophy of biology. Elden first tries to clarify Canguilhem’s vitalism, showing that the French philosopher understands vitalism not as a ready-made doctrinal corpus but as an epistemic exigency that is irreducible to its totalitarian uses. The consolidation of the vitalist perspective and the rejection of mechanicism are also found within the analysis of the paper called ‘Machine
and Organism’, where Stuart Elden investigates the way Canguilhem deconstructs the overlap between the two terms. Unlike the machine, which is unequivocal, the body is plastic, capable of unique and unpredictable movements; or, it is precisely from this spontaneity specific to the organism that its double negative results, namely the monstrosity. It should be noted here that Canguilhem will return several times, throughout his work, to the problem of monstrosity, examining the progressive movement which turns the monstrous into a transparent figure, its contours analysed by starting from the structures of normality.

As Elden points out, Canguilhem does not stop at denouncing the mechanistic or technical perspective that illegally overlaps the machine and the body but overturns the perspective, showing that technique should not be thought of as an external element that would oppose life but rather as a universal biological phenomenon (p.49).

In addition to assimilating the body with the machine, Stuart Elden also investigates a second form of equivalence, one that is initiated between the body and society. Here, the overlap proves to be false as well. Even if in any given society there is a certain form of organization and self-regulation, no human society is able to reach a stable self-regulation.

In the fourth chapter, Stuart Elden explores Canguilhem’s doctoral thesis in philosophy, *Formation of the Reflex Concept in the Seventeenth and Eighteenth Centuries*, which was defended under the coordination of Gaston Bachelard. Starting from the same anti-mechanistic perspective, Canguilhem rectifies the genealogy of the notion of reflex and shows that it could not have been born inside the Cartesian system, as this system did not allow the existence of a focal center that could effectively form a response to a stimulus. On the contrary, the French philosopher credits Thomas Willis as the true inventor of this concept in *De motu musculari*. It is quite interesting that Canguilhem proves that the reductionist interpretation of the reflex, i.e., ‘an isolated circuit that links some stimulus to a response’, is refuted by more recent research, which supports the hypothesis that the reflex engages the body in its entirety, and shows that – in certain circumstances – reflexes display adaptive intelligence, even if they remain at the level of unconscious springs. Nonetheless, despite these new acquisitions belonging to scientists such as Charles Sherrington (1857-1952), the compendia of the time reproduced a reductionist image of the reflex.

This very inadequacy between the new scientific acquisitions and the pedagogical texts leads us to the notion of scientific ideology, analysed by Stuart Elden in the seventh chapter. Unlike the notion of political ideology developed by Marx and reinterpreted by Althusser, scientific ideology does not belong to the order of a false consciousness. Conjointly, scientific ideology is not to be reduced to a false science, but it is an unconscious impulse towards a perspective of a totalizing knowledge of Being (p.132). This aspect is accountable for the fact that the life sciences investigated by Canguilhem, at least, do not have a linear development in which the truth is progressively revealed. Rather, the evolution of the life sciences refers to hybrid forms in which truth coexists with non-truth.
If the main approach of Elden’s book is to demonstrate the diversity of Canguilhem’s concerns, therefore exhibiting a scatter map, Samuel Talcott’s work focuses on a single thematic strand, namely error. The fact that the notion of error is a central point in Canguilhem’s work is not a new hypothesis, as it has already been advanced by Michel Foucault, Dominique Lecourt and Guillaume Le Blanc. But the merit of Samuel Talcott’s book is not only related to the effort to provide a systematic reading but also to the fact that it retraces the manner in which the problem of error is articulated in the early works of Canguilhem, which are not so well-known to the general public. Additionally, the general concern of Talcott’s work is to demonstrate that Canguilhem’s entire intellectual endeavour possesses a strong political and practical component.

However, as pointed out in the first chapter of the book, which examines, among other things, the few texts written by Canguilhem about the Algerian war, this political component is more difficult to detect as it is somehow masked behind the influence exerted by the writings of Alain (Émile Chartier), an intellectual figure with a wide notoriety in France between the two world wars. Even if a very discreet political component is palpable both in the pacifist conduct, which will not prevent Canguilhem from being a part of the Resistance, and in his quasi-therapeutic perspective over the political field:

Democracy would be, in this account, a perpetual effort of the governed against the abuse of power. And, as nutrition, excretion, reproduction are in a just equilibrium in a healthy individual, so would it be in a healthy society: Monarchy, Oligarchy, Democracy, in a just equilibrium.

—Georges Canguilhem
(qtd. in Talcott, p. 9)

If the first configuration of the problematic of error appears on the territory of the political, i.e., the error as part of the order of manipulation and of psychological war, its philosophical side will appear in Canguilhem’s 1934 course held at Lycée de Valenciennes, only to be resumed a few years later in a paper that analyses Descartes’ problematic of technique. According to Descartes, error occurs because man has an unlimited extension of will which cannot be maintained within the finite limits of his understanding of the world. The expression of this will is technique, which, according to Canguilhem’s interpretation, is not a simple practical application but rather an experiment; a form of engagement in the unpredictable and the unknown. Technique can generate error, but these errors are likely to fuel thinking and science.

The next important milestone in the articulation of a philosophy of error is The Treatise on Logic and Morals, written together with Camille Planet. Here, the error appears as a result of the manifestation of our vital needs. What we call science consists of a retrospective operation to eliminate errors. In order to illustrate this retrospective character of science, the two authors quote Bachelard: ‘There are no first truths, there are only first errors’ (p. 85).

In 1943, in parallel with the elaboration of his doctoral thesis in medicine, Canguilhem held, at the University of Strasbourg (relocated to Clermont-Ferrand during the war), an academic course on error. From beginning to end, the French philosopher re-
mained true to the Cartesian tradition and revealed that error occurs whenever judgment must go beyond the limits of what is pure phenomenal appearance. In other words, the ability to fall into error has the same root as the ability to create.

In order to demonstrate the central character of the notion of error, Samuel Talcott introduces two novel lines of interpretation. The first of these lines concerns The Normal and the Pathological. Positivist dogma, according to which the pathological is a quantitative variation of the normal, is based on a misreading that Broussais makes of Bichat's texts. However, the consolidation of this dogma throughout the nineteenth century did not prevent Claude Bernard from reaching important discoveries regarding diabetes. The second line of thought involves Canguilhem's doctoral thesis in philosophy Formation of the Reflex Concept in the Seventeenth and Eighteenth Centuries. Thus, as shown above, the concept of reflex, attributed by Canguilhem to Willis, is born out of an erroneous metaphor, imprinted by animism.

This optimistic perspective on error stumbles over a limit in the developments of molecular biology, where the problem of the pathological and of life is no longer dealt with in terms of vital flows but in terms of information, coding and decryption. Nevertheless, even if Canguilhem's perspective is contradicted in certain respects by the newest acquisitions of science, his approaches can still help us determine the extent to which the life sciences are about to cross a new epistemic threshold.

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Acknowledgement
The author would like to thank Patricia Șoitu for the help with translating the text.