Writings on Medicine

Georges Canguilhem

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I.

At the time of his death in 1995, Georges Canguilhem was a highly respected epistemologist and historian of biology and medicine. He was known for having extended and transformed traditions set by Gaston Bachelard and Henri Bergson, and as an influential figure for generations of scholars, including Michel Foucault, François Dagognet, Louis Althusser, Pierre Bourdieu, Dominique Lecourt, Gilbert Simondon, and Gilles Deleuze. At different stages of his life, he was in conversation with important contemporaries, among them François Jacob, Jean Hyppolite, Maurice Merleau-Ponty, Jean Cavaillé, Kurt Goldstein, and René Leriche. He spearheaded both a radical undermining of scientific positivism and a retheorization of central categories of biology, medicine, and psychology in a period marked by major advances in these fields.¹

Most of the work that placed him in such an exceptional position is to be found in five books published over the course of half a century: _Essai sur_
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quelques problèmes concernant le normal et le pathologique (The Normal and the Pathological, 1943; second, modified edition, 1966); La formation du concept de réflexe aux XVIIe et XVIIIe siècles (The Formation of the Concept of Reflex in the Seventeenth and Eighteenth Centuries, 1955); La connaissance de la vie (Knowledge of Life, 1952; second, modified edition, 1965); Idéologie et rationalité dans l’histoire des sciences de la vie (Ideology and Rationality in the History of the Life Sciences, 1977); and Études d’histoire et de philosophie des sciences du vivant et de la vie (Studies in the History and Philosophy of the Sciences of the Living and of Life, 1983). Strictly speaking, only the first two are books: the last three are collections of essays and talks, although Knowledge of Life and Ideology and Rationality each engages with a single problem and has rather clear aims.

Canguilhem is best known for his first book, The Normal and the Pathological, which came at a crucial point in the history of medicine and which articulated a concern that had been vaguely felt across much of medical thought: that medicine, biology, and physiology rely on formal and statistical norms that hamper, rather than aid, not only diagnosis and treatment, but also understanding of the individual patient’s relation to society and to medical intervention. Canguilhem worked from a perspective directly influenced by the surgeon René Leriche and by the German neurologist and psychiatrist Kurt Goldstein, both of whom helped him to question the claim—which in France dated back to François-Joseph-Victor Broussais and Auguste Comte—that disease and the pathological condition more generally are nothing more than modifications of the normal condition.

Canguilhem pointed out the normative and norm-producing effects that “the normal” had possessed ever since Comte: the norm was held simultaneously to be both identical to the normal and the only norm. Consequently, there could be no norms specific to disease—disease could be only an aberration. Thanks to these ideas, an elaborate language emerged aimed at helping the physician see signs as symptoms—thus bypassing the individual patient, for whom disease is a specific and qualitatively heterogeneous experience.

Goldstein’s physiology allowed Canguilhem to suggest that pathology is much more complicated than that—in particular because Goldstein had demonstrated in the 1920s and 1930s that an organism attempts to compensate for damage done to certain functions and that the diseased body tends
to obey different rules than the normal body, but is not, for all that, normless, except in catastrophic situations. “Disease creates a shrunken milieu and is a narrowed mode of life, but it is also, for the individual patient, a new life, characterized by new physiological constants and new mechanisms.”

From Leriche, Canguilhem took up and recast the claim that “health is life lived in the silence of the organs,” while disease is what “irritates men in the normal course of their lives and work, and above all what makes them suffer.” Canguilhem thus attended to the complexity of pathological experience in a way that was at odds with the positivist normative conception of health deriving from Comte. In so doing, Canguilhem gestured toward new notions of singularity and normality. For him, the healthy needed to be rethought as “more than normal”; that is, health is characterized by the absence of symptomatic sensations, but is also an exuberance that is not limited to and by norms, but indeed constructs them. Disease then is a situation in which human beings are tethered to norms, often new norms, but nonetheless ones that affect suffering, the efforts to escape from it, and the now-glorified memory of health; disease makes it impossible to live without constant reference to norms and to deficiency and failure vis-à-vis these norms. Canguilhem charged that the still-dominant positivist medicine, and positivist conceptions of disease and biology, misunderstood this, erasing individual reactions to disease, considering them merely as aberrations from normality that could or could not be corrected; in so doing, they also effaced the experience of suffering and even of health itself.

This argument resonated. Canguilhem’s claim that a normativity based on statistically engendered normality fails to explain the complexity of physiological disorders and the individual patient’s relation to his or her environment connected with the work of contemporaries—from Walter B. Cannon to the endocrinologist Hans Selye—who had begun to investigate the physiological grounds of what had classically been considered psychological reactions (fear and anxiety, for Cannon; stress, for Selye; and so on). As scholars have recently shown, other physiologists (Karl Rothschuh) and medical thinkers (Pedro Laín Entralgo) should be included in this list; the same could be said for psychiatrists, from psychoanalysts concerned with the question of healing, to psychiatrists (Henri Ey) and even antipsychiatrists (such as R. D. Laing), whom Canguilhem would come to criticize. It could even be said that The Normal and the Pathological belonged to a
moment of intellectual recalibration in medicine when questions of pathological experience and of the complexity of biological conditions were becoming increasingly clear.\textsuperscript{12}

In the context of epistemology and French philosophy, \textit{The Normal and the Pathological} also echoed the work of a new generation of philosophers of science (Alexandre Koyré, Jean Cavaillès, Gaston Bachelard) who had questioned the status traditionally accorded to experimentation and the fantasy of positivism that they saw as defining much contemporary science and scientific thought. Canguilhem knew Koyré’s problematization of the history of science well and found considerable inspiration in it for his own work.\textsuperscript{13} He also shared much of his intellectual upbringing with Cavaillès, as well as a life-defining experience in their resistance to German occupation (Cavaillès would be executed in 1943); after the \textit{libération} he became Cavaillès’s chief promoter, editing and publishing his \textit{Logique et théorie de la science} (\textit{Logic and the Theory of Science}, 1947).\textsuperscript{14} Canguilhem would also write on both Cavaillès and Bachelard—whom he replaced at the Sorbonne.\textsuperscript{15} In many ways, the lineage to which Foucault would famously appeal in his link of Canguilhem, Bachelard, Cavaillès, and Koyré was elaborately constructed by Canguilhem himself.\textsuperscript{16} Today, moreover, Canguilhem’s epistemological and historical writing is read together with those of other important contemporaries, notably Ludwik Fleck and Thomas Kuhn.\textsuperscript{17}

Canguilhem’s book could be further read in a third context of intellectual-historical significance—the retheorization of the role and force of norms and normality that is an essential aspect of several twentieth-century schools of French thought, from Durkheimian sociology (for example, in Émile Durkheim’s \textit{The Rules of the Sociological Method} and Maurice Halbwachs’s thesis \textit{Théorie de l’homme moyen} [\textit{The Theory of the Average Man}])\textsuperscript{18} through psychoanalysis (significantly in the work of Jacques Lacan), the Annales school of historiography, and, of course, the writings of Foucault.

Canguilhem’s second book and minor doctoral thesis,\textsuperscript{19} \textit{Knowledge of Life}, expanded his focus to include the history of biology and the interplay of philosophy, modern science, and conceptual history. Utilizing a perspective influenced by Henri Bergson’s \textit{Creative Evolution}, Canguilhem expounded on the irreducibility of “knowledge” and “life” to one another, addressing the political implications of cellular theory, the imperiousness and insufficiency of the mechanist legacy, and the intellectual history of the relationship between an organism and its milieu. Writing in the heyday of behaviorism,
at the dawn of cybernetics, and on the eve of the genetic revolution—
movements that would offer new paradigms for biological thought—
Canguilhem used his conceptual histories to argue for a kind of *negative
vitalism*: while rejecting vitalist science (both contemporary Lysenkoism and
varieties of *Lebensphilosophie* from 1890 through World War II), he refused any
reduction of life to mechanistic physico-chemical principles, instead seeing
vitalism as a continuing impulse that demonstrates the profound violence that
mechanistic biology does to the individual organism. Canguilhem argued that
mechanism, dating back to Descartes, fails to see that particular milieus are
always experienced differently by particular organisms and that organisms,
because of their unpredictable and singular interactions with their milieus,
cannot be reduced to undifferentiated physico-mechanical systems. From
this starting point, he developed an understanding not of “life”—a concept
too generic and crude to be productive—but of “the living,” the “living
being,” or the “living organism,” phrased in a way that silences the possible
organismic or ontological focus of this term “life.” “The living,” *le vivant*,
differs further from “life,” *la vie*, in that it is mediated, *as living*, by the specific
milieu it experiences. Nonliving beings have no such milieu, whereas living
ones are forced to deal with theirs—and their milieus are always different,
specific to themselves. As a concept, “the living” allowed a rethinking of indi-
viduality in terms of both the indivisibility and the inherent differences
between different beings, with normativity seen simply as a value imposed by
living. At the same time, it avoided the vitalist implications of a “vital spirit”
or a Bergsonian *élan vital* (“vital impulse”). This critique of mechanism
would become a premise and focal point of Canguilhem’s major doctoral the-
thesis in *La formation du concept de reflexe* (*The Formation of the Concept of Reflex*)
and his later writings on behaviorism. Mechanism and the concept of reflex
would serve as exemplars of what Canguilhem came to refer to as “scientific
ideology.”

The idea of scientific ideology contributed to the first peak of Canguil-
hem’s influence, in the 1960s, which related in large part to various
phenomenological and Marxist debates on science. As has been amply
documented, certain strands of French phenomenology took a scientific
turn in the 1950s, thanks not only to Merleau-Ponty’s persistent engage-
ment with Gestalt theory and quantum mechanics in his 1956–57 lecture
course, “Nature,” and elsewhere, but also to the reception of Husserl’s
*The Crisis of European Sciences* in the writings of Suzanne Bachelard, Paul
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Ricoeur, Jacques Derrida, Jean-Toussaint Desanti, and others. In this context, Canguilhem’s claim that scientific notions and practices are constructed thanks to an empirical and conceptual back-and-forth, but coalesce around theoretical systems that tend to become reductive and rigid, as well as his showing how the sciences define norms and frame experimental inquiry, echoed the Husserlian effort to handle ideal objects that have an empirical origin.²⁵

In this period, Althusser and Althusserians—but also Bourdieu and others within his school of sociology—were attracted to Canguilhem’s writing above all both because of its rejection of positivism and because of its distance from Hegelian concepts of truth and knowledge. Canguilhem countered the positivist and Hegelian stances by theorizing the sciences as systems that tend to be self-enclosed and tend to produce norms of their own, in order to formulate, validate, and defend what they perceive as their own “truths.” He understood such practices as ideological and criticized them for ignoring the anchoring of scientific endeavor in social context and conceptual history. Offering a history of cell theory in *Knowledge of Life*, for example, he sought to show a sort of feedback loop between social theories and the various stages of experimental work on the cell as the indivisible living unit. The point was that in its search for the cell, biology at its various stages since the eighteenth century had played out various theories of individuality and sociality—for example, highlighting the “autonomy” of parts from the whole in Buffon’s proto-cell theory and an organism’s communal priority and superiority over the individual units’ “realities” in Romantic biology (for example, in the work of Lorenz Oken and Matthias Jakob Schleiden).²⁶

Cell theory in its development from the work of Rudolf Virchow onward produced arguments concerning individuality that it deployed across a broad conceptual matrix far exceeding its particular experimental interests, from life, to autonomy, to subjectivity, to ontogenesis, all of which bore social and political implications and reflected social and political milieus.²⁷

Turned into a foundation of biology in general, cell theory, considered as a scientific ideology, thus gradually enforced a hegemony over both research possibilities and the social and political implications of scientific research. To practice the history of science, Canguilhem argued, is not to offer a narrative of bygone eras of science now known for their errors. Rather, it is to destabilize a *savoir*, a system of knowledge that has proclaimed itself to be the only fount of truth and that has had the power to
label its scientific and political opponents’ “errors” as disingenuous dwellings in fallacy and delusion.\textsuperscript{28}

A skeptic worried by biological and physical determinism; a historian engaged with the question of the value of the living and invested in defending it against rationalization; a philosopher for whom individuality signifies irreducible novelty, a particular, semi-autonomous relation to the milieu, and a difference from other beings that would be structurally the same: across his writings, Canguilhem elaborated a philosophical modernism based on medical and biological individuality. By philosophical modernism we mean that already in \textit{The Normal and the Pathological} Canguilhem found himself at a specific crossroads of modern thought, which he addressed by moving partly against classical subjectivism—which in his eyes has depended on a normativity radiating from the normal individual—and at the same time toward a radical, even an-arthic, antifoundationalist concept of individuality and subjectivity.\textsuperscript{29} By the time of \textit{Knowledge of Life} and \textit{The Formation of the Concept of Reflex}, Canguilhem was explicitly criticizing technological and scientific modernity for being conceptualized and structured in terms that ignore and destructively reduce differences between individual living beings and that thereby threaten their humanity.\textsuperscript{30} This characteristic modernist stance relates closely to those of very different philosophers—from the late Husserl of \textit{The Crisis of the European Sciences}, to the Horkheimer and Adorno of \textit{Dialectic of Enlightenment}, to the Arendt of “Ideology and Terror” (the second-edition epilogue to \textit{The Origins of Totalitarianism}).\textsuperscript{31} However improbable this list may seem, a basic shared argument predominates: modernity has elaborated scientific and technological systems that eradicate man’s wonder at the world, reduce truth to their rules and forms, and facilitate an at once political and ontological framing (if not quashing) of the particular, threatening a conception of the human that such philosophers wished to rearticulate and defend. In other words, work in the philosophy of medicine was for Canguilhem a means to further a political thinking of subjective existence \textit{amidst} medical, technological, administrative, and political milieus. This metapolitical engagement defined Canguilhem as an intellectual, and not as merely a philosopher and scholar. It would be up to the later Canguilhem—indeed, the Canguilhem of the essays included in \textit{Writings on Medicine}—to establish the more precise contours of his positive argument about the relation of the individual and social-medical systems.
It is nevertheless imperative to note at this point that for Canguilhem, knowledge and the existence of norms are decidedly not a problem: norms are essential to human life, and knowledge is an integral part of the human experience of the world. Science and scientific ideologies are ways in which this life becomes comprehensible to us. The problem that emerges is that norms and knowledge, tools thanks to which we experience and understand the world, are also tools that reduce this world and human life in general. In other words, understanding the limitations, reductiveness, and indeed danger inherent in norms and science is essential to understanding their force and creativity.

II.

*Writings on Medicine* is a collection of posthumously republished essays. The French edition of the book was included in the collection *Champ Freudien* at Éditions du Seuil and was organized by Armand Zaloszyc, a psychiatrist and psychoanalyst who had studied in part under Canguilhem. Because the reader might at first glance consider the collection arbitrary (there are many other essays by Canguilhem that remain spread out among their original places of publication and have not been anthologized), it is important to note that Canguilhem himself had drawn up a very similar publication project in the 1970s.32 His outline imagined a book that would be titled *La maladie et le malade, la médecine et le médecin* (*Disease and the Patient, Medicine and the Doctor*) and that would include many of the same essays and lectures. Canguilhem’s outline includes “The Idea of Nature”33 and “Is a Pedagogy of Healing Possible?”34 which appear in the same form as Chapters 1 and 4 in the present collection. The book would further use his text “Corps et santé,” a lecture for philosophy DEA students (the equivalent of a master’s degree) at the University of Paris–I dating to April 29, 1977, which Canguilhem shortened a bit for the 1988 lecture “Health: Popular Concept and Philosophical Question,”35 which serves as Chapter 3 here. “Corps et santé” also includes elements and formulations that Canguilhem elaborated in Chapter 2 here, “Diseases” (1989).36 Two additional essays described in Canguilhem’s book outline do not appear in *Writings on Medicine*. These are “Puissance et limites de la rationalité en médecine” (“The Power and Limits of Rationality in Medicine”), which was eventually included in the
fifth edition of his Études de l'histoire et de la philosophie des sciences and shares rather little in terms of style and practice with the essays found here, and “Pour les dentistes” (“For Dentists”), a short 1979 lecture that was largely recuperated between the different essays here. One essay Canguilhem did not consider including is Chapter 5 of the present edition, “The Problem of Regulation in the Organism and in Society.” This essay antedates the others and is somewhat different in style; moreover, as we will discuss later, Canguilhem later revised somewhat his thinking on this topic. Nevertheless, the essay’s main themes echo the concerns and to a considerable degree the style of the overall volume, and as we will see, were of major concern for Canguilhem.

We do not point to Canguilhem’s project description in order to suggest that the idea for a book like the present one was his, but to insist on the fact that the essays included in the present collection follow a precise rationale. The rationale involves a number of axes that frame Canguilhem’s philosophy of medicine and his specific way of using history. Though this rationale has much in common with Canguilhem’s other works from the 1970s, it is only through the essays that form Writings on Medicine that it becomes consistently and explicitly elaborated. Here we find a philosophy based on an elaboration of medicine’s fundamental bases for therapeutics that uses often taken-for-granted aspects of medical and scientific thought. As we will see, Canguilhem deals with highly particular topics in his essays, yet in doing so attempts neither to establish a new ground for therapeutics nor simply to recuperate traditions of healing, such as those following Hippocrates, Galen, or Xavier Bichat. His accounting aims instead to create an understanding of therapeutics based on philosophical registers that already exist, but that, for whatever reason, remain tacit. It is here that the rationale behind his broader philosophy of medicine becomes clear.

Four major medical-historical axes structure Canguilhem’s argument. First, in the wake of increasing technicalization and professionalization, Canguilhem argues that it is essential to rethink medicine, beginning with its classical determination as a set of techniques and practices aimed at curing the ailing body. In this way, medicine also needs be considered to be a technology of healing individual bodies, not merely a system or applied science of the body.

Second, the “naturalism” accorded to the human organism must incorporate the ways that place, circumstance, and society come to bear on this
idea. The body is only quasi-natural; it is profoundly responsive to and affected by the conditions of human life, situated in the context of a society. As a result, and given modern technological change, appeals to nature and to a Hippocratic tradition aiming to restore the body to its natural health are as philosophically retrograde as they may be medically counterproductive. When medicine fails to “cure,” this does not mean that nature will step in instead.

Third, the values attached to “health” and “disease” must be challenged and rethought, particularly when these values form a moral register of “good” and “evil.” To start with, the pursuit of health may require conniving with disease—and as a result, the traditional valuation no longer suffices.40 More importantly, and precisely because health and disease involve a profound valuing of the individual—by the individual, as well as by society—articulating these values anew and doing so in a philosophically and historically careful way has become imperative. Health as a value must be inflected by finitude and time: first, because health cannot be seen as permanent, and second, because it is a factor of temporal process, because the body declines and never quite “returns” to an anterior living state following a disease. This lived sense of health and disease is crucial for the patient, who finds his or her expectations and hopes managed by medicine, just as it is for the physician, whose efforts to cure are necessarily constrained by the patient.

Fourth, the institutionalization of medicine has led to a cheap abstraction of “the subject” and woeful generalizations of “the individual.” In regard to this last point, Canguilhem is exacting when he argues that the tension that arises between “individual” and “collective” medicine must be examined and perhaps challenged, especially when it begins to threaten the individuation of experience. An organism is a priori and necessarily a negotiation of individuality. In developing externally confirmed systems of cures, medicine tends to take this individuality for granted, when it is not guaranteed. Nor is it a shibboleth: emphasizing individuality should not lead to a medical subjectivism or to a trust in the body’s self-regulation. Individuality is precarious, crucial for the patient who understands himself or herself as an individual and not as a subject for medical research and practice, and difficult to handle from the perspective of the doctor-patient relation.
It is through these lines of thought that Canguilhem creates a coherent link between the history of medical thought and a philosophy of medicine—a philosophy of therapeutics, a philosophy of an organism threatened by its milieu and uncertain of its ability to handle disease and medical intervention.41

The specificity of *Writings on Medicine* resides also in the way in which Canguilhem “does” history. For him, medical thought, medical practice, and the experience of health are historical objects. In history, we discover their traditions, aims, and efforts, but also the conceptual frames within which they present and bear out philosophies of medicine. At the same time, historical practice serves as the process for philosophical engagement and contemporary political engagement. And though Canguilhem draws upon traditional medical historians to trace the movements of ideas and practices, here he is not attempting to reconcile contemporary biomedicine with its history.42

Canguilhem’s practice in *Writings on Medicine* is a mixture of what we usually refer to by the terms “conceptual history,” “historical epistemology,” and the “history of the present.” Once again, while this mixture is not unique to *Writings on Medicine*, it is carried out with particular insistence in this book.

*Conceptual history* should not be understood here in quite the sense given it by Reinhard Koselleck’s practice of a *Begriffsgeschichte*, yet the term is nevertheless essential as a qualification of Canguilhem’s engagement with the history of ideas. What is at stake is not so much the history of ideas, considered in the “Platonist” sense as dissociated from society and culture and having motivations and implications only of their own.43 In this approach, concepts put into practice by medical thinkers, philosophers, and other cultural agents participate in broader conceptual and notional frameworks. A history of concepts viewed in this way doubles as the history of their definitions, their related figures, the matrices to which they belong, and the concepts with which they bind, including others with which they have been contrasted or from which they have been contradistinguished. Since *The Normal and the Pathological*, this engagement with concepts and the practices that surround them has been central to Canguilhem’s thought. In the present collection, and indeed more so here than in some of his other works, Canguilhem extricates concepts (“nature,” “health,” “disease,” “pedagogy,” “cure,” “regulation”) from the matrix that would link them
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directly to one another in order to treat the way in which each bears a singular history—a history that renders their binding together less stable than previously assumed.

*Historical epistemology* can be defined as a history of the production of knowledge or as a line of questioning that considers the history of concepts and often-opposed scientific approaches as developing systems of knowledge and of the production of truth.\(^4\) Hans-Jörg Rheinberger has described Canguilhem’s practice as forming “a history of the displacement of problems which must be reconstructed in their historical context.”\(^4\)\(^5\) In other words, central to his thought and historical practice is the question of how historical agents come to know what they know, how they come to articulate it, how they play out presuppositions of their thought in their practice and scientific writing. Put differently, central to his thought and historical practice is the question of how particular problems (disease, cure, and health, above all, in the present case) have a lived as well as conceptualized significance. As he writes in “The Object of the History of Science:” “The history of science concerns an axiological activity, the search for truth. It is at the level of questions, of methods, of concepts, that scientific activity appears as such.”\(^4\)\(^6\) Canguilhem’s specific engagement at the level of questions, methods, and concepts takes the form not of tracing epistemological breaks in medical thought (what Bachelard described as “ruptures” or “coupures épistémologiques”), but of a series of historical continuities that compete with one another in articulating the terms in which the above-discussed questions that frame Canguilhem’s philosophy of medicine can be asked. This book as a whole brings a series of conceptual histories and the practices they have facilitated to a contrast that elucidates and dislocates their implicit force within scientific systems.

*History of the present* is a term Michel Foucault proposed in his 1975 *Discipline and Punish* as his way of thinking about the link between the nineteenth-century focus of his “genealogical” studies and the contemporary intervention he sought to make through them. Canguilhem’s essays in *Writings on Medicine* make a distinct effort to intervene in contemporary debates in medicine, sometimes through short asides citing policy proposals, but more frequently through a constant sense that health, disease, cure, nature, and individuality are fundamentally problems whose history remains implicit and troubling in their contemporary uses. Canguilhem’s practice, in other words, is motivated by the standing of the historian of science as a
historical agent in his own right, and thus one whose truths and axiological investments are reflected in his practice, as well as by the urgency of a historical moment in which he feels a lack in the historical understanding of medical concepts to be inflecting, if not deforming, the practice and goals of medicine. Interpreting Canguilhem’s own practice as a history of the present thus also brings to the fore the political dimension of the rationale that pervades the essays included here—political at least in the sense that it concerns the place and politics of medicine in a world increasingly dominated by a far-fetched rationalism.

Nowhere is this clearer than in Canguilhem’s harsh critiques of antipsychiatry and antimedicine, movements whose claims were widely felt in the 1970s. Crucially, Canguilhem does not elaborate a critique of systematic medicine in order to refuse medical practice and conform to a notion of the medicalization of life that we find in the work of Ivan Illich, the infamous author of Medical Nemesis and a scholar whose antimedicine Canguilhem criticizes harshly and rejects. Indeed, nothing could be further from the argument here than that, given the repressiveness and disrespect of subjectivity to be found in modern medicine, one should instead opt for a supposedly natural and unmediated, unpressive notion of health. Canguilhem is not hostile to medical practice and experimental science—his claim for a history of the present lies precisely in the critique of the frequent ignorance of basic presuppositions in medical thought that allowed antimedicine to come to the fore. Thus, what sparks Canguilhem’s critique of medical reason, what keeps these essays together as a unit, is not a wish to declare medical systems insufficient and to aim for a natural or Hippocratic idea of health. Quite to the contrary: it is a demand for ways of reinvesting in modern medicine, with all of its limitations, and explaining in what way it holds therapeutic force.

III.

On the basis of his philosophy of medicine and his historical practice, Canguilhem identifies each chapter with one or more overarching questions. How are we to contend with the “naturalism” that is imagined in medical thought and practice (Chapter 1)? What is the value of disease in relation to healing and to curing (Chapter 2)? If “health” were understood as an a
priori concept, then where would we find its foundation (Chapter 3)? Are there notions of healing that can be held apart from the concept of a “cure”? And along similar lines, what are the limits of psychology in medical thought? Can we find a register for the experience of illness and suffering within current conceptualizations of human biology and physiology in medical practice (Chapter 4)? And finally, what is the relationship between the organism and society and how do theories of the organism’s regulation renew the philosopher’s engagement with this question (Chapter 5)?

Chapter 1, “The Idea of Nature,” focuses on the Hippocratic tradition of understanding nature as the degree zero of health. Canguilhem foregrounds the “healing power of nature” (*vis medicatrix naturae*) in its presumed analogy to and superiority over the practice of doctors, and he traces three traditions. The first is the tradition of Western medicine’s suspicion of nature’s healing power. The second is the motif of a “medicine without a doctor” in the seventeenth and eighteenth centuries, the idea that “natural man” is “his own doctor”—a recuperation of the Hippocratic tradition that Canguilhem sees at the base of the fascination with a “natural health” in modernity. The third is contemporary medicine’s complicated engagement with the Hippocratic tradition, which has resulted from the discovery that we often need to use nature against itself if we are to (re)gain health. Canguilhem’s stance toward “nature” is ambivalent here—largely because of his mistrust of then-growing appeals to a vague “nature.” In his essay “Nature naturante et nature dénaturée” (“Naturing Nature and Denatured Nature”), which appeared four years after “The Idea of Nature,” in 1976, Canguilhem lamented the difficult position that a philosopher who would reject the naturalisms then “à la mode” found himself, and he proceeded to adopt just that difficult position, denying the simple opposition imposed by the expression “denaturing.” Furthering the title’s allusion to Spinoza’s concept of *natura naturans*, that is, of nature generating itself, Canguilhem argued that nature can also *denature*, that it can *denature* itself, lose the elements that have come to define it as such.

Because nature can only be naturing, a denatured nature—at once a daughter and a mother to culture—is possible. And because this denaturation progressively had to borrow the paths of abstraction and of nonfigurative representation that belong to science, and as a result one could not recognize naturing nature in a denatured nature, a complaint and an anger were born to which literature and ideology vainly seek to give philosophical weight.
In “The Idea of Nature,” Canguilhem similarly articulates the demand for a philosophical and historical understanding of the concept of nature within the different traditions that he engages. Naturalism offers nothing by itself—merely a mistaken rejection of medicine and through it of the forms of care that engage in a complex fashion with nature. The broader philosophical implication here is that nature cannot acquire foundational status in philosophy. Canguilhem denies that human beings are somehow fundamentally sustained by nature alone, or that trust in such sustenance can, today, suffice as anything more than a basic critique. A final aim of this argument is to open up the space for a judgment on the doctor-patient and doctor-nature relations with which Canguilhem will engage in the later chapters.

In Chapter 2, “Diseases,” Canguilhem begins with the Hippocratic tradition to identify “the instructive work” of illness in order to situate disease as a purposeful, “reasoned” activity of the body, one that, at times and through its evidence in symptoms, invites intervention. Rather than simply tracing the chronological progression of an understanding and valuing of disease throughout the course of medical history, in the chapter Canguilhem elaborates on its status as a part of medical practice (aiming to manage symptoms and to rid the body of the cause of disorder) that has come to organize and fix a so-called “medical perspective.” Canguilhem draws attention to the conceptual distances that separate “disease” and the “sick,” what he calls the “patient-disease” (malade-maladie) relationship, a relationship that, in his view, cannot be of complete discordance. In Canguilhem’s formulation, being sick is a norm of life, and disease only establishes a new biological norm “at the nebulous border between somatic medicine and psychosomatic medicine,” resulting in “both deprivation and change.”

Canguilhem engages the concept of disease—its value and role—less in an attempt to recover a lost holism than as a beginning of what could be called a “philosophical anthropology” of medicine, one that puts analytical historical pressure on the self-evidence of medical thought.

In many ways, Chapter 3, “Health: Popular Concept and Philosophical Question,” extends the line of questioning laid out in Chapter 2, “Diseases.” As mentioned earlier, both of these chapters (and “Health” especially) derive from the lecture text “Corps et santé” (“Body and Health”). They also extend arguments that Canguilhem had begun when considering
the teachings of the physician René Leriche in the first version of *The Normal and the Pathological* (1943) and then sharpened in the chapter “Disease, Cure, Health” of that book’s extended second edition (1966). Chapter 3 is driven by a single polemic: if “health” exists with reference to some explicit knowledge, where do we find its ground? Canguilhem explains that “health” has remained a topic of philosophical thought throughout the works of Kant, Nietzsche, and Maurice Merleau-Ponty. However, it is Leriche’s formulation regarding health as “life lived in the silence of the organs” that Canguilhem places under the most careful scrutiny.

Here we begin to see the nature of Canguilhem’s relationship to Friedrich Nietzsche—Canguilhem called himself a “nietzscheén sans carte,” a non-card-carrying Nietzschean. Nietzsche, who also found inspiration in Claude Bernard, did not accept “health” as unproblematic. For Nietzsche, the concept of health—“the great health” (*die große Gesundheit*)—is at once corrupted and corrupting; it misattributes virtue; it paradoxically serves as a ground for malice and a conditional life. It is in this chapter that we also find a reaffirmation of the importance of Kurt Goldstein’s conception of health, which postulates the positive interlocution between a living individual and its milieu, a milieu that is often *ébranlé*—threatening—and not secure. For Canguilhem, “health is a margin of tolerance for the inconstancies of the environment,” and the “healthy” organism is one that follows a “privileged” path through its environment and does not behave in a disordered or (worse) “catastrophic comportment.” Canguilhem further links Goldstein’s treatment of catastrophe to Walter Cannon’s (1914) writing on the problem of “alarm,” Hans Selye’s 1936 work on the general adaptation syndrome to nonspecific stimuli, a theory of “stress,” as well as René Thom’s theory of catastrophe. As Canguilhem had already recounted, Goldstein’s argument involved precisely a definition of health as the ability to not be caught in a relation of *ébranlement* with the environment, but to be able to overcome its dangers. Yet Canguilhem shifts focus to consider not only the physical world, but the social one. In order to define health, he attends to the alignment between the organism and its milieu, both physical and social. Managing the social aspect of health (as he recounts with reference to tuberculosis) is just as crucial as managing its physiological aspect. It should be clear by now, moreover, that in engaging with health, Canguilhem finds a central way of approaching subjectivity, and the place and status of the subject within nature and society. Having
refused both the sociological and pure philosophical approaches and hav- 
ing taken from but elided both existentialism and structuralism, Canguil- 
hem treats health and disease as privileged entry points for a thinking of 
the subject and self within social, psychological, and biological frame- 
works, a subject either exuberant toward itself and its world (healthy) 
or constrained, bound to norms it does not control or adequately handle 
and potentially in a direct relationship with decline and imminent death 
(diseased).

Chapter 4, “Is a Pedagogy of Healing Possible?” utilizes some of the 
central insights of the preceding chapters—that an organism’s natural state 
can be harmful to it given its current circumstances, that diseases are instru-
ments of life, but are seen to be so only with difficulty given the harm they 
inflict on the organism, that a cure is not a restoration of an anterior 
state—to address the role and function of the physician. Demonstrating a 
fundamental difference between externally confirmed cures and subjective 
healing, Canguilhem asks how healing and curing can be theorized while 
keeping in mind the perspective of the patient, who refuses simply to accept, 
as his or her own, the interpretation of the cure offered by the doctor. At 
stake, then, is medicine’s role in subjectivity itself.

The essay is anticipated in part in a lecture on therapeutics that Can-
guilhem had delivered in 1959, “Thérapeutique, expérimentation, respon-
sabilité” (“Therapeutics, Experimentation, Responsibility”), in which he 
articulated in some detail the divide between, on the one hand, experimental 
and technologically grounded medicine, and, on the other, the needs of ther-
apy, understood as the restoration of a healthy state to an organism that has 
been damaged or endangered. There, Canguilhem had largely engaged 
with Immanuel Kant’s The Conflict of the Faculties in order to articulate a basic 
claim that philosophy’s meddling in medical matters can only go so far in its 
judgments, while medicine needs to be “radically desacralized.” He 
accepted the authority of experienced and cultured physicians and called for 
the establishment of a superior way to initiate the teaching of medicine—in 
a sense setting up a part of the argument he would pursue here.

Yet at the same time, the problem of “Is a Pedagogy of Healing Possi-
ble?” is rather different and could perhaps be best understood as an implicit 
transposition onto the doctor-patient relationship of the psychoanalytic 
problem of transference. Therapeutics, Canguilhem argues, requires some-
thing that is often impossible—the meeting of a medical cure with social as
well as individual healing. If the doctor’s success is not only a matter of “fixing” the organism, mechanically, but of restoring its relationship to its milieu, then situations of serious illness all but prevent such a restoration. Given that much, the doctor-patient relationship is not an a priori failure, but it is inflected by a mixture of conditional, partial therapeutic success with a recognition of the finitude of individual goals in a given environment and the transformation (both individual and social) that the patient will necessarily endure. And such a transformation comes to require a holistic approach to patienthood.

A basis for therapeutics, in this argument, comes closer to the terms to be found in the writings of the renegade psychoanalyst Georg Groddeck and the then-surprising work of the psychoanalyst and homeopathic physician René Allendy. Best remembered for having treated Anaïs Nin (and Antonin Artaud), Allendy was an early influence on Canguilhem through his insistence that healing cannot be separated from a concept of the medical subject. For Canguilhem, Groddeck and Allendy recognize the need for a cure to become, in medical eyes, “the sign of the patient’s rediscovered capacity to be finally done with his own difficulties.” Like Nietzsche, they point to a conceptual transformation that Canguilhem deems necessary so that human biology and society can become more effectively bound up with the performance of healing, so that scientifically based care does not fall prey to appeals to personal healing—to “the first therapist to come along and appeal to psychosomatics.” They also resonate with Canguilhem’s continuing attention to Goldstein, who provides not only the crucial spark for an analogy between therapeutics and pedagogy, but also the persistent commitment, far from any easy medical humanism, to a doctor-patient relationship defined as “a coming to terms of two persons, in which the one wants to help the other gain a pattern that corresponds, as much as possible, to his nature.” It is thanks to this commitment that Canguilhem can call for a Critique of Practical Medical Reason, whose purpose would be to balance, compare, and weave together experimental and scientific knowledge with the “propulsive nonknowledge” of a living being’s effort to survive and retrieve a life in health—a life and health that neither knowledge nor life can institute or guarantee.

Chapter 5, “The Problem of Regulation in the Organism and in Society,” dates to 1955, some twenty years before the other essays and at a time when Canguilhem’s intellectual priorities differed considerably from those
he would adopt in the 1970s. It can perhaps be seen as an easier and more explicitly politicized effort than Canguilhem attempts in the other essays included here. What helps in understanding his approach, however, is not only that it was directed at a popular audience (at the Alliance Israélite Universelle), but that at the time, Canguilhem was elaborately reworking his stance on the problem of how the organism is regulated and that, notably, his understanding of regulation would come to play a major role in his understanding of the individual organism and, through it, of health. The lecture thus offers an early glimpse at Canguilhem’s effort to grapple with the idea of regulation, and it is worth attending at some length to the ways in which his thought on the matter would be finessed over time.

In “The Problem of Regulation in the Organism and in Society,” Canguilhem recuperates the importance of an organism’s self-regulation as a determining element in its constitution. With its examination of Claude Bernard’s notion of the internal milieu and of Walter Cannon’s understanding of homeostasis, the essay clearly expands on “The Living and Its Milieu” in Knowledge of Life, writing that “the originality of Claude Bernard resided in his showing that . . . it is the organism that produces this internal milieu. I insist here on the fact that the regulation of the organism is ensured by the special devices that are the nervous and endocrine systems.” The priority of the organism is crucial, because, as in “The Living and Its Milieu,” it allows not only for Canguilhem’s emphasis on the individuality of the organism, but also for a suggestion that such individualized regulation is at the core of the organism’s self-construction. On this basis, Canguilhem proceeds to show the differences between organisms and societies, which lack the natural givenness of organismic regulatory mechanisms.

It is important, still, to note that, in the ensuing argument that points out the dangers of expanding regulation to a social principle, the organism’s self-regulation becomes the foundation for health. Regulation, in other words, becomes a crucial element in Canguilhem’s effort to overcome Cartesian mechanism and to offer a medically informed philosophical theory of the body. This is, indeed, what places this chapter at the base of Writings on Medicine. In assuming this major role, however, regulation remains shrouded in ambivalence—an ambivalence that would only be heightened, thanks to the rise of other theories using regulation in the post-war period (notably cybernetics) that would put further stress on Canguilhem’s prioritization of regulation. In “The Problem of Regulation in the
Organism and in Society,” Bergson serves as a counterpoint to the Bernard-
Cannon line of development of the theory of regulation, occluding any
strict commitment to such a theory. This use of Bergson is particularly
significant, insofar as Canguilhem’s criticism of Cannon is premised on
both his influence on Arturo Rosenblueth and Norbert Weiner (whose
cybernetics remains a quiet target of this paper) and his extrapolation from
physiology toward a social theory. A commitment to regulation, Canguil-
hem suggests through Bergson, amounts once again to an elision of individ-
uality and to an ordering that is philosophically dubious and might become
politically destructive.

Canguilhem would broach the subject of regulation again in 1957–58 in
his weekly seminar on the history of biology at the Institut de l’Histoire des
Sciences. In a way commensurate with “The Problem of Regulation in
the Organism and in Society,” his seminar argument on regulation
addressed the relationship between an organism and its milieu as this de-
veloped in the nineteenth century (notably in the work of Comte) and the shift
from external to internal milieu that occurs with the work of Claude Ber-
nard, also as suggested in “The Problem of Regulation in the Organism
and in Society.” Bernard’s notion of the internal milieu provided at once a
sense of the organism’s unified response to stimuli and a sense in which this
response is both guided from within and responsive to internal as well as
external disruptions. In the seminar, Canguilhem further insisted on the
importance of Cannon’s studies of “the importance of the autonomic ner-
vous system on the regulation of physiological functions” as a form of inter-
nal self-regulation and revisited much the same set of historical origins
as he does here: the Hippocratic vis medicatrix naturae, for example, but
also the biologists Eduard Pflüger, Leon Fredericq (on animal heat), and
Charles Richet. He also addressed, for the first time, the contribution of
cybernetics to the return of the term regulation and to its role in the imagi-
nation of a self-regulated society, pointing (without recorded commentary)
to W. Ross Ashby’s 1948 Homeostat, his device intended to simulate the
brain’s regulation of disturbances. Here again, Canguilhem’s suspicion of
self-regulation—or mechanical organization, for that matter—remains core
to his sense that human life—and perhaps life itself—cannot be reduced to
an order without unexpected and uncontrolled disturbance.

Canguilhem then returned to the concept in the 1970s. In 1971, he pub-
lished an article on regulation in the French Encyclopaedia universalis that
again emphasized the lineage of Bernard and Walter Cannon, but also offered a broader, tripartite account of the epistemological, biological, and sociological use of the term. Soon thereafter, in 1973, he presented a strongly political version of the same article in a three-lecture course at the Catholic University of Louvain titled “Fin des normes ou crise des régulations?” (“The End of Norms or a Crisis of Regulation?”), which he concluded with the lecture “Regulation as a Reality and as a Fiction.”

Preoccupied with the emergence of antipsychiatry and antipedagogical movements toward the end of the 1960s, Canguilhem mounted an attack on both normative and antinormative thought—that is to say, not only against normalizing tendencies in society but also against the fantasy of overcoming hierarchies (such as doctor-patient hierarchies) and rehabilitating ideals of “natural” health. Regulation as a mechanistic and cybernetic notion served to reimport into sociology and conceptions of the brain a mechanistic determinism and thus became a first target. At the same time, we find Canguilhem extending his critique of antimedicine, which we have seen in Chapters 1 and 4: while maintaining a philosophical argument for the tradition that counters the medical establishment as source of sole medical truth, he distanced himself from hopes of “natural” [sauvage] medicine, and natural self-regulation in society. Throughout, and once again, Canguilhem flatly refused Cannon’s postulate in the concluding chapter of The Wisdom of the Body that an analogy could be derived from biological to social homeostasis, calling social self-regulation a myth and an ideology. Against regulation, normativity remained, instead, the ineffable and not a priori undesirable basis of political and social reality.

Finally, Canguilhem would compose “The Formation of the Biological Concept of Regulation in the Eighteenth and Nineteenth Centuries” as a lecture he would deliver at the opening session of a 1974 conference at the Collège de France that engaged concepts of regulation in systems theory, biological and physical self-organization, genetics, and linguistics. That essay would become a keystone chapter of Ideology and Rationality in the History of the Life Sciences, and it would return once again to the use of regulation in cybernetics and to the nineteenth-century elaboration of the concept of regulation itself.

The evolution of regulation into a solid and potentially reductive theory of the organism thus ended up posing even at the level of individuality the
very problems from which Canguilhem had used it to escape. Without leading him to give up on Bernard’s concept of an internal milieu or Cannon’s concept of homeostasis, the concept of regulation would remain, philosophically speaking, both promising and profoundly troubling. And in this, it is exemplary of the promise and insufficiency of all the concepts engaged in the current volume—concepts whose epistemological success breeds both an intellectual and a political excess of their epistemological value. In *Writings on Medicine*, medical reason remains bound to the often-contrary claims made for it by different philosophical-medical concepts and their histories. The conceptual equilibria it develops remain unstable, its solutions tenuous. Medical reason becomes by necessity its own critique.

*IV.*

In closing this introduction, a few notes on the translation are in order. Where Canguilhem translates from other languages, we have by and large used his renditions or amended the English editions. In keeping with recent usage (notably in translations of the work of Michel Foucault and Giorgio Agamben), we have translated *dispositif* as “apparatus” and have rendered *appareil* through the English terms “device” and “apparatus,” depending on the particular case.

*Vis medicatrix naturae*: this Hippocratic expression is usually rendered in English as “the healing power of nature”; here, we keep it in the Latin as per Canguilhem’s own usage, and we also keep in quotation marks “*la nature médicatrice*” when it appears; this signifies “healing nature” or “nature as medic,” and we render it as “healing nature.” Canguilhem also uses *médecine sauvage* to refer to naturalist medical treatments; though we might commonly refer to these by the term “alternative medicine” today, we have chosen to use “natural medicine” to avoid the anachronism and emphasize the link to various invocations of the *vis medicatrix naturae*.

* Médecine expectante/expectation*: The French term *expectant* has no simple English cognate. The quotidian use of the French adjective *expectant* would mean “attentive,” “wait and see,” or “passive,” and the term is commonly used with reference to Hippocratic passive treatments. We have followed Svetolik P. Djordjević’s *Dictionary of Medicine*, 2nd ed. (Rockville: Schreiber
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Publishing, 2000), 524, in rendering médecine expectante as “expectant medicine”; at times we have also used “wait and see” as opposed to “passive,” depending on the circumstances.

*Maladie:* Throughout the text we have translated maladie as either “illness” or “disease,” depending on the context in which the word is being used. The distinction we have attempted to make is that in the case of “disease,” the context is the discussion of a discrete object of medical inquiry or a specific entity or condition, while “illness,” the context is the discussion of physical distress that is not bound by a specific condition or etiology of symptoms related to disease as such. It is worth noting that starting from Chapter 1, Canguilhem also plays on the polysemy of le mal—which points to “evil,” “harm,” “disease,” and “wrong.” No English term quite captures these meanings while working in context, so Canguilhem’s uses of le mal will be highlighted in brackets.

*Guérison:* Our rendition of Canguilhem’s term guérison as “healing” requires some explanation, particularly since Canguilhem makes an important and necessary distinction between “healing” and “cure,” and we want to attend here momentarily to the complexity of each of these terms. “Healing” is fundamentally subjective and individual, following an etymology that includes protection and security, but also defense. Moreover, there is the possibility of confusion between older and more recent uses of the term. The older definition of the term guérir (after Alain Rey, Dictionnaire de la langue française) is defendre, protéger—“to defend, to protect.” But the principal modern definition is protéger, garantir, now adding “to guarantee” and insisting that the proper sense is “to defend.” To “guard against” is another example: the word is guérir, from guarir or garir, meaning protéger. The modern term contains the additional meaning of “protection” and “security” in reference to the political assertions of public health from the nineteenth and twentieth centuries in France. “Cure” (often also remède), on the other hand, reflects forms of internal change adhering to external validation. A “cure” here is the success of a change verified statistically or otherwise from without. However, the definition of “to cure” is also “to restore” (Latin: curare). Stated simply, as employed here, “cure” aims at a return, whereas “healing” opens onto something new and previously unfamiliar or unknown. We have attempted to keep Canguilhem’s meaning intact. It is helpful also to remember the significance of the word “pedagogy” in Canguilhem’s title “Is a Pedagogy of Healing Possible?”—“pedagogy” from
the Greek, παιδαγωγέω (paidagōgeō), from παῖς (child) and ἁγω (to lead); literally, “to lead the child.”

Finally, Canguilhem typically makes far more references than actual citations in his text. We have restored here these silent citations as translators’ notes.
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1. To give but one, perhaps unexpected example: despite its difference in
both argument and genre, François Jacob’s classic history of biology and hered-
ity, *The Logic of Life*, shows clear signs of Canguilhem’s influence, for instance
in its discussion of classical biological mechanism. See François Jacob, *The Logic
1973).

2. Georges Canguilhem, *Essai sur quelques problèmes concernant le normal et le
pathologique* (Clermont-Ferrand: La Montagne, 1943) and *Le normal et le patho-
logique, augmenté de Nouvelles réflexions concernant le normal et le pathologique*
(Paris: Presses Universitaires de France, 1966); available in English as *The Nor-
mal and the Pathological*, with an introduction by Michel Foucault, trans. Carolyn

3. Georges Canguilhem, *La formation du concept de réflexe aux XVIIe et XVIIIe

4. Georges Canguilhem, *La connaissance de la vie* (Paris, Hachette, 1952) and
2nd, augmented edition (Paris: Vrin, 1965), available in English as *Knowledge of
Life* (New York: Fordham University Press, 2008). Subsequent references to
this text are to the English translation.

5. Georges Canguilhem, *Idéologie et rationalité dans l’histoire des sciences de la
vie* (Paris: Vrin, 1977), available in English as *Ideology and Rationality in the His-
tory of the Life Sciences*, trans. Arthur Goldhammer (Cambridge, MA: MIT Press,
1988). Subsequent references to this text are to the English edition.


9. Ibid., 91.

10. Canguilhem, “The Normal and the Pathological,” in *Knowledge of Life*, 126 and 132. See also the “absolute normative” and “qualified” definitions of the term “health” in *The Normal and the Pathological*: “Health, taken absolutely, is a normative concept defining an ideal type of organic structure and behavior; in this sense it is a pleonasm to speak of good health because health is organic well-being. Qualified health is a descriptive concept, defining an individual organism’s particular disposition and reaction with regard to possible diseases” (137).


12. The historian of biology Michel Morange has argued that *The Normal and the Pathological* betrays Canguilhem’s ignorance of then-contemporary biology—an ignorance that, for Morange, blunts his criticism. One could perhaps reverse this point and insist on the proximity between Canguilhem’s criticism and the transformations in biology. See Morange, “Retour sur le normal et le pathologique,” in *Philosophie et médecine*, 159.

13. One of Canguilhem’s favorite quotes concerned the writing of the philosophy of history and the history of science: Koyré had declared, in the *Bulletin de la Société française de philosophie* 26, no. 3 (May–June 1936): “The history of science is certainly not a dead history. Nevertheless it is, grasso modo, the history of dead things.” This passage, which Canguilhem first quoted in a March 1945 lecture “The History of Philosophy and the History of Science” (CAPHES [ENS], Archives de Georges Canguilhem, GC.11.3.10), formed the basis for some of his own reflections on writing the history of science, for example in “Cell Theory,” where he asked “If the true—the goal of scientific research—is exempt from historical transformation, then is the history of science anything more than a museum of errors of human reason?” and sought to demonstrate the insufficiency of scientistic reductions of this sort and the legitimacy of his historical endeavor. See Canguilhem, *Knowledge of Life*, 26.


19. In France, it was customary to submit a “major” and a “minor” doctoral thesis.


To understand the trickiness of refusing mechanism at the time and the pitfalls of classical vitalism that Canguilhem was negotiating and trying to avoid, see Ernst Cassirer’s contemporary essay “The Argument over Vitalism,” in *The Problem of Knowledge: Philosophy, Science, and History Since Hegel*, (New Haven: Yale University Press, 1969), 188–216.


25. It is worth noting that such an idea differs profoundly from Erwin Schrödinger’s *What Is Life?: The Physical Aspect of the Living Cell* (Cambridge: Cambridge University Press, 1945) just as it does from André Lwoff’s *L’ordre
biologique: Une synthèse magistrale des mécanismes de la vie (Verviers: Marabout Université, 1962) or François Jacob’s, in The Logic of Life.


30. Lecourt broaches this theme clearly, but indirectly: Lecourt, *Georges Canguilhem*, 70, 83, 88–89.

31. Husserl’s treatment of modern science as emergent in the Renaissance rediscovery of Greek universal science and as fundamentally rigidifying and indeed distorting human wonder at the world comes close to Canguilhem’s concern with mechanism. Canguilhem’s critique of psychology operates in a somewhat different register from Husserl’s attack on psychologism, but the refusal of empiricism and the accusation of antiphilosophical intent are shared (or, rather, echoed) by Canguilhem. See also David Hyder, “Foucault, Cavailles, and Husserl on the Historical Epistemology of the Sciences,” *Perspectives on Science* 11, no. 1 (2003): 107–29. Adorno’s negative dialectics, his rethinking of the particular in the 1950s and 1960s, and his ambivalent relationship with Kant could also be seen as similar to Canguilhem’s reconceptualization of the individual, to the degree that both aimed to defend this individual or particular against totalitarianisms and totalizing systems and philosophy. As for Arendt, Canguilhem’s negative vitalism is premised less on the affirmation of life and more on the consistent refusal—political, philosophical, and ethical—to efface life as creativity and absolute originality. It is in this sense that Canguilhem’s argument can be read as closely related to Arendt’s in *The Origins of Totalitarianism*, where against totalitarianism Arendt concludes by invoking “natality”—the birth of every new individual human being—as both a sign of what totalitarianism seeks to efface and a mark of what resists it.

32. The book plan can be found in “Corps et santé,” CAPHES (ENS), Archives de Georges Canguilhem, GC.25.26, 21.

33. Chapter 1 in the present volume, “L’idée de nature” was originally published in * Médecine de l’homme, Revue du Centre catholique des médecins français*, no. 43 (March 1972): 6–12.
34. Chapter 4 in the present volume, “Une pédagogie de la guérison estelle possible?” was originally written at the invitation of J.-B. Pontalis and published in *Nouvelle revue de psychanalyse* 17 (Spring 1978): 13–26. In 2006, a translation of this essay by Steven Miller appeared in *Umbr(a)*, a journal published by the Center for the Study of Psychoanalysis and Culture at the State University of New York, Buffalo. While we respect the work carried out in that version, we chose to retranslate the essay so as to maintain a single voice throughout the volume.

35. Chapter 3 in the present volume, “La santé: Concept vulgaire et question philosophique” originally appeared in *Cabiers du séminaire de philosophie*, Éditions du Centre de documentation en histoire de la philosophie 8 (1988):119–33. Our earlier translation of the essay was previously published in *Public Culture* 20, no. 3 (2008), 467–77; the current translation has been modified substantially from that version; significantly, we have chosen to revisit our rendition of *vulgaire* and render it as “popular.”


37. Georges Canguilhem, “Puissance et limites de la rationalité en médecine,” in *Études d’histoire et de philosophie des sciences*, 392–411. For “Pour les dentistes,” of which only a fragment survives, see CAPHES (ENS), Archives de Georges Canguilhem, GC.25.29.


39. The idea of “the body proper” as a given, unchanged object in relation to contemporary biomedical thought, as discussed by Margaret Lock and Vinh-Kim Nguyen in *An Anthropology of Biomedicine* (London: Wiley-Blackwell, 2010), was particularly useful here.

40. Canguilhem foregrounds this through examples from endocrinology and immunology in Chapter 2, “Diseases.”


42. See, for example, his references in this volume to the work of the medical historians Erwin H. Ackerknecht and Charles Daremberg.

43. The reference to a “Platonist” history of ideas concerns the tradition best known through Arthur O. Lovejoy’s magnum opus *The Great Chain of


49. Canguilhem’s most notable critique of psychology is “Qu’est-ce que la psychologie?” in *Études d’histoire et de philosophie des sciences*. It should be mentioned that Canguilhem’s library shows an unexpectedly broad interest in psychoanalysis.


51. Ibid., 87.


53. See, for instance, the discussion by Michel Foucault of a philosophical anthropology that is aimed not at discovering what is hidden, but is meant to


62. Ibid., 391.


68. On the brain, it is important to also note Canguilhem’s famous article “Le cerveau et la pensée” where Canguilhem struggled against neurology’s theorization of the brain as more or less secreting thought. See É. Balibar, M. Cardot, F. Duroux, M. Fichant, D. Lecourt, and J. Roubaud, eds., *Georges Canguilhem, philosophe, historien des sciences: Actes du colloque (6–8 décembre 1990* (Paris: Albin Michel/Collège International de Philosophie, 1993), 11–33.


72. Canguilhem, “Régulation 1974,” in CAPHES (ENS), Archives de Georges Canguilhem, GC.17.3.

1. THE IDEA OF NATURE IN MEDICAL THEORY AND PRACTICE

1. [According to Hooper’s *Lexicon-Medicum* of 1826, stenia is defined as “From οθενος; a term employed by the followers of Dr. Brown, to denote that state of the body which disposes to inflammatory diseases in opposition to those of debility, which arise from asthenia”; and asthenia is defined as “From α, priv. and οθενος: Extreme debility. The asthenic diseases form one great branch of Brunonian arrangement.” Robert Hooper, *Lexicon-Medicum* (New York: J. & J. Harper, 1826), 901, 115.—Trans.]

2. John Brown, *The Elements of Medicine; or, A Translation of the “Elementa medicinae Brunonis”* (Philadelphia: Thomas Dobson, 1795), §95, 127, trans. modified. [The full quote is as follows: “Since every universal disease, every predisposition, depends upon increased or diminished excitement, and is removed by the conversion of that into the degree which constitutes the mean betwixt both; in order to both prevent and cure diseases, we must always use the indication proposed, and stimulate or debilitate; never wait, or trust to the supposed powers of nature, which have no real existence.” Canguilhem elaborates on Brown’s work in “John Brown’s System: An Example of Medical Ideology,” in *Ideology and Rationality in the History of the Life Sciences*, trans. Arthur Goldhammer. (Cambridge: MIT Press, 1988), 41–50 and 55–56.—Trans.]

3. Ibid., §72, 116. [Canguilhem’s rendition is inexact; Brown writes: “life is not a natural, but a forced state; that the tendency of animals every moment is to dissolution; that they are kept from it, not by any powers in themselves, but by foreign powers, and even by these with difficulty, and only for a time; and then, from the necessity of their fate they yield to death.”—Trans.]
