

# French Epistemology Overseas : Analyzing the influence of Georges Canguilhem in Québec

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## ABSTRACT

The impact of Georges Canguilhem on French and English speaking philosophers and other academics outside France is not well known. In this paper, I use the example of the province of Québec in Canada to explore Canguilhem's influence overseas. I locate two distinct, but related, points of entry of Canguilhem's influence in Québec – history of science and “philosophy” of medicine broadly defined – and discuss both concepts in relation to the scholarly work done in Québec from the seventies until the present time. Beginning with an overview of Canguilhem's life and work, which I position within an important debate in philosophy of medicine, I go on to present these two points of entry that I distinguished previously. By looking not beyond, but literally *in between*, the work of Bachelard and Foucault, one has to admit that Canguilhem's original contribution to the history of science and medical epistemology has played an important role in the development of Québec's intellectual life.

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## INTRODUCTION

The names of Gaston Bachelard (1884-1962), Georges Canguilhem (1904-1995) and Michel Foucault (1926-1984) embody a “French-style” in history and philosophy of science, which is often broadly characterized as “historical epistemology” (Braunstein 2008, 16). Mostly prominent in Continental Europe, especially in France and Germany, historical epistemology is committed to the view that not only philosophers of science ought to consider the historical development of the sciences they study, but that “conceptual history of science” *is* itself a fundamental philosophical task (Gayon 2009, 7-8). While some careful studies about the reception of Bachelard's and Foucault's contributions inside and outside Europe have been made (Gayon and Wunenberger 2000), contributions assessing the influence of Canguilhem's philosophy both in France and overseas are almost non-existent. Canguilhem is certainly better known in Europe but his work was also recognized in Anglo-American countries, although there has been some difficulty in identifying the precise locations of this influence. Philosophers such as Mike Gane have argued that “Canguilhem's work is perhaps best known in the Anglophone world in connection with the debate on epistemology and the social sciences introduced by Althusser and Foucault in the 1960s” (Gane 1998, 312). This is very plausible although, according to Foucault, Canguilhem's work is precisely that which gives the key to understanding many debates into which Althusser and a number of French intellectuals were involved in post-sixties France: “take away Canguilhem,” said Foucault in his last essay, “La vie: l'expérience et la science”, and you will not understand much about Althusser, Althusserism and the whole series of discussion which have taken place among French

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Marxists; you will no longer grasp what is specific to sociologists such as Bourdieu [...]; you will miss an entire discussion of the theoretical work done by psychoanalysts [...]" (Foucault 1985 reprinted in Canguilhem 1991, 8). This view about the central and influential role of Canguilhem was echoed recently by the Canadian philosopher of science, Ian Hacking, saying that "English-speaking readers, who want to know where Bruno Latour and other present-day French iconoclasts are coming from, may want to read more Canguilhem" (1998, 205). Moreover, as Foucault observed, "Directly or indirectly, all or almost all these philosophers [of the past sixty years] have had to 'come to terms' with the teaching and books of Georges Canguilhem" (Foucault 1985 in Canguilhem 1991, 7) – this, of course, includes Foucault himself, Canguilhem's most famous pupil. In effect, Canguilhem was from 1955 to 1971 professor at the Sorbonne and head of the *Institut d'histoire des sciences et des techniques*<sup>1</sup> in Paris. At about the same time, he was also president – not just a member – of the jury of *Agrégation* in philosophy which was a powerful position. In addition to a strong temperament, these academic statuses no doubt guaranteed his influence over more than one generation of French philosophers and intellectuals.

Canguilhem's influence overseas does not entirely rest on the shoulders of Foucault and Althusser, however; some Anglophone readers have had a much more direct access to his work. For example, the American historian of science, Everett Mendelsohn, remarked in an essay dedicated to Canguilhem that "although I was never his student, he has been my teacher for many years." (Mendelsohn 1985). Also, the American philosopher of science, Marjorie Grene (1910-2009) – only six years younger than Canguilhem, and who regrettably died recently – was obviously attentive to his work in the history and philosophy of life sciences. For example, in her *Approaches to Philosophical Biology* (1968) Grene quoted and translated into English the beautiful conclusion of "L'expérimentation en biologie animale" published in *La connaissance de la vie* (Canguilhem 1966 [1952]) and commented on other passages of this book in which Canguilhem discussed the concept of *milieu* (Grene 1968, 232-3 and 240). Moreover, she argued elsewhere that medicine ought to be looked at more closely by philosophers of science as otherwise, "we are very likely to miss [...] a characteristic, if not of science in general, certainly of the biological sciences" (Grene 1976, 91). She concludes: "Some historians have done this – especially Canguilhem in his two major works<sup>2</sup>. We should follow his example" (ibid.). More recently, Marjorie Grene sided with Georges Canguilhem and his conceptual approach of science which she thought was "staying much closer to the practice of science" than logical empiricism (Grene 2000, 60).

Despite the notable exceptions of Grene and Mendelsohn, it is reasonable to think that Canguilhem should have had a more immediate influence on French-speaking philosophers. I therefore propose to explore hereafter the impact of Canguilhem on the province of Québec<sup>3</sup>, in Canada. The historian and philosopher, Jean-Claude Simard, in his essay on the influence of French philosophy in Québec (1998a), mentioned, among other names of philosophers who

<sup>1</sup> The *Institut d'histoire des sciences* was created in 1932, following a proposition of Abel Rey. It changed its name for *l'Institut d'histoire des sciences et des techniques* the year after and, finally, it became *l'Institut d'histoire et de philosophie des sciences et des techniques* in 2002 (<http://www-ihpst.univ-paris1.fr/ihpst/historique.php>). Its most famous directors include Gaston Bachelard, Georges Canguilhem, Suzanne Bachelard, François Dagognet and Anne Fagot-Largeault.

<sup>2</sup> "Le normal et le pathologique" (1966 [1943]) and "La connaissance de la vie" (1952)

<sup>3</sup> I will consider as « Québécois » everybody working in a university or a college or an independent scholar located in the province of Québec or its surroundings, regardless of their origin. I am interested in understanding the influence or the impact Canguilhem may have had on people, at the time, or still today, who were working in academic institutions in Québec.



played a “determining role” in Québec, those of Sartre, Merleau-Ponty and Ricoeur. In what follows I hope to show why the name of Canguilhem should also figure on this list. This study will also help to assess the influence of Canguilhem overseas, which has so far not been directly addressed. As with other English-speaking countries, his work is known and analysed in the rest of Canada (e.g. Trnka 2003; Gannett 1998; Hacking 1998), but his *influence* remains marginal and was clearly not as decisive in the evolution of humanities as it was in the case of Québec.

Beginning with an overview of Canguilhem’s life and work, which I position within an important debate in the philosophy of medicine in Anglo-American countries, I go on to briefly describe the social and political context of Quebec shortly before the 1960s and the “French turn” that followed. I then describe how Canguilhem had been invited to lecture at the Faculty of philosophy of the Université de Montréal in the mid-sixties and how his methodology in the history of science was shortly after imported into Québec by Camille Limoges. Educated at the *Institut d’histoire des sciences et des techniques* of Paris (Sorbonne) by Canguilhem, Limoges became the first historian of life sciences in Québec and he did much to shape the discipline in its own rights. The second entry point of Canguilhem’s influence in Québec was medicine; following the new place medicine came to occupy in Western societies in the post-war era, philosophical reflections on medical disciplines often took Canguilhem’s medical epistemology as a starting point.

#### LIFE AND WORK

Georges Canguilhem had an unusually dramatic life for a philosopher. Coming from Castelnaudary, a rural town in the south of France, Canguilhem entered *L’École Normale Supérieure* of Paris in 1924 and graduated in philosophy along with Jean-Paul Sartre, Raymond Aron and others who became prominent figures of the French intellectual landscape of the twentieth century. While a student at *L’École*, Canguilhem wrote many articles in Alain’s philosophical and political journal, “*Libre Propos*”, and a true friendship developed between the two men. Alain had been the professor of Canguilhem at the *Lycée Henri IV* in Paris – in the special class preparing for the entrance examination of the *École* – and Canguilhem would remain close to Alain until his death in 1951, despite the fact that he had rejected the latter’s pacifism some years before the Second World War. After having successfully passed the *Agrégation* in 1927, Canguilhem taught for years in many different “lycées” (Charleville, Albi, Douai, Valenciennes, Béziers), before becoming titular professor of philosophy at the “lycée” of Toulouse in 1936. Alongside his teaching, Canguilhem decided to start studying medicine in order, as he explained, to be introduced to more “concrete human problems” but also because he was interested in the connexions between “science and technology, and that of norms and normal” (Canguilhem 1991, 34). Medicine was therefore a logical choice as, for him, medicine “is not a science as such”, but rather “an art at the crossroad of many sciences” (1991, 34). When France was defeated by Germany in 1940, he immediately asked to be temporarily relieved from his teaching position, refusing to work under the government of the Maréchal Pétain. He instead decided to devote himself completely to his medical studies.

This intense period of study proved to be short, however. In February 1941, his close friend Jean Cavailles (1903-1944), philosopher of mathematics –captured and killed by the Nazis – convinced Canguilhem to replace him at the University of Strasbourg, now moved to Clermont-Ferrand in times of war, while he was taking a teaching position at the Sorbonne, in Paris. Canguilhem did accept Cavailles’ offer readily. While teaching philosophy at Clermont-Ferrand, Canguilhem was first introduced to the work of Kurt Goldstein (1878-1965)– a German physician specializing in neurology – by the physiologists Marc Klein and Charles Kayser (Debru



2004, 51). Goldstein was an important intellectual figure for Canguilhem<sup>4</sup>. His medical dissertation, *Essai sur quelques problèmes concernant le normal et le pathologique* (1943) contains numerous references to Goldstein's thesis that health and disease "require the notion of individual being" (c.f. Gayon 1998, 309).

Along with Cavailles, Canguilhem actively took part in underground resistance movements against the Nazis under the code name of "Lafont". He was a member of *Libération* and he participated in the creation of the journal of the same name in Toulouse. In 1944, he asked to be appointed as a physician in the "maquis" of Mont-Mouchet, in Auvergne, where he took part in battles. He himself went onto the battle field to carry back wounded soldiers to the hospital and, also, survived a very dangerous evacuation – this was the only time he practiced medicine. After the war, Canguilhem was decorated for his role in the *Résistance* and received the "croix de guerre". During this period, he became "general inspector" in philosophy (1948) and he published the collection of essays *La connaissance de la vie* (1952), also leading a survey on behalf of the UNESCO to investigate the teaching of philosophy world-wide (Canguilhem *et. al.* 1953).

In 1955, Canguilhem completed his doctoral thesis on the history of the concept of reflex in the XVII<sup>th</sup> and XVIII<sup>th</sup> centuries. This work did not only demonstrate the relevance of vitalistic biology for the creation of scientific concept, but also dethroned Descartes (1596-1650), then considered the "logical" father of the modern concept of the mechanical reflex action, and crowned the physiologist, Thomas Willis (1621-1675) in his place. After this grand demonstration, Canguilhem succeeded, in 1955, Gaston Bachelard as professor of philosophy at the Sorbonne and as head of *L'institut d'histoire des sciences et des techniques* where he stayed until his retirement in 1971. As president of the jury of *Agrégation*, also, he rapidly acquired a reputation as a respected but also ferocious examiner. "The Cang", as the students nicknamed him (Lecourt 2008, 116), attracted many students; some of them, such as Michel Foucault, became very famous outside Europe, while others, like François Dagognet and Dominique Lecourt, exerted their influence mostly within France or in Continental Europe. Canguilhem won the prestigious Georges Sarton Medal for his work in the history of biology in 1983, and was awarded the CNRS gold medal in 1987. Despite those honours, Canguilhem's decisive influence on both philosophers and the lay public, remained subtle in contrast to other intellectuals, such as Sartre, Foucault or Deleuze, whose influence is obvious in France but also abroad. Recently, philosophers and historians of medicine have begun to rethink his ideas of normal, pathological and normativity in the Anglo-American context (Lemoine 2008; Stempsey 2007; Trnka 2003; Keating 2001; Gannett 1998). Before discussing Canguilhem's impact on Québec, and given the topic of this special issue, I would like to position some of Canguilhem's ideas amidst an important debate in the philosophy of medicine by summarizing a few points he made in "The Normal and the Pathological".

#### CANGUILHEM AND THE CONCEPTS OF HEALTH AND DISEASE

A central discussion in the philosophy of medicine in Anglo-American countries focuses on the functional and causal definition of the concepts of health and disease. This question divides naturalists and normativists on the issue of whether or not it is possible to give a scientific and value-free account of health and disease. Normativists generally think that our use of those

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<sup>4</sup> For a discussion of Canguilhem's intellectual "debt" to Goldstein see Gayon (1998) and Debru (2004, 52-63).



concepts reflects value judgments. Naturalists, on the other hand, will try to define health and disease in a value-free way. Hybrid approaches combine both naturalist and normativist elements (see forthcoming Ereshefsky for a critical review), but for the most part the two major schools of thought are rather polarized in relation to one another. Following Trnka, I think that for Canguilhem the concepts of health, disease, normal and pathological are “neither pure scientific descriptions, nor mere human preferences” (Trnka 2003, 428), hence offering an interesting avenue in order to depolarize this debate.

Christopher Boorse’s Biostatistical Theory (BST) is the most articulated functionalist account of health and disease. Underpinning BST is the idea that science in general and biomedical sciences in particular, is largely a value-free activity (see Boorse 1997, 4; 1975, 55-56). Boorse’s philosophical work aimed at analysing the concepts of health and disease “as understood by traditional physiological medicine” (1977, 543) and by pathologists, not clinicians (1997, 11). Fundamentally, Boorse’s conception of the normal is statistical. Indeed, for Boorse, judgements of health and disease rely on pathological deviations from the statistically normal “design” of each species. The concept of “species design” refers to the typical physiological functioning of organisms which is a result from the process of evolution. This concept can be understood as the sum of all particular “idealized” physiological states of sub-systems (e.g. organs, cells), the interaction of which composes a larger organized system (e.g. organism). The failure of a given system to perform its normal biological function with at least typical efficiency (regarding the species, age and sex of the individual in question) is regarded by Boorse as a diseased state.

Boorse (1977) separates two distinct concepts of health: *theoretical* (objective and value-free) and *practical* (subjective and normative). Similarly, he distinguishes between disease (value-free) and illness (normative). As Élodie Giroux has noted, for Boorse, the theoretical concept of health applies to populations, whilst in the practical sense, it refers to functional normality at the individual level and so must be related to a particular reference class (Giroux 2009, 41). Boorse’s value-free perspective aims to respond to the normativists’ claim that any judgment of health and disease “must be determined, in whole or in part, by acts of evaluation” (Boorse 1975, 50). Boorse argued that disease and health (in the theoretical sense)<sup>5</sup> are scientifically accountable objects, no different from the concept of gravity, for example, and can lead physiology to establish interesting scientific generalizations, if not laws, about living organisms (Giroux 2009, 41). This is why, for Boorse, disease classifications do not have to be biased by the social context in which they are embedded. “Tuberculosis and epilepsy” Boorse argued “are diseases not because society under-values them, but because they are cases of biological malfunction” (1976, 89). On this account, classifying a particular state in an organism as diseased is no different from recognizing a failure in a car’s mechanism. Boorse’s functionalist account is important even if it faces a few shortcomings (for reviews see Giroux 2009 and forthcoming Ereshefsky).

At the outset, “The Normal and the Pathological” is grounded in a different philosophical context than Boorse’s. For instance, Canguilhem’s aim was precisely to pinpoint the limitations of the physiological concept of disease that modern medicine inherited from François Broussais (1772-1838), but, especially from Claude Bernard (1813-1878), not to provide contemporary physiologists with a philosophical justification of their use of the concepts of health, disease, normal or pathological. Indeed, what Canguilhem did was to critically analyse how the experimental method expounded by Bernard impacted on the ways in which physiology and pathology were being realigned with the clinic at the end of the nineteenth century. For him, two important consequences that flew out of these disciplinary

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<sup>5</sup> Boorse thinks now that both « illness » and « disease » are value-free concepts (Boorse 1997, 12).



rearrangements were that, to begin with, in discovering the laws of normal and pathological phenomenon, physiology became epistemically first, and could pretend to guide and illuminate the clinic. Additionally, in elucidating the statistical constants representing the normal curve of vital functions of living beings, physiology went down a reductionist slope and ended up ascribing health and disease not to the whole organism anymore, but to its most inner constituents (organs, tissues, cells, etc.) which departed from the statistical mean. Using scientific measurement, health and disease could then be quantify and assessed objectively. What Canguilhem endeavoured to do in the second part of the book was to turn this view upside down and replace the whole individual, and the clinic, at the centre of medical epistemology.

For Canguilhem, organisms are normative beings in the sense that, contrary to inorganic matter, organisms are always affected by their environment and will spontaneously react to external perturbations by making physiological adjustments; “there is no biological indifference” to changing situations (1991, 129). He considers that living beings are plastic entities displaying a wide range of adaptive physiological possibilities. Given a change in the environment, healthy organisms will be those that are able to adapt smoothly to the external modifications. For Canguilhem, health is defined as “the possibility of tolerating infractions of the habitual norm and instituting new norms in new situations” (1991, 197). Similarly, disease is a “new dimension of life”; it is “an innovative experience in the living being and not just a fact of decrease or increase” (1991, 184). This critique is directed at Claude Bernard’s epistemology (which Canguilhem called “Broussais’ principle”) on which normal and pathological states are identical in nature and only differ quantitatively (i.e. for Bernard, pathological phenomenon amounts to an increase or a decrease of an otherwise normal function)<sup>6</sup>. For Canguilhem, an impoverishment in the plastic or normative capacity is a sign of disease as it indicates a reduction in the “margin or tolerance” at the level of the whole organism. What distinguishes the normal from the pathological then is that an organism will be in a pathological situation if the new norms he has established are inferior in terms of “stability, fecundity and variability of life” than the previous ones (1991, 144). So, with Monica Greco we can say that, for Canguilhem, “what distinguishes health from illness is the range of circumstances in which an organism can afford to function normally” (Greco 1998, 241). The sick organism is the one which “has lost its normative capacity, the capacity to establish other norms in other situations” (Canguilhem 1991, 183). However, a new norm is never *a priori* normal or pathological; its normality will come from its normativity (1991, 144), that is, from the organism’s capacity to organize the *milieu* according to its own needs. In other words, norms of life cannot be said normal or pathological *a priori*, because judgments about normal and pathological states must take into account the environment or the *milieu* into which an organism lives. Grounded in a Darwinian approach, Canguilhem argued that “Taken separately, the living being and his environment are not normal: it is their relationship that makes them such” (1991, 143).

The epistemological approach just outlined could lead one to think that the frontier between the normal and the pathological may be “imprecise for many individuals considered simultaneously” although, Canguilhem argued, it is “perfectly precise for one individual considered successively” (1991, 182). In other words, Canguilhem followed Goldstein and argued that health and disease require the notion of individual being. In “The Normal and the Pathological”, he also argued that physiology cannot secure an objective foundation for pathology because physiological norms are initially noticed through a pathological situation in

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<sup>6</sup> Bernard’s classical example is diabetes.



a clinical encounter (1991, 209). In that, Canguilhem agreed with the French surgeon René Leriche (1879-1955), who maintained that “at every moment there lie within us more physiological possibilities that physiology would tell us about. But it takes disease to reveal it to us” (1991, 100).

Let us now turn briefly to normativism. Normativists also try to capture medical usages of the concepts of health and disease. But they argue that these usages, especially in clinical medicine, reflect states that we either value or under-value so that the definition of health and disease cannot be purely objective or scientific. Norms, as understood by normativism, are socially defined and reflect cultural values. In other words, what counts as disease is not naturally given but is culturally or socially bounded. Disease classifications, henceforth, change not because scientists have objectively identified new mechanisms that can go wrong, but because values and beliefs about particular conditions change. In some sense, Canguilhem appears closer to normativism than to Boorse’s position, but his normativism runs deeper than the social and cultural level as, for him, “living beings prefer health to disease” (1991, 222). Canguilhem’s normativism is intended to be universal and biologically grounded: “even for an amoeba, living means preference and exclusion”; [...] This point of view is that of *vital normativity*” (Canguilhem 1991, 136). This normativity is an intrinsic property of living beings and does not merely reflect social preferences at a given space and time. “The existence, coextensive in space and time with humanity, of medicine as a more or less scientific technique for healing diseases” (Canguilhem 2008, 132) appears to Canguilhem to be the result of a universal tendency in living organisms to avoid diseases and prefer health instead. However, in addition to those biological norms, Canguilhem is perfectly aware that the definition of the normal is partly established by the social context. Technological innovations having considerably enlarged the possibilities of human beings in terms of activities, he argued, the line between the normal and the pathological ought to take into account “certain activities which have become a need and an ideal” for mankind (1991, 200-1). This is why, for Canguilhem, to discern the normal from the pathological one must also “look beyond the body” (*Ibid.*).

The contextual differences that separate Canguilhem from contemporary debates in philosophy of medicine do render every comparison hazardous. Interestingly, though, to some degree Boorse embodies particular aspects of Bernard’s philosophy that were previously rejected by Canguilhem. Just like Bernard, for instance, Boorse relies on physiology in the sense of standardized or idealized parameters to account for the normal characteristics of an organism, whereas Canguilhem argued that physiological norms cannot be determined – in a laboratory context, for instance – but are always renegotiated in changing environments: physiology is “the science of the *stabilized modes of life*” (Canguilhem 1991, 205)<sup>7</sup>. The disagreement between Boorse and Canguilhem is deeper, though, and appears to rest largely on whether the epistemic priority should be given to the clinic or to physiology when labelling a particular state normal, or pathological. For Boorse, clearly, medicine is a value-free science that must be guided by pathology and physiology. In contrast, for Canguilhem, medicine remains largely a *tecknè*, “an art at the cross-road of many sciences” (1991, 34) which involves value-judgments. Moreover, he considered that it is always “the relation of the individual patient through the intermediary of the clinical practice, which justifies the qualification of pathological” (1991, 239). For Canguilhem, even when pathologists, not only clinicians, distinguish between normal and pathological states, they cannot avoid introducing an evaluative and subjective dimension into it (1991, 226). For him, the dignity of medicine is not

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<sup>7</sup> In his « Rebuttal on Health » (1997), Boorse contends that he has always assumed the « dynamism of normal physiology » (1997, 79).



undermined by its technological status. Technique is “an unguarded experience, unconsciously oriented toward creation” [...] whilst “science appears as a reflection on [technological] failures and obstacles” (Canguilhem 1938, 82-84). In contrast, to the nineteenth century positivist view whereby technique is merely an application of science (i.e. physiology is applied to pathology via the clinic), for Canguilhem, technique is what introduces “the novelty, the unpredicted” (Braunstein 2000, 19). Medicine, like all technique, is oriented toward creation. In this case, it is the creation or maintenance of vital values by individual organisms. “It is with medicine as with all other technologies. It is an activity rooted in the living being’s spontaneous effort to dominate the environment and organize it according to its values as a living being [...] Here is why medicine, without being a science itself, uses the results of all sciences in the service of the norms of life” (1991, 229). Despite the disagreements between the two schools sketched above, I think Canguilhem’s conception of norms as primarily biological, rather than pure social constructs, and his account of health as an objective normative capacity, hold promises to move beyond the naturalist and normativist divide.

#### THE “FRENCH TURN” IN QUÉBEC’S PHILOSOPHY

Shortly after Canguilhem wrote his medical dissertation in 1943, the province of Québec was entering a period that “modernist” historians have called the “grande noirceur” (Great Darkness) referring to the pre-modern phase of Québec’s development. This period spans from the post-war years until the mid-1960s where the same historians identify a cut in the social and political fabric – the “Révolution tranquille”. The expression, which means “Quiet revolution”, refers to major changes that operated at the political, social and cultural levels – but without all the noise characteristic of a revolution. On the “modernist” interpretation, this period marks a sharp transition between a clerical to a largely secular society, which was the landmark of Québec’s entry into modernity. This period, for instance, witnessed the creation of a public system of education and hospital health care insurance, for instance. On the contrary, the “revisionists’” interpretations emphasized the continuous elements between the pre- and post-sixties era. They argue that Québec was already “modern” by the 1930s and point out that modernist historians tend to attribute to the members of their own generation, or to themselves, the modernization of Québec<sup>8</sup>.

In stressing the occurrence of an “epistemological break” in philosophy before and after the “Révolution tranquille”, Robert Nadeau, professor of philosophy at UQAM, adopted a modernist interpretation (1998, 6). A modernist interpretation appears, in effect, appropriate to understanding the evolution of philosophy as, until the sixties, the nature of the philosophical production in Québec was mostly orientated toward the writing of scholarly commentaries on Medieval and scholastic philosophy, than original contributions (Tremblay 1997, 183). The speed at which philosophy expanded after the 1960’s is thus very surprising (Klibansky and Boulad-Ayoub 1998). In this context, we understand that the problems reopened by Canguilhem’s medical dissertation in the forties, such as the nature of health and disease, and the critique of medical positivism, did not exactly match the philosophical interests in pre- “revolutionary” context. However, despite the massive role of French philosophers from the sixties onward in the shaping of the philosophical landscape, there had been an earlier influence of French philosophy in Québec. The creation of the *Institut d’Études*

<sup>8</sup> On the debate between “modernist” and “revisionist” in Québec see Kelly (2003, 3-4).



*médiévales* at the Université de Montréal, was also only possible due to the role of philosophers like Étienne Gilson, Henri-Irénée Marrou and others (Leroux 1997, 575).

A quick survey of philosophical literature reveals that Canguilhem was no more a key figure for Québec's philosophers in the seventies than in the fifties or sixties. Indeed, articles about the history of philosophy in Québec, when they do mention Canguilhem, will not usually deal in depth with his contribution (Simard 1998a; Cauchy 1988). Moreover, papers published in epistemology during this period discussed mostly logical positivist models of scientific explanation (Nadeau 1980; Tournier 1979), constructivist approaches of science (Gauthier 1976), or Piaget's genetic epistemology of (Gagnon 1977) – not exactly the “historical epistemology” of Canguilhem. One notable exception to this trend is François Duchesneau, an internationally-renowned scholar in the history and philosophy of life sciences, now professor of philosophy at the Université de Montréal. Canguilhem was twice president of the jury for Duchesneau's examinations: during his *agrégation* of philosophy (1968) and during his PhD's defence of the history of science (1971). Duchesneau himself gladly recognizes the extraordinary influence of Canguilhem throughout the remainder of his career (personal communication). References to Canguilhem are also ubiquitous in Duchesneau's articles and books and the two men are related, not only in their common interests in the life sciences (e.g. physiology, vitalism, cell theory<sup>9</sup>, etc.) but also, and especially, in their choice of methodology for doing the history and philosophy of science. For François Duchesneau

On the one hand, one cannot practice history of science without taking into account the epistemological dimension of the object of study [...] On the other hand, any philosophical account of science ought to be articulated to an historically informed understanding of the emergence and the shaping of scientific knowledge and practices in all their diversity (Duchesneau 2001, 92)<sup>10</sup>.

For Duchesneau, the history of science and epistemology cannot be strictly separated; on the contrary, they must feed on each other. His statement echoes nicely with the characterization of historical epistemology given at the beginning of the paper.

The secularization of teaching during the sixties in the province of Québec coincides with the creation of new structures and public institutions such as the *Collèges d'enseignement général et professionnel* (CÉGEP) in 1969 (Leroux 1997, 574). The creation of the CÉGEPs followed from the recommendations of the *Rapport Parent*, named after Mgr Parent, professor of philosophy at the Université Laval (Simard 1998b, 4). According to Simard, the authors of the *Rapport Parent* were largely inspired by a previous report on “L'enseignement de la philosophie” done on behalf of the UNESCO in 1953 (Simard 1998b, 5). Interestingly, this report is the one that was piloted by Georges Canguilhem himself. Canguilhem's influence on philosophy in Québec was thus firstly noticeable in the late sixties regarding the teaching of philosophy<sup>11</sup>.

On whether a modernist or a revisionist perspective, Québec's philosophy had certainly witnessed a “French turn”, so to speak, during the sixties, as almost every important French philosopher came and lectured in Québec's universities. Jean-Claude Simard has established a long list of those who came to Québec in early and mid-twentieth century (Simard 1998a, 9). Simard also produced a very detailed analysis of the “French Paradigm (1960-1980)”, as he

<sup>9</sup> For a very complete bibliography of François Duchesneau see Nadeau (1998).

<sup>10</sup> My translation.

<sup>11</sup> The section on “La formation philosophique” of the *Rapport Parent* contains many similar recommendations to those found in the UNESCO's report written by the expert committee in 1953 and led by Canguilhem.



calls it, and argued that the following years (1980-1997) are characterized by a withdrawal of the French-Québec's philosophical interface and the implementation of an "hegemony" of Anglo-American philosophy (1998a, 15). It is against this background of the comings and goings of French philosophers in Québec that we must understand Georges Canguilhem's visit in the fall of 1966.

#### GEORGES CANGUILHEM'S VISIT IN QUÉBEC

Francophone readers generally assume that Canguilhem was invited by the Canadian Society of the History and Philosophy of Science (CSHPS) to give a conference in Montréal in 1966 which was later augmented and published as "L'objet de 'histoire des sciences". There is more to say about the story of Canguilhem's stay in Québec, however, and this will be the focus of this section. As is well known, Canguilhem came to Québec at the end of the "Révolution tranquille" but, on the one hand, he was not invited by the CSHPS to come to Montréal and, on the other hand, the famous conference was only one of the four he gave during his one-month and-a-half stay in Montréal and Québec City. From September 12<sup>th</sup> to October 29<sup>th</sup> 1966, Canguilhem was officially invited professor at the Faculty of Philosophy of the Université de Montréal where he had formally been invited by the *Institut scientifique franco-canadien*<sup>12</sup>, although his name had initially been proposed to the scientific institute by the dean of the Faculty of Philosophy, Lucien Martinelli. In May 1966, Henri Irénée Marrou (co-president of the *Institut* in France) wrote to Léon Lortie (co-president of the *Institut* in Québec) to inform him that he had just received the acceptance letter from Canguilhem. Shortly afterwards, Martinelli was informed in his turn by Lortie and he wrote to Georges Canguilhem that he was "happy and honoured" by his decision. Invited lecturers were asked to stay six weeks at their host institution, and in conformity with the politics of the scientific institute, as Canguilhem was invited at Université de Montréal, he stayed five weeks there and one at the Université Laval in Québec City.

Divided between topics in the history of science (cell theory, development and evolution, embryology, etc.) and the philosophy of science (Bachelard's epistemology, Comte's scientific philosophy and the connections between history and epistemology – this last one was also an exam question), Canguilhem delivered 15 lectures of 50 minutes to seventeen third years students (licence) in philosophy in Montréal. Robert Nadeau, Claude Panaccio and Yvan Lamonde were among the students who were taught by Canguilhem. In addition to his teaching, Canguilhem gave two public conferences on the following topics: "Un physiologiste philosophe: Claude Bernard" and "Médecine et philosophie aujourd'hui". The latter, – the title of which had been suggested by the dean of the Faculty of Philosophy at the Université Laval, Emile Simard – was pronounced on October 18<sup>th</sup> in Québec City. The conference aside, Canguilhem also delivered two licence level courses at the Université Laval on the 17<sup>th</sup> and 18<sup>th</sup> of October, also in the history and philosophy of science. Canguilhem's visit to Québec was very much appreciated by the dean of Faculty of Philosophy who, in a letter of December 1966, expressed his gratitude to him after he received the new edition of Claude Bernard's *Leçons sur les phénomènes de la vie communs aux animaux et au végétaux*, prefaced by Canguilhem – a book, Simard said, "You [Canguilhem] have made me aware of its importance during your stay in Québec".

<sup>12</sup> This institute, which no longer exists, was created in 1926 and it organized many visits of French scholars in Canada and *vice-versa*.



Upon the invitation of Venant Cauchy, president of the *Société de philosophie de Montréal*, on October 6<sup>th</sup>, Georges Canguilhem pronounced another conference at the Université de Montréal, the title of which was “La philosophie peut-elle renoncer au Cogito?” in which some elements of “Mort de l’homme ou épuisement du Cogito?” (Canguilhem 1967) can already be found<sup>13</sup>. Three weeks later, on October 28<sup>th</sup>, at the Canadian Society of the History and Philosophy of Science’s invitation this time, Canguilhem gave a fourth and last conference at the Université de Montréal entitled “Réflexions sur la délimitation de l’objet de l’histoire des sciences”. This conference would later be augmented and published as “L’objet de l’histoire des sciences”, the famous opening paper of the collection of essays “Études d’histoire et des philosophies des sciences sur les vivants et la vie” (Canguilhem 2002 [1968]).

In this article, Canguilhem argued against the conception of the history of science as the “laboratory of epistemology” – where history, and the science of which it is the history, is analogically in the same the relationship as science to its object. Instead, he proposed the Bachelardian model of a justice court on which epistemology enables the historian to return into the past to find again “the last language of science” (2002, 13), that is, to identify the point where our scientific concepts could not have possibly been understood by scientists of the past. Only this way can one establish the history of scientific concepts and locate continuities and more rarely, ruptures. For example, the creation of the concept of *milieu intérieur* by Claude Bernard represents, for Canguilhem, the landmark of “the autonomy of physiology as science” (2002, 148). The epistemological aspect of Canguilhem’s methodology is what makes the history of science a fully-fledged philosophical discipline.

During his “Mission au Canada”, Canguilhem traveled to New York with Michael Ambacher (professor of philosophy) from the 23<sup>rd</sup> to the 26<sup>th</sup> of October. Also, his historical expertise was sought by the *Institut d’Études Médiévales* who was then planning to include the history of science among its future research projects. With Canguilhem’s visit to Montréal we can see that despite the fact that Québec’s philosophers did not often mention Canguilhem’s name before the early eighties, there was nevertheless a widespread interest in his work in the history and philosophy of science. After his short visit, Canguilhem never came back to Québec or to Canada although his influence would cross the ocean a few years later in the person of Camille Limoges.

#### FROM THE INSTITUT D’HISTOIRE DES SCIENCES TO THE INSTITUT D’HISTOIRE ET DE SOCIOPOLITIQUE DES SCIENCES

When Canguilhem went to Montréal in 1966 he had already been supervising since 1964 a young PhD student who was writing a doctoral thesis on Darwin’s concept of natural selection: Camille Limoges. Limoges discovered the work of Georges Canguilhem during the fall of 1962 while reading *La connaissance de la vie*. He recalls having heard the name of Georges Canguilhem a few times when he was a student at the university but only from one professor: Michel Ambacher – who was French. Wishing to pursue doctoral studies on the epistemology of biology, but finding no one to supervise his project in Montréal, Limoges asked Ambacher about the idea of working with Canguilhem. Ambacher readily accepted this and in the spring of 1964, Limoges wrote to Canguilhem to enquire about the possibility of doing a PhD under his supervision. In August of the same year, after he had completed a licence in philosophy and written a dissertation on “L’imagination et son insertion dans la perception chez Alain”, Limoges obtained a scholarship and flew to Paris to embark on a PhD in philosophy and history

<sup>13</sup> I thank Camille Limoges for this observation.



of science supervised by Georges Canguilhem at the Sorbonne. Aged 22, he was then the youngest student at the *Institut d'histoire des sciences et des techniques*. It is amidst the unique atmosphere of May '68 that Camille Limoges defended his thesis on Darwin's first constitution of the concept of natural selection. In his thesis, Limoges argued that the condition of emergence of the concept of natural selection is to be found neither in Darwin's reading of Malthus's *Principle of Population*, nor in the analogy with an artificial form of selection, but rather in a fundamental revision of the *concept* of adaptation – a concept which was the keystone of British natural theology and natural history (Limoges 1970, 151).

Limoges's philosophical approach was later praised by Canguilhem as good practice in the history of science (1988, 9 [1977]). The title of Limoges's thesis published in 1970 is itself meaningful: *La sélection naturelle: Étude sur la première constitution d'un concept (1837-1859)* (my italics). In his conclusion, Limoges wrote that "the task of the historian of science is [...] to understand the formation and transformation of concepts, of scientific theories and of research methods". Shortly after he arrived in Montréal, Limoges kept working through the lens of Canguilhem's and Bachelard's historical epistemology. In a text of 1970, for example, he described again the shift between the different concepts of adaptation by emphasizing the "epistemological obstacle" that had to be overcome before Darwin's concept of natural selection could emerge (Limoges 1970, 372). Moreover, he reaffirmed the study of concepts as the essence of the task of the historian of science (1970, 370). Again, in the introduction to *L'Équilibre de la nature* of Linnaeus, Limoges wrote: "the history of science is not the history of scientists but the history of constitution and transformations of concepts" (1972, 9)<sup>14</sup>. He could not have been closer to Canguilhem's methodology for which the historian of science must, in effect, prioritize the study of scientific concepts Canguilhem concedes that the "history of science distinguishes and admits many levels of objects of analysis in the theoretical domains that it constructs: documents to catalogue; instruments and techniques to describe; methods and questions to interpret; concepts to analyze and to criticize" but "only this last task gives to the previous ones the dignity of the history of science" (Canguilhem 2000, 19 [1968]).

On the 1<sup>st</sup> July 1968, Limoges was recruited by his *alma mater* to work in the department of history. He became the first historian of life sciences to be formally hired in Québec, just a little over forty years ago. Because the history of science in the post "Révolution tranquille" era was still under-developed, Limoges went to John Hopkins University at Baltimore from 1971 to 1973 where he found a more congenial intellectual environment. In 1973, after he came back from his first *séjour* in Baltimore, Camille Limoges created the *Institut d'histoire et de sociopolitique des sciences* at the Université de Montréal where he assumed the directorship until 1976. This institute is where Québec's most famous historians and sociologists of sciences were educated during the seventies and the eighties. Students were exposed on a regular basis to the thoughts and ideas of some of the best scientists such as S. J. Gould or historians of science like E. Mendelsohn or F. L. Holmes. The *Institut* of Montréal was not a replica of the *Institut d'histoire des sciences* in Paris though – at the outset, its "sociopolitique" orientation certainly marks a distance with the Paris institute.

In 1980, Camille Limoges moved to the public administration of science and worked on the creation of the first scientific policy in Québec. A few years after, he became "sous-ministre" at the newly-created ministry of Science and Technology in 1983. Later, in 1986, he participated in the foundation of another research centre in science and technology, the CIRST<sup>15</sup>, this time at UQAM. Limoges was lecturing for several years at the University of Montréal (1968- 1971;

<sup>14</sup> My translation.

<sup>15</sup> CIRST means «Centre interuniversitaire de recherche sur la science et la technologie».



1973-1981) and at UQAM (1987-1996) in the history and sociology of science. Although he did not deliver semester-long lectures exclusively centred on Canguilhem's epistemology, he did comment frequently on his work in undergraduate courses in the history of biology or in the general history of science courses. Additionally, in graduate seminars held at both universities, Limoges closely analyzed Canguilhem's texts with graduate students (Limoges, personal communication).

At the foundation of the institute in 1973, Camille Limoges immediately recruited Jean-Claude Guédon, another historian of science. A syllabus of 1985 indicates that Guédon taught a course on "Doctrines et tendances de l'analyse de l'activité scientifique" (HSS-6115). Two of Canguilhem's papers figured in the bibliography: "Le rôle de l'épistémologie dans l'historiographie scientifique contemporaine" and "L'histoire des sciences dans l'œuvre épistémologique de Gaston Bachelard". Students could also choose Canguilhem as an exam topic. Not only did Guédon lectured on Canguilhem but in 1984, he wrote an essay entitled "L'idéologie comme mode d'appropriation de la science" which is almost certainly the first critical analysis of Canguilhem's philosophy of science to be published by a Québec' scholar.

Because of the teaching offered, some of the most well known students of the *Institut* like Peter Keating, Alberto Cambrosio and Jan Sapp – who all received their PhD in *histoire et sociopolitique des sciences* – were well aware of Canguilhem's work and, sometimes, responded to it in their personal contributions although they did not exactly pursue the model of historical epistemology expounded by Canguilhem. For example, "Camille Limoges," Sapp said, "one of my professors in Montréal, was once the student of the great historian of science Georges Canguilhem at the Sorbonne who had, himself, taught the philosopher, Michel Foucault". Sapp happily recognized that "Canguilhem, Foucault, Bourdieu have all influenced me and are all a source of inspiration" (Sapp, 2002)<sup>16</sup>.

Recently, Peter Keating has argued that "there are still good reasons to read Canguilhem today (2001, 259). Along with Guédon's essay, it stands today as one of the few remaining texts to offer a real discussion of Canguilhem to be written by a scholar working in Québec. Keating's paper aimed at reinforcing Canguilhem's critique that contrary to what medical positivists believed there *is* a qualitative difference between the normal and the pathological. Taking different forms in his "The Normal and the Pathological", one of the core idea is that, for Canguilhem, the pathological cannot be reduced to a quantitative modification of the normal state, as we have seen. In spite of the criticisms he offers, Keating thinks that "not only is the pathological quantitatively different from the normal, but that pathological events are not simply relative to an environment; they are *absolutely* different from physiological processes" (Keating 2001, 270, emphasis added). For Keating, it is thus misleading to think of pathology in terms of entirely subjective (or value-laden) pathological mechanisms, for processes are, in a sense, objective (or value-free), simply because they are biologically different from normal ones (*Ibid.*). For Keating, there are intrinsic differences between normal and pathological mechanisms: "mutation is not transcription and proliferation is not cell division. Cell surface markers are not tumour antigens (if there are any)" (Keating 2001, 270). In emphasizing the inner differences between normal and pathological mechanisms, Keating's suggestion strengthens the case that Canguilhem's epistemology is flexible enough to rethink both naturalists' (objectivity of biological norms) and normativists' (value-ladenness of the concepts of health and disease) positions. With Alberto Cambrosio, Peter Keating revisited another theme well studied by Canguilhem in their book *Biomedical Plattform. Realigning the Normal and the Pathological in Late Twentieth-Century Medicine* (Keating and Cambrosio 2003). This contribution, and others, show affinities to Canguilhem's approach to historical

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<sup>16</sup> My translation.



problems although Keating's and Cambrosio's "constructivist" epistemology (Gaudillère 2006) did not exactly reproduce Canguilhem's philosophical style in the history of science.

To summarize, in the 1960s Canguilhem was maybe not so well known in Québec's philosophical circles – with the exception of French professors now working in Québec – but philosophers have shown a clear interest in his work. Indeed, Canguilhem was invited to come to Québec by a scientific institute in 1966 but his name was first proposed by the dean of the Faculty of Philosophy of the Université de Montréal. In addition, not only did he deliver courses and public conferences, as any invited lecturer must do, but he was also invited by two other philosophical societies to pronounce two additional conferences during his stay. A few years later, Limoges's leadership and scholarship opened the path to the history of life sciences as a recognized professional discipline in Québec as he was the first historian of biology to be formally hired in the province. Moreover, in creating two research centres in the history of science in which he taught, he strongly contributed in disseminating Canguilhem's methodology in the history and philosophy of science in Québec's intellectual ranks – even if the general orientation of the centre was maybe more strongly sociological in nature than the *Institut d'histoire des sciences*. Limoges also established a "critical bibliography of Georges Canguilhem" (1994) and is now participating in the publication of his complete work, which will, no doubt, bring to the fore unexpected aspects of Canguilhem's philosophy. Finally, those who acknowledged having been influenced by Canguilhem (Jan Sapp), or who explicitly commented on his work (Peter Keating, Alberto Cambrosio, and Jean-Claude Guédon), were once Limoges's students or colleagues at the *Institut d'histoire et de sociopolitique des sciences*. This research centre operated like a relay in transmitting Canguilhem's epistemology to another generation of young scholars on the other side of the Atlantic. It would be going too far to argue that there is a "Canguilhemian school" of the history and philosophy of sciences in Québec though. The research of Sapp, Keating, and Cambrosio, as well as Duchesneau illustrates, sometimes, their affinities with Canguilhem's approach but they did reproduce his historical analysis.

#### MEDICINE: A SECOND ENTRY POINT

Ever since the end of the Second World War, science and medicine have become a fundamental issue for governments, policy-makers and, of course, individuals in the Western world, who had to live with these new technological developments, such as organ transplants, or face the promises of gene therapy. There is an obvious confluence of reasons, none of which I can analyze here, to account for the coming into being of this "era of biomedicine" (Quirke and Gaudillère 2008) which places all science, but especially medicine, in a political and social position that it did not occupy just a few decades earlier. In *contra* to what happened in the 1950s, 1960s and 1970s in Québec, Canguilhem's epistemology has provided a platform from which to make sense of this growing place of medicine in society. This big return to Canguilhem is noticeable when we look at the publications referring directly to his work on medicine and the history of science. I will only review some of the most explicit contributions.

For instance, in an essay on the explanation of diseases (1981), the anthropologist Jean Benoist, professor at the Université de Montréal, began by making a conceptual point about life sciences and their objects of study: "as Canguilhem (1988) lucidly writes, the history of life sciences is being accomplished by 'the constitution of a new scientific object in biology' [...], by which I mean not an object treated by more than one discipline but one constructed as the



explicit result of collaboration among several disciplines” (Canguilhem 1988, 117, in Benoist 1981, 6). This new object Benoist is talking about refers to the study of diseases from both biological and sociological perspectives. For him, medical anthropology would allow such integrative enterprise and avoid excessive generalizations from either side.

A few years later, the concept of health was placed at the core of the massive *Traité d'anthropologie médicale. L'institution de la santé et de la maladie* (1985) edited by Jacques Dufresne, Fernand Dumont and Yves Martin, a volume that was explicitly inspired by Canguilhem's philosophy and reflection on norms. Fernand Dumont (1927-1997) is one of the most important intellectuals in Québec. Poet, essayist, sociologist, philosopher and theologian, Dumont obtained his PhD in sociology in Paris in 1967 for his dissertation on “La dialectique de l'objet économique”. Lucien Goldman had supervised Dumont's thesis but Canguilhem was the president of the jury (Dumont in Beauchemin *et al.* tome V, 344, 2008). Many positive references to Canguilhem's epistemology can be found in Dumont's own essays<sup>17</sup>. Moreover, in “Le sort de la culture” (1987), Dumont placed in the exergue of the book the often-quoted sentence of Canguilhem: “*La philosophie est une discipline pour qui toute matière étrangère est bonne et, nous dirions volontiers pour qui toute bonne matière doit être étrangère*” (Dumont 2008, Tome III, 339). One can certainly argue that Canguilhem was an important intellectual figure in Dumont's reflections on epistemology and was even a model for him. Slightly worried about the defence of his PhD Dumont recalled that

Canguilhem was reputed to be strict and demanding. From him and his colleagues, I have indeed been asked some embarrassing but always fair questions. The day after, Canguilhem had invited my wife and me for lunch; we had then a long and warm-hearted conversation. This man who recently died at an advanced age, I admired him very much indeed (Dumont 2008 tome V, 344)<sup>18</sup>.

Let us return to his book on health and disease now. Recognizing that medicine raises many kinds of interrogations (political, social, epistemological, ethical), the authors of the *Traité* insisted on the plurality of perspectives in the “research of norms”. Refusing to go back to a “triumphant positivism”, that would dissolve “man-as-subject in man-as-object”, the authors say, “we follow in the example of Georges Canguilhem, philosopher, physician but above all, humanist, having known as his companions sadness, illnesses, and the joy of health” (1985, VIII). In a Canguilhemian fashion, the authors present “life as a reality instituting its own norms” (1985, X) and consider Canguilhem as the one “who replaced man in the central place of medicine” in recalling that every therapeutic act takes its origins in an individual complaint (1985, VIII). From different directions, the notion of the individual being came back to the front in the 1980s to counter excesses of modern medicine and its reductionist approach to the organism. This crucial return of the individual, the authors, say, can be analyzed and justified using the epistemological and historical work of Canguilhem. Indeed, Canguilhem's focus on the individual never faded. From an early text in 1929, where he enthusiastically noted the “reappearance” of the individual in medicine, until his final essays, his epistemology arguably centred on this concept (Gayon 1998). If the philosophical orientation of the impressive tome is markedly Canguilhemian in nature, it also incorporates some Foucauldian reflections: the institution of health and disease, as the authors argued, refers also to the organization and “*sedimentation* of collective practices” (1985, VIII; my italics).

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<sup>17</sup> Tome I 181-2, 660-, 673-4; Tome II 111, 129, 249, 339, 463, 609; Tome III 721; Tome IV 170-1, 348; Tome V 344, 512 in (Beauchemin *et. al.* 2008).

<sup>18</sup> My translation.



The definition of the concept of health was recently studied again in the journal “Ruptures, revue transdisciplinaire en santé” (2006). In his “*Éléments pour une ‘topographie’ de la santé*”, referring often to the work of Canguilhem, André-Pierre Contandriopoulos also recognizes the philosophical character of the concept of health, which is, as any true philosophical problem, universal (2006, 88). Contandriopoulos wants to rectify the idea that “health is life lived in the silence of organs” that Canguilhem borrowed from René Leriche. By this expression, Leriche understood that the healthy body is transparent to itself. Health is a state of “unawareness” (Canguilhem 1991, 91). For Contandriopoulos, as medicine locates pathology not only at the levels of the whole anymore, “the silence of the organs is not enough today to talk about health, it is also necessary to talk about the silence of the tissues, cells, molecules, genes” (2006, 90). Still, just like Dufresne and Dumont, the author thinks that Canguilhem is right in saying that health is an axiological category: “Health, as showed by Canguilhem, is fundamentally normative” (2006, 94).

Stepping back, we see that some important intellectuals and philosophers from Québec, working in the field of medical anthropology and sociology, strongly believed that their work was, if not always indebted to, at least illuminated by, Canguilhem’s. This warrants the idea of another kind of Canguilhemian influence in Québec, probably as important as in the case of the history of science but differently implemented. In this case, Canguilhem’s impact was especially due to a global phenomenon affecting the place and the epistemological status of medicine, science and technology in Western societies.

#### CONCLUSION

Georges Canguilhem’s essay on “The Normal and the Pathological” is a classic in continental philosophy of science. Even if some of the scientific material is out of date, this book stands as one of the most powerful and inspiring philosophical reflections on medicine ever written. Part of the strength and the urgency that is felt in reading Canguilhem’s analysis certainly derives from the fact that it was written in times of war where, clearly, being “normative” in the sense of instituting new norms of life was a task Canguilhem and the *Resistance* fought for. Canguilhem’s most prominent legacy in the history of science is the careful attention he attached to the complex trajectories of concepts such as *milieu*, reflex, regulation, normal, etc. and their polyvalence in scientific theories.

In reconstructing “Canguilhem’s influence” on Québec’s intellectual life, we can identify two directions where it was most noticeable. Canguilhem trained Camille Limoges in historical epistemology who, once back in Québec, structured the field of the history of life sciences. In addition, by trying to understand medicine’s growing place in society, Canguilhem’s philosophy became an unavoidable point of entry for medical anthropologists and sociologists of medicine. It should be noted, however, that those entry points should not be pictured as being completely independent from one another.

Despite the influence I have located and the efforts of Camille Limoges, no “Canguilhemian School” was firmly established in Québec. In France, however, Canguilhem’s approach – sometimes via Foucault’s lens – survived well due to the work of scholars such as Dominique Lecourt, Claude Debru, Jean-François Braunstein and Jean Gayon, although its popularity is being counter-balanced by Analytic philosophy of science. Similarly, historical epistemology is still vividly defended nowadays in Germany, most famously by Hans-Jörg Rheinberger and Hennig Schmidgen. No matter the current status of historical epistemology in Québec at the



time being, by looking not beyond, but literally *in between*, the work of Bachelard and Foucault, one has to admit that Canguilhem's original contribution to the history of science and medical epistemology has played an important, and not sufficiently acknowledged, role in the development of Québec's intellectual life.

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