

A Critical Investigation of the Concept of Life: Canguilhem or Bergson

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I. Overview: A Genealogy of Philosophers in 1985

In the homage to Georges Canguilhem, entitled as “La vie: l’expérience et la science” (1985), which was previously used as a preface to the English translation of *Le normale et la pathologique*, Michel Foucault discovered that there had been a dividing line cutting through a series of philosophical oppositions in the post-war French intellectual circles. He figures it out by drawing a distinction between two kinds of philosophy: “It is the one that separates a philosophy of experience, of meaning, of the subject, and a philosophy of knowledge, or rationality, and of the concept. On one side, a filiation which is that of Jean-Paul Sartre and Maurice Merleau-Ponty; and the another, which is that of Jean Cavailles, Gaston Bachelard, Alexander Koyré, and Canguilhem. Doubtless this cleavage comes from afar, and one could trace it back through the nineteenth century: Henri Bergson and Henri Poincaré, Jules Lachelier and Louis Couturat, Pierre Maine de Biran and Auguste Comte. And, in any case, it was so well established in the twentieth century that, through it, phenomenology was admitted into France.” (Foucault 1998: 466)

The Foucault’s division of two models indicates that phenomenology comes up in France around 1930s. Such a division is arisen from different interpretations and receptions of Husserl’s *Cartesian Meditations* in French translation since the 1930s. The Husserl’s work has become controversial because of these two divergent readings: on the one hand, finding a way to radicalize Husserl by forming a philosophy of experience; on the other hand, returning to the origin of Husserl’s problem in terms of formalism and intuitionism, and leading it to develop a philosophy of concept. Both of them have mutually articulated their ramifications, their interferences and even their rapprochements; but they are actually heterogeneous to one another (Foucault 1998:466). In Foucault’s hands, experience and concept has become opposite to one another. Foucault prefers to side himself with the second one to which “the basis of rationality could not be dissociated from an interrogation concerning the current conditions of its existence. It was this one, too, that in the sixties played a crucial part in a crisis that was not just that of the university, but also that of the status and role of knowledge” (Foucault 1998:467). At last, Foucault attributes the relevance of the French philosophy of science to the problem of phenomenology, and then which is linked up to what he calls the question of Enlightenment, “rational thought was questioned for the first time not only as to its nature, its basis, its powers and its rights, but as to its history and its geography; its immediate past and its conditions of exercise, its time, its place and its current status.” (Foucault 1998: 467)

Needless to say, Foucault’s homage to Canguilhem implies that Canguilhem is a precursor of Foucault himself. Canguilhem is described as a contact point between philosophers in France through the twentieth century, who is the one to defend the philosophy of concept. He is placed in contrast with Sartre and Merleau-Ponty but he is allied with Cavailles, Bachelard and Koyré. And Foucault also aligns himself with this lineage. Most interestingly, this mini-genealogy of philosophers can be further traced back to the other philosophers at the earlier period, leading us back to the turn between the late nineteenth century and the beginning of twentieth century. It seems in retrospect to anticipate that the two divergent readings of phenomenology would happen in France sooner or later when its root has been already found in the earlier tension. Among all of these, Bergson strikingly comes up to catch up our eyes.

Bergson is also on the Foucault's list. But it is not clear why Bergson would be put in the first category regarding the philosophers of experience, of meaning and of the subject. Whatever it may be correct or not, such a distinction somehow can tell us about the popular view of "Bergsonism": Bergsonism is considered as a source of philosophy of life different from philosophy of science in France. In other words, philosophy of science, in a legitimate sense, could be distinctively separated from philosophy of experience; rather, it should be originated from philosophy of concept. In this regard, it reminds us of the role of Bergson playing in the critique of scientific knowledge: scientific knowledge divides, quantifies or measures, whereas reality is a durational, continuous and qualitative process, as being given to immediate intuition. Scientific knowledge is an expression of life itself which actualizes itself in its use of intelligence for seeking its practical interests. By contrast, philosophy of concept agrees that the immediate experiences are attributed to and corrected by concepts proceeding by a rational reflection which is privileged in science. In this case, the contribution of Canguilhem consists in his question of knowledge within the scope of life sciences; because the definition of life as an object of knowledge is taken root in the living beings in which the concept of life is formed; then it follows by the knowledge of life.

Bergson and Canguilhem: a philosophical opposition. In fact, I am not the first one to find that Foucault tries to emphasize the opposition between these two philosophers. Elie During suggests that what Foucault mentions about the divergent lines of reading Husserl could also be suitably applied to Bergson himself. Likewise, Bergson might be regarded as a point of bifurcation from which we are able to distinguish two different traditions or two divergent readings of Bergson. Sartre reformulates the question of freedom which has been addressed by Bergson before; despite he is critical of Bergson's ideas of consciousness and freedom. Cavailles (*Sur la logique et la théorie de la science*, 1960), Bachelard (*La dialectique de la durée*, 1936) and Canguilhem (*Commentaire au troisième chapitre de l'évolution créatrice*, 1943) have all studied Bergson and they are under the influence of Bergson in many ways (During 2004:3). In fact, in During's view, there is an opinion that the French epistemological tradition comes to be known because of its anti-Bergsonian position or counter-intuitive view. Although Bergson's philosophy has never been formally formed as a school, it has come to be appeared as a marginal stream or an obtrusive source to the French intellectuals in the thirties or in the post-war period, especially there is "an unavowed Bergsonian heritage expressing itself in a thread of thinkers running from Bachelard to Foucault" (During 2004:1). At least, we can make up something called "the Bergsonian heritage". What is the Bergsonian heritage? Here I would like to make a quote from Florence Caeymaex, « L'héritage bergsonien, on le voit, n'est pas donné: il est à construire par un travail d'histoire de la philosophie. » (Caeymaex 2005 :10) Caeymaex points out that, as regards finding the constitution of the Bergsonian heritage in the existential phenomenology, we intend to show how Sartre and Merleau-Ponty, « ils *actualisent* certaines *virtualités* de la philosophie bergsonienne » (Caeymaex 2005 :10) How did the French philosopher actualize the virtualities of the Bergsonian philosophy? Sure, other than Sartre and Merleau-Ponty, we also find the example given by Deleuze contributing to the return of Bergsonism. But we should not forget the other one, wittingly or unwittingly, an alternative to activate and reactivate the Bergsonian heritage: that is Canguilhem on his epistemology of the life.

II. Question: Canguilhem or Bergson?

What makes a difference between Canguilhem and Bergson? Foucault would answer that it is “the concept of life”. In fact, it is the concept of life that gives rise to a question about the correlation between Canguilhem and Bergson. The topic of my research project is “a critical investigation of the concept of life”. My presumption is that Canguilhem and Bergson represent two different models towards the concept of life: the epistemology of life and the metaphysics of life. Here, I would bring out a question as regards to my research: Canguilhem or Bergson? Should we prefer to pick out the favorite one of them because they are opposite to one another? Or should we conclude that both of them are complementary because none of them are adequate to the investigation of the concept of life? In fact, I am not intended to simplify the difference between two philosophers as an opposition between metaphysics and epistemology, and thereby to offer a judgment on concluding that one is better than the other one after a series of comparative work. Rather, what is interesting to me is a philosophical activity: a thinking of life as a project of the Bergsonian heritage in terms of both metaphysics and epistemology. I would focus my concern on making out a dynamic relation between metaphysics and epistemology along with my inquiry: how Canguilhem rearticulates and reproduces the concept of life in Bergsonism by working out a project of an epistemology of the life and the living beings (*une épistémologie de la vie et du vivant*). In other words, that is an attempt to revive the Bergsonian heritage through the lens of Canguilhem to understand how a philosopher actualizes the certain virtualities of the Bergson’s philosophy. Simply put it, my project would be began with setting up a question about the concept of life in Foucault’s reading of Canguilhem according to the tradition of the French philosophy of Science. Then I would turn to give a reflection of two models extracted from Canguilhem and Bergson respectively in regard to the critique of knowledge within the domain of biological sciences, such as the doctrine of vitalism, the difference between intellect and intuition, the interrelation between metaphysics and science, etc. At last, I would conclude with a discussion of a few difficulties on the way towards the establishment of an epistemology of life.

III. Canguilhem: the Epistemology of Life

What makes Canguilhem so significant to an investigation into the concept of life consists in his contribution to the knowledge of life: a mutual reliance between knowledge and life. Canguilhem is contrary to the traditional belief that knowledge is a pure and disinterested cognitive activity concerned with reason and science whereas life is an irrational force and mysterious power elusive to the understanding of rationality. But this type of the opposition between knowledge and life is no longer valid according to Canguilhem. Rather, they are mutually dependent on each other; since knowledge can never get rid of the question of its meaning as the meaning of life. Knowledge does not separate humans from life; and thereby the opposition is not between knowledge and life but between humans and milieus. Knowledge is considered as a way of freeing the life from the crisis, searching for a new possibility of living with the milieu and also changing the world into the new state. In short, knowledge is a form of life. In this section, I'll follow the discussions about vitalism, the normative of life, and the reflection of knowledge and life.

1) Vitalism: the Vitality of Life

Vitalism: a metaphysics or a science? Why is it important for Canguilhem to defend the idea of vitalism? How is it possible to explore the formation of the concept of life by arguing for the idea of vitalism? My focus is to explain how Canguilhem rearticulates the problematic concern of vitalism through that we are able to better understand the concept of life in terms of the formation of concept and the constitution of object in the history of biology. Canguilhem is not intended to propose a vitalist theory but rather to explore different possibilities for showing the variations of vitalist hypotheses. Vitalism has found its epistemic value in its paradoxical nature. It has been shown in the constitution of biology. Biology has to develop itself as a science on the condition that the concept of life is defined by the way of not assimilating itself with the laws of chemistry or physics. The concept of life has been formed in the argument between vitalism and mechanism. Vitalism argues for “the expression of the confidence the living being has in life, of the self-identity of life within the living human being conscious of living” (KL 62 / CV 109), namely, “the spontaneity of life”. Life is a distinctive substance which cannot be reducible to the laws of the matter. Vitalists are distrustful of the mechanization of life. They reject to submit life into a reductionist mechanism in such a way that is to reduce nature to a collection of engines against any obstacle or the invention by human intelligence for the struggle against nature. Vitalism has become a role of indicator: first, vitalism is a theoretical indicator of problems to be solved; second, vitalism is a critical indicator of the reductions to be avoided. Vitalism can be defined as an ethical imperative rather than a scientific method, a morality more than a theory (KL 63 / CV 111). By contrast, mechanism implies a reductionist account of life in a sense that life is nothing more than a function of the material world which can be adequately explained within the existing concepts of chemistry and physics. But the reduction of living beings to mechanical structures in order to fulfill the purpose of physical and chemical science would only ignore the specificity of organisms and the complexity of life. Biology could not be qualified to become a distinctive science in its own right. However, if vitalism insists to claim on a kind of ambiguous concept of vital substance, then biology would take risk to be removed from the field of science.

2) Norms: the Normative of Life

Canguilhem in *Le normal et le pathologique* (1943) has contributed to a new understanding of pathology, its signification and its evaluation, which is consisted in defining life in its biological character at its foundation as a normative activity. The aim of his argument is to reverse the principle of taking the priority of physiology over pathology; from which it is to show that there is a rationalistic principle which is to privilege the normal at the cost of the pathological. My concern here is 1) the normativity of life: to explain what it means to identity life as norms; 2) the reversal of the pathological: to refuse the assimilation of the pathological to the abnormal; to redefine the division between the normative and the normal.

In what sense how can we understand that life is characterized as norms? In Canguilhem's view, life is a normative activity which refers to a normative force or a normative activity but not the laws of biological science. Life adopts the norms to a certain situation, invents and creates new norms for life itself, and that explains the possibility why the life can fail and why it is capable of error. The power of norms consists in the capacity to transcend the developed or existing norms of life on the conditions of the change of environment and to install its particular norms to the environment. In this case, "Being healthy means being not only normal in a given situation but also normative in this and other eventual situations. What characterizes health is the possibility of transcending the norm, which defines the momentary normal, the possibility of tolerating infractions of the habitual norm and instituting new norms in new situations" (NP 196/ NP 130).

Is the pathological definitely contrasted to the normal? In fact, the pathological state is qualitatively different from health because it has a different value for an organism which refers to the capacity of life to survive. Life is a normative activity that defines the pathological as a concept of meaning and value. Canguilhem argues against the view in the nineteenth century which describes that the pathological is merely a quantitative rather than a qualitative concept. In this case, the pathological is not distinctive from the normal but it is just the dysfunctional process caused by excess or deficit. If this is a case, the concept of pathological would be finally reduced to a quantitative deviation from a group of constants subject to the normal, and it is determined by the normal to return to the normal itself. By contrast, it is life that enters into the other state of the pathological by means of the experience of obstacles, limits, threats or pains. The pathological arises as an object of science because we can feel a destructive experience in our body: "Disease is a positive, innovative experience in the living being and not just a fact of decrease or increase. The content of the pathological state cannot be deduced from the content of health; disease is not a variation on the dimension of health; it is a new dimension of life" (NP 186 / NP 122).

Is the pathological equivalent to the abnormal? If we take the literal meaning of the abnormal as "being without norms"; then the pathological is not the same as the abnormal. In fact, the pathological state proceeds itself according to the pathological norms. While the difference between pathology and health is not merely quantitative, the pathological norms can signify a kind of qualitative relation to life and environment. The pathological norms are different from the health norms because their capacity is limited or reduced to adapt life to the change of environment or the inadequacy to endure the change. Pathology is defined as the limitation or the

reduction of the capacity for self-overcoming. The pathological is the reductive or the maladaptive which is opposite not to the normal but to the normative; since life in the pathological state is not the absence of norms but the presence of other norms: “not the loss of a norm but the aspect of a life regulated by norms that are vitally inferior or depreciated, insofar as they prevent the living being from an active and comfortable participation, generative of confidence and assurance, in the kind of life previously belonging to it and still permitted to others” (KL 131-132 / CV 214).

3) Biology: A Philosophy of Life

Canguilhem points out that knowledge gives us the meaning internal to the normative of life. The knowledge of life is the knowledge that we have of life by taking life as an object of knowledge, and life produces that knowledge as such. In fact, Canguilhem argues that contemporary biology in a certain way is a philosophy of life (Canguilhem 1994:318 / EH 364). It is biology that creates meaning and value of life for the living beings. The specificity of biology and medicine relies on the fact that the living beings which posit vital norms by themselves have a normative relation to life. Normative, the living beings are inherently attentive to the conditions of life, whatever it is the internal conditions of organism as health and disease or the external conditions in natural and social milieu that the living beings have an interaction with it. But it is not a biological determinism. Rather, it emphasizes that the human nature should not be isolated from the biological character. It is not possible for us to think at the expense of separating human being from the whole region of living beings.

Canguilhem calls for “a reasonable rationalism” that we must know “to recognize its limits and to incorporate the conditions of its practice. Intelligence can apply itself to life only if it recognizes the originality of life. The thought of the living must take from the living the idea of the living” (KL xx / CV 16). Intelligence plays a role in the formation of knowledge. Knowledge is an analysis: to know is to analyze. We can obtain the meaning from knowledge itself but not in other thing else (KL xvii / CV 11). Knowledge can be seen as a “general method” for the resolution of conflict between man and milieu. It is about the search for security through the reduction of obstacles. It does not mean to have knowledge by destroying life. Rather, “knowledge undoes the experience of life”. During this undoing process, life is remade after doing an analysis of its failures, by an abstraction of rationales and laws, which are given for man to see any new possibilities in order to achieve success (KL xviii / CV 12).

We can obtain the meaning of life in knowledge by using the analysis of our intelligence. Does it mean that it is sufficient for us to acquire knowledge only by way of intelligence? Is intelligence the only way to obtain knowledge? In fact, Canguilhem affirms that the biologists should only engage in adopting the analytical method for acquiring the genuine knowledge but reject to directly access to the life itself as if life is a kind of the “immediately given” (KL xx / CV 16). “What, then, is knowledge? If life is concept, does recognizing that fact give the intelligence access to life? What, then, is knowledge? If life is meaning and concept, how do we conceive of the activity of knowing?” (Canguilhem 1994:318 / EH 364) But he also mentions that “to do biology, even with the help of intelligence, we sometimes need to feel ourselves as beasts” (KL xx / CV 16). Perhaps Canguilhem might also be aware of the problem that the method of intelligence somehow would have its limitations to obtain knowledge.

IV. Bergson: the Metaphysics of Life

The problem of life for Bergson is to understand the life itself as a creation in evolution. In order to know the life by returning to the life itself, philosophy should distinguish life from matter with the help of biological science. Biology can advance philosophy as Bergson explains in *L'évolution créatrice*: a project that pursues a renewal of philosophy through an encounter with modern biology. It is an attempt to explicate how the problem of knowledge, regarding the distinction between intellect and intuition, is interwoven with the problem of metaphysics, regarding the problem of approaching the reality. These two problems have the same concern at the center of their intersection: an empirical study of the evolution of life. The attempt of this project is an effort that is to enter into "life's own domain, which is reciprocal interpenetration, endlessly continued creation" (CE 178 / EC 179). How can biology advance philosophy in order to understand life? It should rely on a modification of the relation between metaphysics and science: a superior positivism and empiricism. It means that metaphysics is conceived as a mode of knowledge that can be reformed and refined by the evidence from the current scientific study. Metaphysics itself should not be isolated from the support of empirical science. It should become a kind of "true empiricism". It should work with science to produce an intellectual effort in order to advance the scope of our knowledge of life.

1) Élan Vital: An Image of Thought

Bergson conceives life as élan vital but he rejects a claim of being a vitalist. In this case, Bergson opens up a new way to understand what vital impulse is in terms of a philosophical sense by invoking the support from the modern evolutionary theories. Bergson tries to avoid of using any terms of vital force or vital principle to understand the concept of life. He agrees that "the 'vital principle' may indeed not explain much, but it is at least a sort of label affixed to our ignorance, so as to remind us of this occasionally, while mechanism invites us to ignore that ignorance." (CE 42 / EC 42) Vitalism might not be the better solution to be applied to the concept of life. But it does not mean that we are able to escape the challenge coming from those vitalistic theories. Vitalism at least gives us an attitude of counter-ignorance: to counter the mechanistic attitude of ignorance to ignorance.

Despite his avoidance of using any terminology of vitalism, Bergson still identifies life as élan vital which is an image of thought attributed to life which "must be compared to an impetus, because no image borrowed from the physical world can give more nearly the idea of it. But it is only an image" (CE 257 / EC 258). Such an impetus is designated for being "sustained right along the lines of evolution among which it gets divided, is the fundamental cause of variations, at least of those that are regularly passed on, that accumulate and create new species" (CE 87 / EC 88). Life processes itself in a divergent direction. It "does not proceed by the association and addition of elements, but by dissociation and division" (CE 89 / EC90). It is the élan vital that explains how the divergence of life takes place in evolution; "when species have begun to diverge from a common stock, they accentuate their divergence as they progress in their evolution" (CE 87 / EC 88). The divergent movement of life is like a powder shot from the cannon which bursts into fragments again and again. Likewise, the way of life breaks into individuals and species depends on two series of causes: the resistance of life meets from inert matter and the explosive force which life bears

within itself (CE 98 / EC 99). This force of life is also defined as “a tendency to act on inert matter. The direction of this action is not pre-determined; hence the unforeseeable variety of forms which life, in evolving, sows along its path.” In this case, following along with two divergent lines of vegetables and animals, the evolution of arthropods reaching its culminating point in the insect can show us that the instinct is perfectly developed in the insect world. At the same time, the whole evolution of the animal domain, which is particularly from the vertebrates to man, has taken place on two divergent lines of instinct and intelligence. And then the most developed form of intelligence is ended at human being.

2) Intuition: the Method of Philosophy

Our intellect fails to know the nature of life as *élan vital*. It is the *élan vital* that accounts for the time of evolution in its duration. Without taking the role of duration into account, it is impossible to explain how life differentiates itself in evolution. But Bergson warns us that the “understanding” as the human intellect would only give us a mechanistic idea of life in a sense that is “artificial and symbolical, since it makes the total activity of life shrink to the form of a certain human activity which is only a partial and local manifestation of life, a result or by-product of the vital process” (CE xii / EC viii). Such a mechanistic idea, as a product of our intellect, misconceives life as matter. Intellect is designated to think reality as matter. It conceives reality as divisible into many parts and then brings out the relations among all these parts. Likewise, the evolution of life is treated as an arrangement and rearrangement of parts. In short, mechanism gives us a partial or regional view of reality. It presents life as a movement of immobile image like a film to constitute “a movement hidden in the apparatus and whose function it is to suppose the successive pictures on one another in order to imitate the movement of the real object” (CE 313 / EC 312). This is a “cinematographical mechanism of thought”.

Owing to the fact that intellect is inadequate to understand life, we have to move beyond the limitation of intellect in order to conceive life in duration. Intuition is the method of searching the knowledge of life. It “may enable us to grasp what it is that intelligence fails to give us, and indicate the means of supplementing it”; and it may bring the intellect to recognize that “neither mechanical causality nor finality can give a sufficient interpretation of the vital process” (CE 177 / EC 179). Intuition goes in the direction of life while intellect goes in the direction of matter. Why is it only intuition able to define life as what it is? In fact, there are two kinds and two methods of knowledge: metaphysics and science. Metaphysics concerns with the mind or spirit as the absolute knowledge given in the method of intuition. Science concerns with the matter as the relative knowledge given in the method of analysis. The knowledge that intuition acquires is from the inside that is immediate and concrete while the one that analysis obtains is from the outside that is mediate and abstract. In other words, science takes up the way of intellect which gives us a view of perspectivism that is not able to penetrate the inside but going all round life and taking from the outside as many as the views of it. Intellect divides the life into quantitative parts in order to fulfill the practical interest. By contrast, metaphysics engages in the path of intuition which is a disinterested view capable of reflecting upon life from the inside of life itself, namely, the duration of life. It is the duration of life that discloses the continuity of evolution: “The evolution of the living being, like that of the embryo, implies a continual recording of duration, a persistence of the past in the present, and so an

appearance, at least, of organic memory” (CE 19 / EC 19). Life is “a register in which time is being inscribed” (CE 16 / EC 16). Does it mean that the knowledge of life should be attributed to the domain of metaphysics? Is knowledge of life defined as the absolute knowledge? Is the knowledge of life also the metaphysics of life? In fact, the metaphysics of life is possible. Bergson asks “If every living being is born, develops and dies, if life is an evolution and if duration is in this case a reality, is there not also an intuition of the vital, and consequently a metaphysics of life, which might in a sense prolongs the science of the living?” (CM 36 / PM 28)

3) Biology: A Renewal of Metaphysics

Did Bergson ever speak about the concept of life? If the concept is defined as the product of our intelligence, then it is surely not the way towards the understanding of life. However, if it is the concept formed by intuition by placing itself in the duration, and by adopting itself in the life of things, then there is an intuitive meaning given to the concept of life beyond the limitation of intelligence. Bergson is aware of the crisis in the problem of knowing life which is caused by intellect: the faculty of knowing cannot be only restricted to the use of intellect. If intellect is deficient in acquiring knowledge, then how can we articulate the domain of knowledge? Bergson calls for a new project for exploring the inseparability of a theory of knowledge and a theory of life. On the one hand, a criticism of knowledge is required to point out that, the concept which the intellect puts at its disposal, or the biological facts which intellect encloses in pre-existing frames, is not taken as the ultimate; on the other hand, calling for a renewal of theory of knowledge, in order to replace the intellect to understand the evolution of life, enabling us to know how the frames of knowledge have been constructed and how we can enlarge and go beyond them. Both of these inquiries have to join together so as to correct each other (CE xiii / EC ix).

The investigation into the concept of life in Bergson’s view is to engage in the critique of the faculty of intellect, to bring out the method of intuition to philosophy in order to attain the absolute knowledge. Although metaphysics and science have the same object on the study of life, Bergson argues that the difference between science and metaphysics is significant because they provide us with two halves of the absolute. Bergson restores the possibility of metaphysics which had been deemed impossible and excluded from the scope of knowledge since Kant. The absolute knowledge does not imply that metaphysics is the superior of positive science that is to come after science and to obtain the higher knowledge of the object. Otherwise, metaphysics would become a hypothetical type of knowledge. It turns back to the traditional metaphysics based on an abstract speculation that claims to discover a reality beyond the scope of science. Instead of it, metaphysics should be founded on empirical facts that enable to correct and to rectify itself with the reference to experience. The genuine knowledge has found its ground in experience. If metaphysics claims to have empirical nature, then it would become a positive science. Is it contradictory to Bergson himself if metaphysics is regarded as science? Bergson realizes that biology can come to be a new science model instead of the mechanistic science based on mathematics. Biology can replace mathematics to be the ground of metaphysics (cf. Henri Gouhier). And the experience that metaphysics concerns is related to the biological experience: the experience of duration in evolution. Metaphysics is made possible as a positive metaphysics by reclaiming positive science as the ground of metaphysics. The metaphysical is the empirical and the positive at the same time.

V. Concluding Discussion

Canguilhem and Bergson, as we have presumed that above, they represent two different models towards the investigation into the concept of life: the knowledge of life and the metaphysics of life. Both of them are concerned about the problem with understanding the experience of change. Bergson reminds us of not forgetting the aspect of duration; so that we must make a breakthrough from turning our natural tendency of intelligence as a spatial thinking to an intuition as a durational experience in order to return to the experience itself and search for it at its source by the method of intuition. It is this inherent tendency of our intelligence becomes the root of metaphysical problems. By way of the experience turn, we are able to get rid of our tendency and turn to grasp the experience at its source and to expand the experience from within. On the contrary, Canguilhem states that there would be the possibility of a loss of meaning in life, which is a mutation of life, if life has meaning. But life is capable of error; so that by analysis we seek to analyze the failure of life or the loss of meaning in life from which we can abstract the rationale in order to remake what life has made to man. Knowledge is a dialectical process of interrogation or correction of the meaning of life.

Of course, there is no reason to construct Canguilhem as a vital rationalist who is contrary to Bergson as a rigid intuitionist. The argument of an opposition between concept and intuition should be rejected because they are not helpful to advance the domain of human knowledge. Although Canguilhem turns around the method from intuition to concept in his works, provided with his reliance on the function of intelligence, it would not prevent us from seeing that he has got an inspiration from Bergson's idea of creative evolution of life. He provides us with a model of a reversal to reproduce Bergsonism in knowledge of life. In this case, it'll be interesting to compare Canguilhem's *La connaissance de la vie* with Bergson's *Introduction à la métaphysique*. In fact, Canguilhem does not question the life through metaphysics and intuition. Metaphysics seems to be excluded from the domain of knowledge. However, life is something required to be known on which different theories of life have developed. Science is derived from a more fundamental vital activity which is a possession of life or the fact of life. It implies something that is "intended" by nature (in Jean Gayon's word) which becomes the normativity of the living beings: a self-positing activity of their norms. This normativity of the living beings is closely relevant to Bergson's reflection of the biological facts. Life is given a metaphysical character despite his project is claimed as an epistemology of the life and the living. Metaphysics comes back here after the inquiry of knowledge of life. Are metaphysics and epistemology opposite to one another in Canguilhem's thought? Should an epistemology of life set up itself on the basis of metaphysics or at the expense of metaphysics? These are the questions waiting to be further explored in the conclusion of my project.

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