

3 “True” and “False” Evolutionism

Bergson's Critique of Spencer, Darwin & Co. and Its
Relevance for Plessner (and Us)

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Underlying the doctrines which disregard the radical novelty of each moment in evolution there are many misunderstandings, many errors. But there is especially the idea that the possible is less than the real, and that, for this reason, the possibility of things precedes their existence [...] [T]hey could be thought of before being realized.

– Henri Bergson

Plessner and Bergson: Two theories of (human) life

Plessner's particular way of thinking about human beings within the realm of organic life cannot be adequately discussed without reference to Henri Bergson's philosophy of biology, nor without reference to Plessner's critique of Bergson. Bergson seems, at first glance, far more interested in evolutionary biological thinking than Plessner, although upon closer inspection, one can make the case that it is in fact also a crucial issue for Plessner. This paper seeks to analyze Bergson's subtle dispute with the evolutionary theories of his contemporaries: Charles Darwin and Herbert Spencer (Bergson 1995, 51), and also that of Jean-Baptiste Lamarck (1963 [1809]), as well as the theories of the neo-Darwinians, neo-Lamarckians, and neo-Vitalists mentioned in *Creative Evolution* [*L'Évolution créatrice*, 1907] (Bergson 1944). In his lectures on the history of philosophy, Bergson argues against the 'spiritualists' (Spinoza, Leibniz) and the Old Vitalists or 'duodynamists' (Bichat) (Bergson 1990, 45), and this is why he refuses to call himself a 'Vitalist': for Vitalism uses distinctly different principles for inorganic matter on the one hand, and life on the other, whereas Bergson explicates a philosophy of *immanence*. His differentiation between inorganic matter and living matter, a distinction typical of Vitalism, *appears stronger than it actually is*, as we will see below.

With Plessner's philosophical anthropology in mind, let us concentrate on the tension between Bergson's philosophy of biology and evolutionary theory. Bergson expounds his own philosophy of biology using the concepts of *élan vital* and *creative evolution*, often in explicit and incisive disagreement

with philosophical, and especially biological, theories of evolution. In the last chapter of *Creative Evolution*, Bergson calls these theories the work of 'false evolutionists.' His arguments, which accept empirical findings but shine a new analytical light on them, are far from being 'irrationalist,' as labelled by Plessner, and by philosophers since Plessner's time. As a result of his vocal critics, biologists who know Bergson's *name* but are unfamiliar with his *work* call him absurd or mystical (for one exception to this, see Russel 1945, 1). The aim of this paper, therefore, is to first accurately display the core of Bergson's argument, and then show how, from this starting point, he develops a whole new philosophy – a new philosophy of biology, and a new philosophical anthropology in particular. Although we will focus on Bergson, Plessner's work will always be in the background of the discussion: both his critique of Bergson's philosophy of biology, and Plessner's own philosophical anthropology. One can clearly see here *two* distinct traditions in philosophical anthropology, both of which seek to answer the Darwinian challenge.

Plessner's critique of Bergson

Bergson, at first glance, does not fare well under Plessner's critique, especially upon reading *Levels of the Organic and Man* [*Stufen des Organischen und der Mensch*, 1928]. Plessner's treatment of Bergson here is similar to his assessment of Jakob von Uexküll and of his theory of specific environments for different species (cf. Von Uexküll 1926). Plessner begins with a discussion of Bergson's philosophy of biology, criticizing contemporary 'ideologies of life.' He begins:

Each age finds the word which explains it. The terminology of the eighteenth century culminated in the concept of reason; that of the nineteenth in the concept of development; that of the current period in the concept of life. [...] In this word, the age perceives its own energy, its dynamism, its play, its joy in the daemon of the unknown future – and its own weakness, its lack of origins, devotion and capacity to live. [...] A philosophy of life arises, originally determined to spellbind a new generation, just as each generation becomes held by a philosophy in the spell of a vision – now called thereby to lead it to knowledge and thereby to free it from disenchantment (Plessner 1975, 3f.).¹

1 I am grateful for corrections Matthew Maguire.

I follow the still unpublished translation of Scott Davis (*The Levels of the Organic and Man*). However, the pages refer to the German edition (1975).

Bergson is used as a sparring partner for Plessner's own philosophical anthropology: a protagonist in his project of 'disenchanted' philosophical anthropology by dispelling irrationalism. For Plessner, Bergson, with his philosophical method of 'intuition,' is a philosopher who works against experience, a point he stresses repeatedly. Admittedly, this point is *not* made in Plessner's first main publication, which, in some respects, shares similar views with Bergson's *Matter and Memory* (1911 [1896]). In *The Unity of the Senses* [*Die Einheit der Sinne*, 1923], a first exposition of his own philosophical method, Plessner, like Bergson, expounds the idea of a 'partial coincidence' of subject and object (1980b [1923], 106-120) and takes Bergson's ideas seriously. But later, in particular in *The Belated Nation* [*Die verspätete Nation*, 1935], Plessner makes it quite clear that Bergson's approach has to be differentiated from his own.² Bergson's *Creative Evolution* seems to have been a significant landmark in a growing movement of German anti-intellectual ideologies (Plessner 1983 [1935], 211). Therefore, in response to the unexpected and remarkable success of *Bergsonism* as a movement, Plessner had to expound a new philosophy of biology.

But this is merely a first impression of the Bergson-Plessner relationship: a closer inspection will reveal that there are many more explicit and implicit Bergsonian influences in Plessner's thought. For this, one only needs to look at Plessner's first philosophical work. In 1913, Plessner expresses his frank admiration for Bergson's project of a new integral philosophy or a new *metaphysics*. Bergson is, according to Plessner, 'until now the only metaphysician of our days' (1980a, 14). Of course, there always remains room for debate as to what 'metaphysics' is. For Bergson, metaphysics is nothing other than the careful clearing of one's own last concepts and notions, the clearing of 'pseudoproblems' posed as if they were real problems. In other words, the task of philosophy is the *invention* of new ways of thinking. Thus, any philosopher carries the burden to invent notions and concepts, or to pose new problems – always only *one, infinitely simple* idea, whose articulation he (or she) seeks as a life-long pursuit (Bergson 2002d, 234). Plessner's 'self-contradictory' or 'paradoxical' arguments seem now to be his 'one simple idea,' for which he is indebted to Bergson in some way. At one point, Plessner indeed refers to Bergson's skepticism about various philosophical terms and scientific concepts, as this would be his (Plessner's) *own* core idea: According to Plessner, Bergson views traditional philosophical terminology to engage in a destruction of the continuity of becoming (Plessner 1980a,

2 For the difference between Bergson and (old) Bergsonism, see Merleau-Ponty 1964. See for the '*gloire*' of Bergson also Combe 2004.

70n22). But, the differences between Bergson's and Plessner's approaches are nowhere near as deep as they have since come to be viewed. As early as 1913, Plessner endorsed the early criticisms of 'Bergsonism,' while being at the same time impressed by Bergson himself (he is clearly more impressed by Bergson than by Nietzsche).

Furthermore, one particular achievement of Bergson is absolutely crucial for Plessner's own work. In the first chapter of *Levels of the Organic*, Plessner applauds Bergson's exposure of a *circulus vitiosus* in Spencer's theory of evolution, and in all other philosophical approaches that seek to analyse human beings as part of the natural world. For Bergson (according to Plessner) raises the crucial question: How can one think of man as both subject *and* object of nature at the same time? In Plessner's view, Bergson applies this criticism to Spencer's work in diverse ways and each time succeeds in exposing circular arguments. Spencer adopted, on the one hand, a natural evolution approach to cognitive categories, and, on the other hand, took these categories as the basis for evolution in nature: the circular argument lying between the 'mechanical natural formation (corresponding to the categories), and the genesis of these natural formations, which *themselves* naturally *were no longer* mechanical' (Plessner 1975, 7). Plessner sees his own avoidance of 'circular argumentation' as that which contrasts his approach to that of Bergson; for he considers 'circular argumentation' to be 'the principle of construction' of Bergson's philosophy (ibid., 12). Bergson's solution, alluded to in the word 'intuition,' is also criticized: his method of '(organic-vitalistic) intuition' is evasive, contradicts the facts, and is 'speculative' (ibid., 8). Bergson seems to be unable to think of human beings as *subjects* of nature, and in particular unable "to consider human beings as subjects of a cultural-historical reality, as moral persons conscious of responsibilities, determined in just the same way as corporeal nature and phylogenetic history is determined" (ibid., 12). As I will demonstrate later, with a little help from Deleuze (1991), one *can* understand Bergson's method of 'intuition' *not* as Plessner understands it, but rather as a philosophical method that does not merge into the triad of hermeneutics, phenomenology, and Kantianism. In any case, one has to note Bergson's philosophical distance from most of the labels his readers have imposed upon him during the twentieth century: irrationalism, (old) vitalism, intuitionism, and so on.³

3 For the German ("fruitful") misreading of Bergson, see Raulet 2005. Maybe Heidegger almost reached Bergson's point in criticizing the implied metaphysics in philosophy and science. But in the end he missed it too. According to him, Bergson was thinking time as space, like Aristotle.

Explicitly mentioned in the late article "Conditio Humana" (but implied in his earlier works as well), Plessner seems to acknowledge the seriousness and rigor of Bergson's philosophy: he acknowledges Bergson as the 'immediate forerunner of philosophical anthropology.' Bergson, together with Wilhelm Dilthey a '*Spätling*' of the nineteenth century, expounded a similar philosophical anthropology in his attempt to bring together organic life and mind, biology and philosophy. But once again, there is a critical undertone in Plessner's treatment of Bergson: in his "turn away from the gesture of pragmatic knowledge (the methodical figure of exact sciences) Bergson evades Spencer's circle and wins the freedom of living nature and of the position of man." At the same time Bergson (according to Plessner), in his attempt to distance himself from evolutionary anthropocentrism, "constricts human being's living body on the narrow, pragmatical *Homo faber*" (Plessner 1983, 149, 154). Plessner dwells on Bergson's critique of Spencer, but focuses on Bergson's alleged weakness (his epistemology). Plessner underestimates both Bergson's *method* as well as his carefully defined *distinctions* between plant, animal, and human life: his philosophical anthropology. Plessner can be accused of oversimplifying Bergson's analysis: "Bergson's 'la plante est un animal endormi' is the creed of all romantics." With reference to the method of "introspective intuition," plants are, for Bergson, different "from animals only through the lack of a waking consciousness" (Plessner 1975, 225). Such an analysis has no place in Plessner's own philosophy of biological or philosophical anthropology: the idea of the "open form," for example, "can be exhibited in all plant-life-externalizations as the founding unity of its essential features, without resort to any sort of psychic or psychoid drive-powers" (ibid., 225). There may be, however, some slight Bergsonist flavor in *Power and Human Nature*, as Plessner invents here the idea of *creative groundlessness*; he describes man as the "location of the creative breakdown of his cultural world" (Plessner 1981, 160). This is a hidden Bergsonism which becomes all the more striking when Plessner articulates "sentences about the inconceivability of life and inexhaustibility of human ability," which by no means imply a "thought which wants to cling asymptotical on life (like Bergson), but rather take on a positive position to life in life" (189). In fact, it is not at all easy to identify the differences between Bergson's and Plessner's philosophy as each side tries to defensively distance itself from the other. Plessner always gives us *some* negative critique of Bergson, though he is clearly won by Bergson's general approach, and by many of his crucial

Obviously he didn't catch the change in Bergson's writings since his Latin thesis (*Quid Aristoteles de loco senserit*, 1889).

arguments, especially in *L'Évolution créatrice*. This is because Bergson's work seems, to Plessner, to be the first philosophical analysis in which the philosophical challenge of evolutionary biology is recognized. Furthermore, Bergson articulates here a philosophical perspective on human beings as *subjects and objects of nature*, which is crucial to Plessner's own project.

Bergson's critique of scientific evolutionary theories

The enormous challenge Bergson posed for Plessner is revealed by the fact that Plessner felt the need to constantly criticize Bergson. There appears to be, beyond all the criticism, perhaps an underlying Bergsonian influence: Bergson was the first to expound a philosophy of biology and a philosophical anthropology in the sense of Plessner's *Stufen*. Plessner never articulates what he takes to be the core of Bergson's philosophy, perhaps even because he did not fully understand it. One therefore has to look into Bergson's own work to see the kernel of Plessner's philosophy of biology or 'general organology' (Canguilhem 2008a), as well as its ramifications for different areas of the biological world. The argument is complicated, especially in its critique of evolutionary theories; but, because of the radicalism of the approach, it is the potential starting point of a novel analysis of organic life.

This new philosophy of biology can be outlined in four main points:

1. Evolutionary theories, because of their concept of time, see all organic life 'already given' or *sub specie aeternitas*, but the view *sub specie durationis* is surely essential.
2. 'Life is a tendency of action in matter; which wants to grow over itself,' to act expansively and with greater and greater choice – a tendency toward undirected growth and dissociation.
3. Plant, animal, and human are the principal loci of this tendency.
4. 'Freedom' is the 'form of human life.'

As there have always been many misunderstandings of Bergson's position, it is necessary to articulate what the concepts of *évolution créatrice*, *élan vital*, and *durée* actually mean. These concepts arose in the context of Bergson's profound disagreement with his contemporaries' evolutionary theories, especially with the following authors and their concepts: Herbert Spencer in his theory of evolution as a directed process from simple homogeneity to complex heterogeneity (following Coleridge's theory of life (1848) and Von Baer's law of embryological development, 1827-1838); Charles Darwin in his theory of gradual variation and selection according to adaptation (1864);

Hugo de Vries in his theory of mutation (in place of infinitesimal gradation) (1909-1910); Theodor Eimer in his idea of 'orthogenesis' as a directed line of evolution arising from the inheritance of acquired characteristics (1890); August Weismann in his theory of germ plasma (1893) as the only place of variation (instead of the inheritance of adopted characteristics as Darwin argued). This last theory is the platform for a later synthetic evolutionary theory and for today's genetic theory (together with a concept of mutation derived, but altered, from De Vries).

Bergson does not deny any empirical facts about the history of living organisms. On the contrary, the idea of evolution and the corresponding empirical facts are taken for granted. Bergson stands *resolutely* on the factual foundation of evolutionary biology (Bergson 1944, 70), yet delivering a new interpretation of these facts. So, the crucial question concerns what Spencer, Darwin, and others mean by the word 'evolution,' and what perspective they therefore develop with respect to biological life in general and human life in particular. Thus, there appears to be a task common to both evolutionary theory and Bergson's analysis: namely, to explain the manifold forms of living organisms, the common ancestry of all, and the extinction of some. To *count as* an evolutionary theory in the first place, a theory must offer some answers to these issues. Addressing these issues, Bergson develops a quite distinct philosophy of the 'true' evolutionary character of organic life. His overall task is, of course, more than the development of a philosophy of science, or a philosophy of biology. Rather, the task is to develop a 'right' idea of life as a whole, and therefore nothing less than an analysis of all that is. Bergson therefore constructs a new metaphysics, ontology, epistemology, and philosophical anthropology. To understand his project, we must clarify first the notion of 'evolution' in Spencer, Darwin, Lamarck, the neo-Darwinians, and the neo-Lamarckians. We must also clarify the implications of 'finalistic' theories here, as (at least in Bergson's view) these are equally as mechanistic as the other theories mentioned. We then need to clarify Bergson's position. His analysis claims to find a characteristic common to these diverse theories of evolution; namely, that they are all *mechanistic*, in a sense I will explain below.

What then is the core of evolutionary theory in Bergson's view? Spencer, Darwin, and all the other evolutionary theorists mentioned above presuppose *gradual* variations. 'Gradualism' is a crucial concept in any evolutionary theory. 'Evolution' *means*, for any such theory, a process of change through infinitely small steps. In Spencer's words, evolution is a movement from an "indefinite, incoherent homogeneity toward a definite, coherent heterogeneity" (Spencer 1867, § 138), by "daily infinitesimal steps"

(Ribot 1874, 158).⁴ Darwin defines his process of evolution in the same way: as a process which operates by way of the smallest steps, through successively slight variations. The “process of modification must be slow and gradual” (1864, 277), and “Natura non facit saltum” (1864, 173). The Latin phrase is an old philosophical dictum which can be found in, for instance, Leibniz and, *mutatis mutandis*, even in Aristotle. Variations have to be slight so that the whole organism can still function in spite of the mutations or variations. Thus ‘evolution’ is conceived of as a step-by-step process. Indeed this seems to have been, until recently, the most obvious way of conceptualizing ‘evolution.’ It is surely still an axiom of today’s evolutionary theory, whether Gradualist or Punctualist, though both approaches can account for small ‘jumps’ under certain environmental circumstances.

It is here that Bergson develops his argument that every evolutionary theory contains assumptions inherited from classical philosophy. Bergson’s critique is that all these theories present evolution *as something other than* a process. Every evolutionary theory is approached from the viewpoint of eternity. Evolutionary history is divided in stages which can be seen *all at once* from this viewpoint: this is “spatialized” time (Bergson 1944, 233). Such a concept of time, where it is seen as a series of intervals rather than as a continuum, is embedded in an ancient metaphysics: analysis of time into a series of states-of-affairs implies an underlying classical metaphysics. *Becoming* for Bergson, in contrast, is among the most striking characteristics of life. Ultimately, *becoming* is also the natural state of matter: the universe changes from one level of organizational complexity to a lower one (*détente*, entropy), whereas living organisms usually do the opposite. But in both animate and inanimate realms, duration “means invention, the creation of forms, the continual elaboration of the absolutely new” (1944, 14). Because of their concept of time, Bergson calls these evolutionary theories *mechanistic* in that they understand (individual) development and (trans-individual) evolution as agglomerations or combinations or series of states-of-affairs.

Bergson rejects the idea of a ‘life force’; he emphasizes instead the distinctly “empirical character” of his notions, especially of *élan vital* (Bergson 1935, 92). Even in some of his last letters he continues to refuse having to concede the existence of a vital force. “I have enumerated [...]

4 “Evolution is an integration of matter and concomitant dissipation of motion; during which the matter passes from an indefinite, incoherent homogeneity to a definite, coherent heterogeneity; and during which the retained motion undergoes a parallel transformation” (Spencer 1867, § 145).

the ignorances which make up a certain quite special vision of evolution and life, at the point that I mark by writing the word *élan*. [...] My so-called metaphor is [...] the precise, and at the same time global, notation of possible observations. And this is why it is radically distinct from sterile images," such as a vital force or a will to power (Bergson 2002b, 369). Biologists, and, for that matter, ordinary people, think of time in notions of intervals: of minutes, or, seconds, or parts of seconds etc. In contrast, 'we' (we all who take 'time' as related to 'space') think of time mechanistically. Mechanistic theories (which postulate the smallest possible steps and therefore fragment *becoming*) also crucially rely on chance or randomness to play a major role in evolutionary processes. As chance is merely a name for causes-yet-unknown, scientific theories must provisionally build the reality of randomness into their analyses. If we knew all causes and all pre-existing states-of-affairs, we could see the course of evolution at a glance: "*all is given*." If all is given, there is no becoming. The essence of any "mechanical explanation, in fact, is to regard the future and the past as calculable functions of the present, and thus to claim that all is given" (Bergson 1944, 43). Hence, radical mechanicalism implies a "metaphysic in which the totality of the real is postulated complete in eternity, and in which the apparent duration of things expresses merely the infirmity of a mind that cannot know everything at once" (Bergson 1944, 45). It is in this way that the Spencerian method turns out to be false, for it "consists in reconstructing evolution with fragments of the evolved" (Bergson 1944, 396). It is this way that Spencer, Darwin, neo-Darwinians and neo-Lamarckians err: they observe reality in its present form, analyze it into fragments, then integrate these fragments – thus failing to capture the essence of *becoming* (Bergson 1944, 396).

An alternative approach is found in finalism, seen for instance in the vitalism of Hans Driesch. It is a theory which can be pitted against any mechanistic theory. But for Bergson, such vitalism (finalism) is "quite as unacceptable," and "for the same reason." Finalists speak *per definitionem* of an 'end' of evolution: they assume a pre-existing model which has to be realized. According to Bergson, finalists essentially follow Leibniz's idea of a 'preformed world.' Finalism is therefore nothing more than a retrenchment in the mechanistic metaphysics of Leibniz. The only difference is that finalism considers utility as being immanent rather than external. Any teleological theory always posits that material things and sentient beings merely realize a program of events previously determined: there is no invention, no creation. Finalism is thus only an "inverted mechanism" (Bergson 1944, 45). In his 'directed evolution' of individuals through "suspension" of entropy

(as 'entelechy' is defined⁵), Driesch is nothing more than a *mechanist*. Like the principle of mechanical causality, the principle of finality leads to the conclusion that "all is given"; again, there is no *becoming-another* (Bergson 1944, 52). On the same account, the failure of embryological theories and of developmental theories alike is that they do not grasp evolution as a living *process*.

Because they assume a classical metaphysics, a philosophy of identity and dualism, both gradualist-causal and finalistic-intentional theories are false accounts; they cannot grasp the *continuous becoming* of the natural world. Yet evolutionary biology *claims* to explain becoming by assuming time to be continuous and only divided into discrete intervals for its explanatory power. However, this is not enough for Bergson as he sets out a new understanding of time: present and indivisible *duration*. Because life is becoming, one must substitute the "false evolutionism" (which "consists in cutting up present reality, already evolved, into little bits no less evolved, and then recomposing it with these fragments, thus positing in advance everything") with "true evolutionism," in which the future is unforeseeable (Bergson 1944, xxiv). For Bergson, such is the very task of philosophy. Physicists (and perhaps biologists too) properly understand their roles when they push "matter in the direction of spatiality"; but has metaphysics understood its role when it has simply trodden in the steps of physics (Bergson 1944, 227)? Inert matter has duration, because of entropy. But with regards to inert matter "we may neglect the flowing without committing a serious error," because of our practical interest, and because matter "is weighted with geometry; and matter, the reality which *descends*, endures only by its connection with that which *ascends*," i.e. with life (Bergson 1944, 401).

However, the error shared among all evolutionary theories lies at an even deeper level. In classical metaphysics (which posits distinct states-of-affairs instead of a continuum of being), the error lies in "false questions." Bergson exposes a *logical* failing in classical philosophical analysis (and by extension in evolutionary theories too) which purports to describe reality: the failing is seen in particular in their notions of nothing, disorder, and possibility. Any analysis of such nature gives rise to apparently meaningful questions which in reality are vacuous (Bergson 1944, 240ff.). Consider, for instance, Leibniz's question (why does there exist something rather than nothing?),

5 The action of Entelechy consists in "suspending" possible becoming; it is "unable to cause reactions between chemical compounds, [...] unable to create differences of intensity of any kind. But entelechy is able [...] to suspend [...] the reactions which are possible with such compounds as are present, and which would happen without entelechy" (Driesch 1929, vol. 2, 180).

or the analysis of primary disorder as absence of order (which can be found, for instance, in Niklas Luhmann's social systems theory). The negative idea of absent order is empty, it is a logical failure. "In analyzing the idea of disorder thus subtilized, we shall see that it represents nothing at all, and at the same time the problems that have been raised around it will vanish" (Bergson 1944, 243). Furthermore, "this confusion is the origin of most of the difficulties raised by the problem of knowledge, among the ancients as well as among the moderns" (Bergson 1944, 248). The same illusion can be found in the concept of the possible: it is always seen as reality *minus* its existence, already given and then negated. So the idea of the *possible* is *richer* than the idea of the *actual* (a given reality *plus* its imagined absence), yet one always assumes the opposite to be the case. The same happens with the ideas of order and existence: one believes "that there is *less* [...] in the concept of disorder" than in the concept of order. But for Bergson, "there is more intellectual content" in these ideas: one has to conceptualize existence *and* its absence; or reality *and* its possibility. So, within the "doctrines which disregard the radical novelty of each moment in evolution" there are multiple errors. But it is "especially the idea that the possible is *less* than the real" which becomes misleading, since such thought implies that "the possibility of things precedes their existence" and as a result, "they could be thought of before being realized" (Bergson 2002e, 228). The possible is thus only the "mirage of the present in the past": the "image of tomorrow is already contained in our actual present, which will be the past of tomorrow." It is precisely here where we encounter the illusion. "One does not see that the contrary is the case, that the possible implies the corresponding reality with, moreover, something added" (Bergson 2002e, 229). There is, therefore, no becoming, but only a succession of states-of-affairs in evolutionary theories. So we have to "resign ourselves to the inevitable: it is the real which makes itself possible and not the possible which becomes real" (Bergson 2002e, 232). Recognizing the problem, Deleuze suggests that we speak of the *virtual/actual* instead of the *possible/real*,⁶ or in notions of *differentiation* as *becoming another*, instead of conceptualizing 'being' or reality as *identity*. The "difference [...] in the virtual grounds the movement of actualisation, of differentiation, as creation." It is thereby "substituted for the identity and the resemblance of the possible, which inspires only a pseudo-movement" (Deleuze 1994, 213). Rather than awaiting realization, the virtual *is fully*

6 For the first time, in 1960, in his course on Chapter III of *Évolution Créatrice*: "Bergson prefers not to say that the possible becomes real; but rather that what is virtual is actualizing itself" (Deleuze 2004, 181).

real; what happens in evolution is that the virtual is actualized. The concept of the virtual/actual is another way of rendering Bergson's *élan vital*: the process of life as actualizing unforeseeable directions in different living forms, which can be identified as 'possible' only retrospectively.

Bergson, armed with this concept of the virtual/actual, adopts a point of view which differs substantially from that of any evolutionary biology and any evolutionism. He is interested in the phenomenon of various forms of life resulting from a unique 'effort' or 'impulse,' and therefore sets out a theory of 'ascent' instead of descent ('creative evolution'). Furthermore, he invents an entirely new ontology, of *immanence* rather than of duality (an ontology apparent as early as *Matter and Memory*), and a new metaphysics, that of *difference* rather than identity. This philosophy of Bergson is adopted and explicated by Deleuze, from the 1960s onwards, under the term "philosophy of difference" (1994) or new "vitalism" (Deleuze 1995, 143). The starting point of this philosophy (a philosophy shared among others by Cornelius Castoriadis and Gilbert Simondon, even if only implicitly) is the concept of *becoming-another*, instead of *being* (*Sein*): the concept of the radical *new*, in place of identity or doubling. Here we should be mindful of Foucault's critique of philosophy of identity in *The Order of Things*, and Castoriadis's similar critique in *Imaginary Institution of Society*. Both argue that classical philosophy is unable to think of the new *as new*, and unable to think of becoming as *becoming-another*. Such failure to arrive at any concept of identity seems to be a flaw of evolutionary theory, due to the fact that any such theory is inherently 'mechanistic' (Bergson) in the sense of *fragmenting* time, and seeing all possible evolution as 'already given.'

This philosophy of difference, or better yet, of *differentiation*, has its own *method*. Bergson always stressed the *effort* of 'intuition.' The method he calls "intuition" is characterized by an "exceptional effort" to leave "nothing outside" (Bergson 2002c, 251). It consists, according to Bergson and supported by Deleuze, of three steps. The first "concerns the stating and creating of problems" (exposing pseudo-problems and posing genuine problems): "I recommend and have practiced for some fifty years a method which essentially consists in envisaging special problems in philosophy, as is done in the positive sciences [...] the true difficulty is to *pose* the problem" (Bergson 2002b, 370). The second step requires the discovery of "differences in kind" rather than gradual differences of degree. The third step is the "apprehension of real time" in concepts and notions of becoming. Together, this "gives the 'fundamental meaning' of intuition: intuition presupposes duration. It consists in thinking in

terms of duration" (Deleuze 1991, 14, 31).⁷ In other words, the Bergsonian method is a process of removing "the positive notation of 'immediate data' in a dialectic of time" and substituting the "intuition of essences into a 'phenomenology of genesis' [linked] together in a living unity" (Merleau-Ponty 1964a, 156).

Bergson's concept of life

Life is becoming, that is why Bergson attempts to find a viewpoint *sub specie durationis*. For this he needs a new method. To find such method, he re-analyzes not only the concept of time, but also the role of 'adaptation' in evolutionary theories. Evolutionary theories explain only the variations occurring at a given moment, but not the course and trajectory of a series of adaptations. This view of adaptation conveys a fairly passive idea of the nature of living organisms. The prevailing evolutionary theories explain only *what has been selected*, instead of explaining what *arises*. Furthermore, they attribute any adaptation to accidental, gradual variation. But over the course of evolutionary history, there must have been many variations serving no useful function, and there must also have been many different ways in which an adapted organ, for example, could be brought about in the evolution of a species. Bergson discusses the theory of the heredity of useful properties with great skepticism, concluding that there are too many chances and states-of-affairs. The same criticism holds for neo-Lamarckianism, with its individual purposeful changes and its living 'heritage' of useful developments. With their unstated classical metaphysics (analyzing time as a series of intervals), evolutionary theories rely on a hidden model: nature is seen as combining things and elements successively, whereas according to Bergson, the process of dissociation is more important: "Life does not proceed by the association and addition of elements, but by dissociation and division" (Bergson 1944, 99). Evolutionary theories, with their particular concepts of time and life, are tools for inquiring into the function of nature.

7 Moulard-Leonard (2008, 89-104) refers to Bergson's method as a "transcendental/virtual empiricism": "I have been arguing that the word virtual precisely aims at conveying the transvaluated status of those pure conditions: they are absolute outside of experience and can therefore not be found in experience" (which would be the Kantian thought); but "their ontological principle is one of alteration and mobility, so if there is a sense in which they can still be called pure forms, then they can no longer be reduced to some ready-made, abstract containers for experience" (99f.).

The notions of order and disorder as used in classical evolutionary theories can also expose hidden models and philosophical assumptions. Life, according to Bergson, is a process of differentiation. It is not the case that disorder is the default situation and that order requires explanation. Life, he says, is a 'tendency,' and there is no *directed* evolution. Acknowledging that all theories of evolution are (more or less) adequate heuristic images, Bergson feels compelled to present a new image: life as *ascent*, differentiating itself with unforeseeable direction, with matter functioning both as a vehicle and obstacle. He also claims that within this image, there is a tendency for living things to have and to spend more and more energy in more and more explosive and directed ways. With this approach Bergson challenges ancient metaphysics, which is prone to thinking of time as an extensive manifold, and instead invites the perspective of being regarded as an unforeseeable, intensive manifold. Such philosophy of life thus has to think in terms of a process, of simple and indivisible acts.

Bergson's development of this notion can easily be spotted in one very specific case: the development of complicated organs (1944, 105ff.). The case of complex organs is an old chestnut in the battery of arguments against gradual evolution. However, one has to reach Bergson's conclusion in order to understand how different his argument is from the traditional arguments in this field. He does not set out to rate organs by functionality, but rather to categorize organs into very different families, such as mollusks and vertebrates. Here he proposes a unique explanatory image: the hand which moves through iron filings (Bergson 1944, 105f.; cf. for the importance of this image, see Fujita 2007). Depending on the energy behind the motion of the hand (its 'impulse' or 'effort'), it comes as far as it does and no further, and forms such and such shapes. Bergson does not wish to analyse this situation by looking at the cause (the hand) and the effect (the shape of the filings), but rather to see the hand's moving through the filings and forming a shape as *one simple act*; in any state complete in itself:

Let us now imagine that [...] the hand has to pass through iron filings which are compressed and offer resistance to it in proportion as it goes forward. At a certain moment the hand will have exhausted its effort, and, at this very moment, the filings will be massed and coordinated in a certain definite form, to wit, that of the hand that is stopped. [...] [T]here has been merely one indivisible act, that of the hand passing through the filings: the inexhaustible detail of the movement of the grains, as well as the order of their final arrangement, expresses negatively, in a way,

this undivided movement, being the unitary form of a resistance, and not a synthesis of positive elementary actions. [...] The greater the effort of the hand, the farther it will go into the filings. But at whatever point it stops, instantaneously and automatically the filings co-ordinate and find their equilibrium. [...] According as the undivided act constituting vision advances more or less, the materiality of the organ is made of a more or less considerable number of mutually coordinated elements, but the order is necessarily complete and perfect. [...] That is what neither mechanism nor finalism takes into account, [following the] idea, that it would have been possible for a part only of this co-ordination to have been realized, that the complete realization is a kind of special favour (1944, 105f.).

It is in this manner – by thinking of moving energy or the impulse to act within matter – that Bergson models life in general. ‘Impulse’ in this context is another word for *élan vital*. It may take the place of ‘chance’ in evolutionary theories.

This theory of life is applicable to plants, animals, and human beings in their similarities and differences. The overall idea is to model life (as totality and individuality) as a *process*. In the case of organs, it is the *act* of viewing which is important, not the parts of the organ or their functions. An individual is thus seen as an energy-act or a motion. An animal body is not a conglomeration of organs but *formed energy*; and any morphology is a very specifically directed and form-fixed motion. Life as a whole, according to the process-view, is an *energetic* question (correlating to Carnot’s law of energy). The task of analyzing life is meant to describe the continuities between the movement of inorganic matter and the functioning of living matter; to bring *indetermination* into the necessities of inorganic matter; to reach suspensions of entropy. Within this “effort” against entropy there are at least three essential categories (plants, non-human animals, and human beings). Understood as forms of energy or impulse, plants are one particular category that are constituted of matter, collect energy, and have no motility (self-propagated displacement through space). Animals are defined by motility, (more or less) instinctive and (usually) directed activities: the simplest example being that of the amoeba, which sticks out its pseudopodia in (admittedly undirected) ways. Insofar as animals move, they are sensitive and aware (awareness is a trait characterized not only by having a nervous system, but by having a capacity for motility). There are, of course, ‘blind’ evolutionary ‘alleys’; such as arthropods with their exoskeletons, ‘caged up’ life.

With human life, the question of formed energy is rather different. Animals are, in relation to their instinctive motion, *fixed*: they are directed forms of energy, and their organs are natural tools. Human life is characterized by a tendency towards intellect (formal, relational knowledge), foresight, as well as concentrated and variable motion (especially in the use of hands). Human beings invent tools and even tools for making tools, therefore enjoying greater potential for motion (even including space flight), using organic *and* inorganic energy, inventing new needs for themselves, and new emotions in themselves. This particular way of living depends on the human nervous system, the gap between problem and answer (and the desire to bridge it), and the utility of language. Therefore, Bergson develops a definition of *human* life as life with *freedom to act*. In human life, life recognizes itself as having creative power (Bergson develops both a theory of life and an epistemology).

Bergson and Plessner revisited

Returning to Plessner's critique of Bergson, one can see that his interpretation is somewhat correct: Bergson does indeed identify circular arguments in Spencer; but this does not seem to be Bergson's main point. Plessner uses notions of space and states of being to imagine different forms of life and ways of differentiating it from matter. These include wholeness, shape instead of becoming (as Simmel had already done previously [1918, 12f.]), borders as inner/outer relations, and *positionality* as an active/passive counterrelation between individual and environment. He searches for 'vital categories' (like Bergson), but with a greater emphasis on the difference between the common features of living things (which arise from the relationship between individual and environment – *Umwelt*; this relation is a variation by Jakob von Uexküll of Darwin's notion of *adaptation*). Bergson develops the relationship between individual and environment in a more active sense (motion/consciousness), while Plessner thinks of it in notions of counterbalance. He does not seem to be interested in questions of descent or ascent, as he discusses theories of *individual* evolution (embryology). Perhaps mainly *because* of Bergson, Plessner felt the need to invent his own way. Bergson paved that way: expounding a theory of life which could be called 'vitalistic' in the sense of taking evolution seriously, in relation to an adequate analysis of the human being.

Despite Plessner's disagreements with Bergson, both share an abiding interest in the search for a notion of human beings as living *and* knowing

beings, deserving a special position among other forms of life. Bergson and Plessner both emphasize that *philosophy* has to formulate differences within life. In these differences they find compatible formulations. For example, they present plants as 'open' and thereby as 'less impulsive' forms of life (Plessner with respect to their open relation to their environment, Bergson with respect to their immobility and therefore diminished affectivity). They both conceive animals as 'closed' forms. Hence for Bergson and Plessner, organs are forms of *complexity* within animals, and relatedly, Bergson and Plessner have similar notions regarding animals' spontaneity of motion. According to an increasingly central sensory-motoric system, and to a *less fixed* form of action, animal life expends increasing amounts of energy within a rapidly shortening time frame. Bergson and Plessner both expound plausible theories of what is means to be human. Finally, Plessner and Bergson both speak of *unforeseeable* forms of *human* life. Extraterrestrial human beings are possible. For Plessner, being "human is bound to no fixed gestalt, and in this regard could as well take place under many kinds of gestalt that do not match the one familiar to us. [...] The character of humans is bound only to the central organizational form which provides the basis for their eccentricity" (Plessner 1975, 293). And for Bergson, it is "probable that life goes on on other planets, in other solar systems also, under forms of which we have no idea, in physical conditions to which it [life] seems to us, from the point of view of our physiology, to be absolutely opposed" (Bergson 1944, 279).

Life has an open-ended quality in both Plessner and Bergson. In sociological anthropology, this leads to a theory of the ever-evolving human being, with potential for ever-new social inventions and institutions. Since we live in 'biological ages' (Illies 2006) the relevance of these non-mechanistic philosophies of life (allowing an analysis of the human being which grasps the human self-image as non-determined or 'free') is evident. Therefore, after some deep ruptures arising from the exposition of an often-misunderstood Bergsonism, there is currently some international resonance between Deleuze and Canguilhem and the aspirations to revive Bergson's work (Worms 2009, 567ff.). As a consequence, there is also a renewed interest in Plessner. Bergson presents a new analysis of life, a (new) vitalistic approach, although Plessner refused to call him a vitalist (e.g. in comparison to Hans Driesch). This vitalism "is 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" (Canguilhem 2008b, 62). Recent 'evolutionary developmental biology,' which is interested in *innovation* and *novelty*, might have some affinities with this Bergsonian account of life, by criticizing, as it

does, mechanism in biology (found in any Darwinian approach).⁸ Plessner presents essentially the same analysis of the living being, but in a different way: in more spatial (than temporal) images, and in more realistic concepts (of power, and of constraint). Plessner's and Bergson's analysis support and affirm one another. Their convergence lies in the creative *natural artificiality* of human life, and ultimately in the *self-confidence of life* in human life. The relevance for us, if we seek any adequate analysis of life (and in particular *human* life) lies in a philosophy of evolution which is always in close contact with contemporary life-sciences and also critiques their (implied but unstated) misinterpretations and assumptions.

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8 Cf., for instance, Love 2003, Robert 2004, and Huxley 1953.

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