

Aristotle and Bergson on Time

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Both in *Being and Time* and *Basic Problems of Phenomenology* Heidegger criticized Bergson's views on time by affirming that he misunderstood Aristotle's traditional exposition from *Physics IV*. In this paper I will examine Bergson's distinction between *durée* and the time of physics to show its relationship with Aristotle's exposition. I will defend Bergson's view on time by showing that it does not criticise Aristotle's, as Heidegger says, but rather develops a different approach that goes beyond the Aristotelian paradigm. For this purpose, I will briefly analyze Aristotle's texts of the *Physics* and Bergson's views on time in his *Essay on the Immediate Data of Consciousness (Essai)*, *Creative Evolution (EC)* and *Duration and Simultaneity (DS)*. ¹ It will be also helpful to make some remarks on the recently published courses he gave in the *Collège de France*.

¹ For the works of Bergson, I use my own translation and I will reference the works in French.

Both in *Being and Time* and *Basic Problems of Phenomenology* Heidegger criticized Bergson's views on time by affirming that he misunderstood Aristotle's traditional exposition in *Physics* IV. He accuses Bergson of criticizing Aristotle's vision of the time when in fact his philosophy of *durée* is dependent on it. Bergson, according to Heidegger, would not have overcome the philosophy of presence proper to Aristotelian metaphysics. This dependence of Bergson on Aristotle's philosophy of presence (according to Heidegger 1927a, 433) rests on the fact that Bergson's *durée* flows in the constant present, whereas Heidegger had treated temporality as the basic condition of human existence: «Whereas *durée* is primarily present the eternal present of the now and of the living act *Zeitlichkeit* is primarily future. Whereas Bergson's duration is first of all creation on life, Heidegger's temporality is naked existence toward death» (Seypell 1956, 506). Now, does Bergson really criticize the Aristotelian conception of time, as Heidegger supposes? Did Bergson treat time in an Aristotelian fashion without having understood it properly? In any case, if he has done so, it has not been in an explicit way, since clear criticisms of Aristotle's philosophy of time can hardly be found in his writings. In fact, in his best-known works about time (*Essai, Matière et mémoire, Duration et simultanéité*) references to Aristotle are scarce, if not non-existent. In Bergson's work, the discussion with Aristotle is absent, which is surprising considering the subject of his doctoral thesis: the doctrine of place in Aristotle (*Aristoteles de loco senserit*). We only find open criticism of Aristotle in *Creative Evolution*, but in this case, Bergson wants to correct the role of stable forms (*εἶδος*) in nature, the heritage of Plato's philosophy, and not the conception of time.

Heidegger points out in *Grundprobleme der Phänomenologie*: i) that Bergson's doctrine arises from an Aristotelian confrontation of time; ii) that Bergson's interpretation of time in the common sense (*vulgäre Zeitverständnis*) is based on not having understood the Aristotelian understanding of time («beruht auf einem Missverständnis des Aristotelischen Zeitverständnisses» Heidegger 1927b, 328). I will try to show: i) that Bergson's philosophy of time arises from a confrontation with the modern view of time, especially with Kant's (time as a homogeneous scheme); ii) that Bergson's interpretation of the vulgar understanding of time precisely allows him to inaugurate a metaphysics of flow as continuous creation, not a metaphysics of presence. As Massey has shown, «is explicit aim is to demonstrate that all counting presupposes spatial representation and that the measurement of time treats it as a homogeneous medium like space. In this regard, Bergson is more directly concerned with Kant's treatment of time and space than Aristotle's» (Massey 2005, 65). Heidegger, in similar fashion to Bergson, accepts that life cannot be understood from traditional concepts. However, he thinks that life itself has been shaped into concepts, such as culture, and therefore it must be understood in its cultural forms. In this sense, Heidegger reproaches Bergson for trying to offer a new conception of time that is ultimately dependent on Aristotle. In *Being and Time* Heidegger addresses the problem of being as presence and the Aristotelian understanding of time. The problem for Heidegger with the Aristotelian conception of time is that the "now", the present instant, has all the protagonism, due to the metaphysics of the being as presence. Bergson would be dependent on that conception of time that highlights the present instant (Heidegger 1927a, 17-18), only that he would have transferred the problem of time to the conscience flow. Bergson would have understood time from ontological categories, and would not have realized that temporality is the horizon of comprehension of *Dasein*.²

The main problem of Heidegger's views is that Bergson did not criticize Aristotle's philosophy of time

² For H. Massey, Bergson's dependence on Aristotle is not at all clear, at least in the philosophy of the *durée*, for although he made

in his writings. However, it could be said that even if Bergson did not openly criticize Aristotle, there is an implicit criticism in his approach, since Aristotle understands time as «number of motion in respect of “before” and “after”» (*Phy.* 219b1), a thesis that Bergson would have fought against since it would imply a spatialization of time. To the extent that time is a number, as Aristotle says, it implies counting, measuring, and it would only be possible to count the movement if the time line has been previously spatialized and the “nows” have been enumerated. This would obviously mean a freezing of time and, therefore, time as a number would be the time of physics, different from real time, which flows. Aristotle, having treated time as a “measure of motion” would have considered it in a spatial way, and its treatment would not be valid for a real philosophy of time.

However, is this really so? Does Aristotle understand time in a spatial way? The important word in this problem is ἀριθμός, which is translated as “number”, but in a broad sense means “measure”. «It is necessary to take the act of counting as consisting in noting and reproducing the structure of certain assemblies of units: a pair, a triad, a quarteron, a quintet, etc. The ἀριθμός is fundamentally a structure, an assembly» (Brague 1982, 137).

One can only measure movement according to its structure from past to future, according to before and after, and with reference to other simultaneous movements. If this is so, time is only possible and only exists to the extent that there is a soul that measures, since the only thing that exists is the now that changes, that flows, and time is the measure that the soul makes of movement. Only the soul appreciates the before and after, and the simultaneity of something with other movements.

Is this the time of physics? Yes, and as we measure motion, we spatialize time. This is Aristotle’s thesis, which Bergson shares completely: the time of physics is a measure of motion, and it implies a freezing of time to measure it according to the before and after compared to the “now”. However, does the time of physics exhaust the Aristotelian philosophy of time? In one sense it does, but in another it does not, for Aristotle points to an essential element of time which is not physical; the measuring soul. In this respect, as will be seen later, Aristotle does not seem to think that time is a structure of the soul or an *a priori* form of sensibility, but, as Wieland points out (1970, 316), a necessary condition for there to be time; without the soul there is no point in talking about time. That is why the analysis of time in Book IV of *Physics* does not point to an “original time” of the soul, but simply analyzes what time is as it manifests itself in the structures of our ordinary understanding of time.

Therefore, for Aristotle, ultimately, time does not exist. What exists for Aristotle are the substances that change, that exist now, in action, and that have potential aspects that allow change. Time is only a measure of the movement that takes place insofar as there is a soul that measures. In the following pages I will analyze briefly Aristotle’s philosophy of time in order to compare it later with Bergson’s.

II. Analysis of Time in *Physics* IV

In the second part of book IV of the *Physics* Aristotle offers us his famous analysis of time. His position in this respect is that this is not something in itself, but “the number of movement according to the before and after” (*Phy.* 219b1). Time is number not in the abstract sense (which we use in counting), but in the sense of movement that

his thesis on the place in Aristotle, he did not discuss it with him in the *Essai*. Massey suggests that Bergson’s view of time depends mainly on his criticism of Kant, and not so much on the Aristotelian view, as Heidegger supposes (Massey 2005, 50 nnd 90). G. Fasolo, on the other hand, has tried to show the speculative connection between Bergson and Aristotle, underlining also their differences (Fasolo 2006).

is counted (Ross 1936, 64). However, before giving the definition of time, Aristotle deals with the “now”, since time seems to have to do with the “now” and its relation to the “before” and “after”. We say that time passes because the “now” is different from what it was a while ago; before, it was in one way, after it is in another. The “now” only exists in a present way, so it cannot be said that time is a mere sum of “nows” (*Phy.* 218a19), since the now is changing, and time has to do with the perception of that change in the “now”, which even though it changes remains in a certain sense as “now”.

«In so far then as the “now” is a boundary (πέρας), it is not time, but an attribute of it; in so far as it numbers, it is number (ἀριθμός, 220a21–22)». In which sense it is number? In the sense that there is time when the now is both one and two, both unity of the before and after and inner dimension, tension of the before and after (Brague 1982, 142). Time is the experience of a peculiar structure of the movement according to before and after. Time is ἀριθμός because is unity of two elements: before and after.

The now is not a part of time, but a limit, because time is continuous, while the now is like a point that changes and remains the same as a point. That is why Aristotle thinks that time can be compared to a line, because a line might be divided into other smaller lines, but not into points (*Phy.* 220a18–20). This simile is very important in understanding Aristotle’s purpose in book IV, to investigate the conditions of possibility of time in its ordinary manifestations. If time is something continuous, and we normally imagine it as a line, then it cannot be a mere sum of “nows”. However, the “now” is very important for the existence of time, because it enables us to measure movement according to the before and after, so Aristotle states:

The ‘now’ is the link of time (συνέχεια χρόνου), as has been mentioned (for it connects past and future time), and it is a limit of time (for it is the beginning of the one and the end of the other). However, this is not as obvious as it is with the point, which is fixed. It divides potentially (διαίρει δὲ δυνάμει), and in so far as it is dividing the ‘now’ is always different, but in so far as it connects it is always the same, as it is with mathematical lines (*Phy.* 222a10–15).

If we say that time is continuous, and not a mere sum of “nows”, it is precisely because the now is something that changes although it remains the same; something that flows and links the past and the future. There is only time to the extent that there is perception of the now. Therefore, the foundation of time seems to be in the perception of the instant that changes. The instant as a subject remains identical, it continues to be instant, even though things change. The instant taken as “essence” is continually changing, there is never an instant equal to another. This is precisely the difficulty in defining the now, in which time is not composed of “nows” as parts: «For we may lay it down that one “now” (τὰ νῦν) cannot be next to another, any more than a point to a point (στιγμὴ στιγμῆς)» (*Phy.* 218a18–19). Aristotle warns of the difficulty of dealing with the now because precisely to speak of the “now” one must imagine that it is a point in an imaginary time line, but that is not the now, since it is not a fixed point: «When we think of the extremes as different from the middle and the soul pronounces that the ‘nows’ are two, one before and one after, it is then that we say that there is time, and this that we say is time» (*Phy.* 219a28–30). Aristotle is aware that the measurement of time implies a different type of measurement from that of space. It is not the number as a point, but as a line delineated by points that allow the measurement of time. «He holds that duration is in its own nature a perfect continuum admitting of no parts; parts of it and nows within it, which hitherto had

only a potential existence, are brought to actual existence by a mind which distinguishes periods and nows within it» (Ross 1936, 68). Precisely because time is a continuum, the now has a role in unifying time that the point does not have in unifying the line: «When two line segments are joined at a point, each segment itself exists as a unity whether or not we mark points on it. Time is not, in this way, prior to the now. The unity of time depends in part on our counting nows» (Coope 2005, 131).

The next step in the analysis of time is its relationship to movement. If there were no change, there would be no time either (*Phy.* 218b22), so time is dependent on movement. Now, why can we measure motion? Because every movement is accompanied by a magnitude (μέγεθος, *Phy.* 219a11), and it seems that time is that which is limited by the now (τὸ γὰρ ὀριζόμενον τῷ νῦν χρόνος εἶναι δοκεῖ καὶ ὑποκείσθω, *Phy.* 219a30). The soul perceives time as it measures movement according to different “nows”, and in that sense time is limited by the “now”. In this way we can see how Aristotle tries to separate time from the realm of reality. Time, thinks Aristotle, is a construction of the soul from the perception of change, which is the real, according to the “now” that has changed. So that «time is not movement, but only movement in so far as it admits of enumeration» (ἀριθμός, *Phy.* 219b3).

In *Grundprobleme der Phänomenologie* Heidegger analyzes Aristotle’s treatment of time in *Physics* IV, trying to show that for Aristotle what is essential to the measurement of time is not spatialization, but making-present. On Heidegger’s account, measured time is not a spatialization of pure duration, but a temporalization dominated by making-present (Massey 2005, 122). Heidegger points out that in order to be able to measure movement (that is time) it is necessary to be a change (ἐκ τινος εἶς τι), and for this appreciation the spatial character of the experience does not matter:

In the case of the determination of ἐκ τινος εἶς τι we should get rid ourselves completely of the spatial representation (*räumlichen Vorstellung*), something that Aristotle did, too. A completely formal sense of stretching out (*Erstreckung*) is intended in «from something to something». It is important to see this, because it was with reference to this determination that the Aristotelian concept of time was misunderstood (*mißverstanden wurde*) in the modern period, especially by Bergson; from the outset he took this dimensional character of time in the sense of spatial extension in its reference to motion.

(Heidegger 1927b: 343–344) ³

³ I use A. Hofstadter translation (1988).

Now, one thing is that in order to understand time we have to ignore the space in which the movement takes place, and another thing is that in order to count time the mind does not “spatialize” it, placing one moment next to another in succession. These are two different levels and, in fact, Bergson will underline the second level as the key to avoiding many errors in philosophy. One thing is the space in which the movement takes place (which must be ignored), and another is the succession in which the mind places the events according to the before and after.

A different question is whether Aristotle spatializes time (in a Bergsonian way) in his doctrine. In a certain sense he does (by stressing the character of time as measure), and in a certain sense he does not (by linking time as a measure with movement as change): ὁ χρόνος ἀκολουθεῖ τῇ κινήσει (*Phy.* 219b23). Heidegger understands this ἀκολουθεῖ in an existential way regarding motion thought along with time, rather than regarding time as being derived from motion (Massey 2005, 163).

III. Time and the Soul

According to Aristotle, time as such does not exist, there is only movement and the soul that measures it. Now, what exactly is the relationship between the soul and time that Aristotle marks? Could there be time without a soul? Aristotle makes it clear that this is not possible, but then, is time a form of the soul, as an *a priori* scheme of sensibility? Does Aristotle point to an idealistic theory of time (Hamelin 1931, 42)? And, if this is not so, perhaps he does not give a glimpse of an “original time”, proper to the soul, prior to movement, and with which the soul measures movement? This last hypothesis would seem to put Aristotle precisely in relation with Bergson, since apart from the time of the physics we could speak of an internal time, proper to the soul or the conscience. However, it should be considered that if Aristotle had pointed to an “original time” or “soul time”, this would not be what Bergson calls the real *durée*. It is not because the *durée* is not the “original time” as Heidegger thinks, it is not only a “time of consciousness”, nor even a “time of the human being”, but is the very time of things that flow, and that encompasses both human life and the life of the universe.

However, firstly it is necessary to examine Aristotle’s position regarding the soul and time: «But if nothing but soul, or in soul reason (ψυχῆς νοῦς), is qualified to count, it is impossible for there to be time unless there is soul» (*Phy.* 223a25-27). There is time in as much as the soul can number. Aristotle says little more about how the soul may be able to number with respect to “before” and “after”. It should be admitted that the soul “remains” in respect to change in a certain sense and can number it, because without something that does not change in respect to change, there could be no perception of change. It cannot be attributed to Aristotle that time is a “scheme” of sensibility or that there is an “original time” of consciousness. In any case it can be admitted that the human soul has the capacity to look (θεωρεῖν) beyond change and live life beyond the immediate present, thanks to memory and fantasy. Even though animals have these faculties, they are not capable of measuring time because they do not consider the now as “now”. In this sense, Wieland’s position (1970, 316) seems to be correct: time for Aristotle does not occur through the soul (*durch der Seele*) or in the soul (*in der Seele*), but rather depends on the activity of the soul (*nicht ohne der Tätigkeit der Seele*). Wieland considers that in the analysis of time Aristotle makes a consideration of the predicative structures already present in ordinary language about time and its properties. In this sense, the presupposition of the soul is not a fact of daily experience, but, is the result of a reflection on the conditions of possibility of such an experience (Conill 1981, 257). Time as measure or number depends on the act of the soul that measures (Festugière 1971, 206).

Aristotle does not therefore present an idealistic philosophy of time, but simply makes time dependent on two poles: the soul that measures and the movement that is measured. Aristotle thus puts an objective and a real criterion on the perception of time (Dubois 1961, 299-300), which is the very movement of things. Roark has recently defended an hylomorphic understanding of Aristotle’s doctrine on time, in which motion is the matter of time, and perception its form (Roark 2011): the only problem of this interpretation is that it could lead to an idealistic view of time (time as the form of perception). Ross seems to propose a realistic thesis on time as a real element of change (movement):

Time is not the *ratio cognoscendi* of change. It is rather the *ratio essendi*. A thing can only be in one place, or in one state, at once; it is the existence of time that makes it possible for a thing to be at different places or in different states; and thus change, or rather (since change

already involves time as an element) the existence of the same thing in different places or states, becomes the *ratio cognoscendi* of time. (Ross 1936, 65)

According to Ross, it seems that one thing is “real time” and another thing “know time”. If this is so, Aristotle would have seen the duration of things in a way very close to Bergson’s approach. However, there is a lack of textual evidence for this interpretation. I will compare both views after examining Bergson’s treatment of time.

IV. Bergson on Aristotle

Did Bergson criticize Aristotle’s analysis of time? We would strive in vain to find a critique of the approach of *Physics* IV in the works of the French philosopher. Either Bergson finds no reason to criticize it, or he is more interested in focusing his criticism on contemporary approaches (Kant, psychological positivism, etc.). It is clear that Bergson could not ignore Aristotle, as his doctoral dissertation was about the question of place in the *Physics*. Therefore, if Bergson does not confront Aristotle, it is because deep down he either accepts his approaches or finds no reason to criticize them. As I will demonstrate, an examination of Bergson’s approach allows us to understand to what extent Aristotle was the philosopher who best described how the idea of time originates, that is, the time of physics, the time we use in our daily lives, as a measure of movement. Aristotle himself is clear in his treatise when he states that time has magnitude because movement is susceptible to measurement (*Phy.* 219a11). Without movement there would be no time, and it is the soul that makes that measurement. Because time is a measure we necessarily spatialize it and draw it as a line (*Phy.* 220a17). In summary, Bergson could accept without reservation Aristotle’s treatment of time, the time of physics is the measure of movement; that time is not real, the only real thing is the very movement of things. Now, Bergson intends to introduce a time even “more real” than that of physics, to go into the very heart of reality, of movement; real duration as a march in continuous creation (*DS*: 53).

However, one remaining question of time in Aristotle could still be analyzed through Bergson’s lens, did Aristotle spatialize time? Here the answer is less clear. On the one hand it seems he did, because by considering time as a measure of movement, Aristotle emphasizes the fact of measuring time, and that measurement is only possible insofar as the movement has magnitude. On the other hand, it seems he did not spatialize it because Aristotle himself is aware that time cannot be taken as a sum of instants; the now cannot be understood as a point in a line, since it is something continuous that flows. Now, when we measure time, we have to take the now as a limit in a segment of time: this is necessarily an exercise of intelligence in which we “spatialize” time and turn it into a line. That is why, in the end, Aristotle spatializes time, although he is aware that this is a different measuring exercise from the real “now”, which is something continuous that flows, is in constant flux.

V. Time in Bergson

Time certainly occupies a major place in Bergson’s philosophy; however, while Bergson does not have a specific writing on time, this theme appears again and again in his various writings. Therefore, when analyzing time in Bergson, it is important not to lose sight of the intention with which it appears in a work that deals with other topics. For example, the purpose in the *Essai* is to show how philosophers and psychologists have thought about the data of consciousness in a spatial way, eliminating the

continuous flow of the life of consciousness. Now, from this it would be inappropriate to think that Bergson understands time only as the flow of consciousness or an “inner time” to the subject. Moreover, the main objective of the *Essai* is to show the limits of the spatialization of psychological phenomena and to safeguard human freedom against determinism (*Essai*, VII-VIII), however, the question of time remains quite open. It is true that already in the *Essai* Bergson places the pure duration in front of the operation of the mind that places the images in space, but Bergson does not attempt to develop a philosophy of time in all its amplitude. In this sense, it is possible to consider Bergsonism as a philosophy that starts with psychology but continues with cosmology and ends with theology (Gouhier 1948, 161). Rather, what Bergson tries to do is to show the limitation of spatializing the living time of consciousness: «Can time be adequately represented by space? To this we must answer: yes, if we are talking about passed time; no, if we are talking about the time that flows» (*Essai*, 166).⁴

The key to the entire doctrine of time in the *Essai* is that time can only be understood in terms of space insofar as time has already passed and we need to measure it. The time that passes, the time that is lived in the now is something different that is not possible to spatialize. To talk about that living time, Bergson uses the word *durée*:

What is time inside us? A qualitative multiplicity, without resemblance to the number; an organic development that is not, however, an increasing quantity [...]. What is there of duration outside of us? Only the present, or, if one prefers, simultaneity. Without doubt external things change, but their moments follow one another only for a consciousness that remembers them. (*Essai*, 170)⁵

However, in the *Essai* duration is very much related to the flow of consciousness, to the extent that it seems that time would be that same flow. In this way, there is no “data” of consciousness as such, but a flow, a duration, which when it comes back on itself, “spatializes” time. In this work there is no treatment of the *durée* with metaphysical value, since the point of view of study is psychological.

In *Matter and Memory*, Bergson does not deal directly with the subject of time and duration, he only mentions the duration of consciousness as opposed to the time of physics. The objective of this treatise, as the author indicates at the beginning, is the relationship of the body with the spirit, and that is why the question of time occupies a secondary place. It is undoubtedly in *Creative Evolution* and in *Duration and Simultaneity* that Bergson develops his philosophy of time in a genuine way, giving metaphysical value to the internal time of things, as we will see later on.

VI. Abstract and Real Time

Through the different writings of *La pensée et le mouvant* we find the idea that the problem of time lies in the confusion of taking the abstract time of physics, the time that we elaborate as a measure of movement, as if it were real time. In this sense, when Aristotle states that time is a measure of motion, and that it does not exist in

⁴ «Le temps peut-il se représenter adéquatement par de l'espace? A quoi nos répondons: oui, s'il s'agit du temps écoulé; non, si vous parlez du temps qui s'écoule». I use my own translation for the texts of Bergson.

⁵ «Qu'est-ce que la durée au-dedans de nous? Une multiplicité qualitative, sans ressemblance avec le nombre; un développement organique qui n'est pourtant pas une quantité croissante [...]. Qu'existe-t-il, de la durée, en dehors de nous? Le présent seulement, ou, si l'on aime mieux, la simultanéité. Sans doute les choses extérieures changent, mais leurs moments ne se succèdent que pour une conscience qui se les remémore».

itself (since what exists is the motion that is measured), he does not present a thesis that Bergson rejects, but rather the reverse. The time of which Aristotle speaks is not something that exists, it is only a construction of the mind, a useful abstraction:

What exactly is the present? If it is a question of the present instant, I mean a mathematical instant which is to time what the mathematical point is to the line, it is clear that such an instant is a pure abstraction, a view of the mind; it can not have real existence. ...] Our consciousness tells us that, when we speak of our present, it is at a certain interval of time that we think. How long? Impossible to fix exactly; it is something quite floating. (2013, 168-169) ⁶

⁶ «Qu'est-ce au juste que le présent ? S'il s'agit de l'instant actuel, – je veux dire d'un instant mathématique qui serait au temps ce que le point mathématique est à la ligne, – il est clair qu'un pareil instant est une pure abstraction, une vue de l'esprit ; il ne saurait avoir d'existence réelle. [...] Notre conscience nous dit que, lorsque nous parlons de notre présent, c'est à un certain intervalle de durée que nos pensons. Quelle durée ? Impossible de fixer exactement ; c'est quelque chose assez flottant»

To take the present as a mathematical instant is a pure abstraction, something that Aristotle had already warned of when he rejected the possibility of speaking of the “now” as a point in a line (*Phy.* 218a18). In any case, Aristotle thought that if we take the now as a measure, we must have it as the limit of a segment, so that the “before” and “after” are the terms of a time line. However, also in this case Bergson could say that it is an abstraction that has spatialized time turning it into a line: “The line we are measuring is motionless, time is mobility. The line is made at all, time is what is being made, and even what makes everything being made. The measurement of time is never about duration as duration” (2013, 3). ⁷

⁷ «La ligne qu'on mesure est immobile, le temps est mobilité. La ligne est du tout fait, le temps est ce qui se fait, et même ce qui fait que tout se fait. Jamais la mesure du temps ne porte sur la durée en tant que durée»

Bergson thinks that real time has to do with the intrinsic character of the movement as “becoming”. We could only say that there is no time if everything was already done and nothing changed if the universe were a whole composed of always the same movements, as Aristotle thought. However, the universe, the world, life, is always different. This is why we must admit that there is a real duration that operates in things. In other words, the “before” and “after” are not mere mental constructions, but rather operate in reality.

VII. Reality of Duration

The real duration of things is not for Bergson a metaphysical hypothesis, but something found purely and simply in immediate experience. The foundation of Bergson's philosophy on time must be sought in our own experience, without abstractions such as “data”, “sensitive impression”, etc., which are constructions of the intelligence. In this way: “Real duration is proved; we see that time is passing, and on the other hand we cannot measure it without converting into space and assuming that everything we know has passed” (*DS*, 62). ⁸ Real duration is not deduced from the experience of time, it is not an “original time” of consciousness. Bergson never makes a “transcendental deduction” of the original time, nor does he demonstrate the existence of the durée through argument, because it is the experience itself that directly shows the real duration, without the need for deductions. This time, on the other hand, is not only a psychic time, but real, ontological time:

⁸ «La durée réelle est éprouvée; nous constatons que le temps se déroule, et d'autre part nous ne pouvons pas le mesurer sans convertir en espace et supposer déroulé tout ce que nous connaissons»

If time has a positive reality, if the delay of duration over instantaneity represents a certain hesitation or indeterminacy inherent to a certain part of things that holds everything else suspended, and if there is creative evolution, I understand very well that the already developed part of time appears as a juxtaposition in space and no longer as a pure succession. (*DS*, 63) ⁹

Time is real as duration because things are not made, but are being made, incorporating reality into novelties. That is why reality is creative evolution. Philosophers have treated time as a homogeneous whole, as if things were there and time “passed” over them. However, Bergson’s point is that time as duration operates in the very flow of things. Time is that constantly new flow. What is experienced now is always new with respect to the past. Bergson says: «All our belief in objects, all our operations on the systems that science isolates, are in fact base on the idea that time does not bite on them» (*EC*, 8) and he also states: «The universe lasts. The more we go deeper into the nature of time, the more we understand that duration means inventions, the creation of forms, the continuous elaboration of the absolutely new» (*EC*, 11). ^{10 11}

At this point it becomes clear that Bergson makes a distinction between time as a construction in a scientific (that of physics) or vulgar sense (the time we use in our daily lives to solve practical problems), and time as the actual duration of things. In this sense, for Bergson, the Aristotelian analysis would not be incorrect; indeed, it would have seemed perfect in explaining how we construct time from the measure of movement. However, this analysis would have been insufficient, since it would not have taken into account that duration operates on things themselves. Aristotle thought that the universe moved in homogeneous cosmic cycles. Time does not change things, but things change in an unchanging time. Bergson tries to show how time has its foundation in the very movement of things which is based on a real duration, which makes things always different.

VIII. Duration, “Originary” Time and Time of Physics

Now it is possible to establish three types of time in Bergson’s philosophy. On the one hand, the real time of things, what Bergson calls *durée* and which is presented as a flow in constant novelty. On the other hand, the direct experience of this *durée* which is captured by intuition, and which is the original experience of time in consciousness. Finally, time as a conceptual construction from the original experience of time, which leads to the spatialised time of physics.

This distinction between *durée*, experience of *durée* and time in physics is fundamental both to understand why Bergson does not psychologize time (since it has a real foundation, the flow of reality itself), and to understand Bergson’s critique of Einstein’s theory of relativity, at least with regard to some of its philosophical implications (Bergson reproaches Einstein for having turned time into a dimension, conceptualizing time in a new way).

It is in our experience of the continuous duration of things that we

⁹ «Si le temps a une réalité positive, si le retard de la durée sur l’instantanéité représente une certaine hésitation ou indétermination inhérente à une certaine partie des choses qui tient suspendue à elle tout le reste, enfin s’il y a évolution créatrice, je comprends très bien que la partie déjà déroulée du temps apparaisse comme juxtaposition dans l’espace et non plus comme succession pure»

¹⁰ «Tout notre croyance aux objets, toutes nos opérations sur les systèmes que la science isole, reposent en effet sur l’idée que le temps ne mord pas sur eux»

¹¹ «L’univers dure. Plus nous approfondirons la nature du temps, plus nous comprendrons que durée signifie inventions, création de formes, élaboration continue de l’absolument nouveau»

encounter real time, multiplicity without divisibility and succession without separation. As Čapek (1971, 118–125) stated in contrast to the criticisms of Ushenko (1929, 120–121) and Lovejoy (1913, 328–329), the indivisible continuity of duration does not imply the absence of distinctions between the phases of duration. Bergson stresses that in real duration the separation of different qualities is not possible, but those different qualities do exist (Mourellos 1964, 88). The fact that they cannot be separated (because making such a separation is a conceptual operation) is not the same as saying that there are no distinct qualities.

IX. Simultaneity and Duration of the Universe

An important question when talking about the *durée* is in what sense various durations coexist in the universe and whether it is possible to speak of a single duration, common to all the other durations. The course that Bergson gave at the *Collège de France* in the 1901–1902 academic year, centred on the idea of time, and there are some enlightening expositions of what he thinks about the *durée*:

Duration is presented to us naturally, immediately as a moving continuity of qualities that extend each other. We said that there is not one duration, but rather durations, more or less tense, which represent, corresponding to all conceivable degrees of tension, from the complete relaxation, which would be the lowest degree of materiality, to the highest tension, to the duration contracted in itself, in its entirety, it would be eternity. (Lesson 16th May 1902) ¹²

¹² «La durée nous est présentée naturellement, immédiatement comme une continuité mobile de qualités qui se prolongent les unes les autres. Nous disions qu'il n'y a pas une durée, mais des durées, plus au moins tendues, qui représentent, qui correspondent à tous les degrés concevables de tension, depuis le relâchement complet, qui serait le plus bas degré de la matérialité, jusqu'à la tension la plus haute, jusqu'à la durée contractée en elle-même, tout entière, ce serait l'éternité»

Bergson already treats the *durée* here as a metaphysical, ontological flow, so that there are no “beings”, but “durations”, and here the duration appears as a unitary flow that can have more or less “tension”. The materiality of things is nothing but a relaxed duration, without any tension, in which something remains unchanged, whereas eternity would be the total duration, the perfect flow. Now, Bergson speaks here of the different duration of each thing, so that there is not one duration, but multiple ones. This idea is corrected (or at least nuanced) in *DS* by stating a single duration of the universe (*DS*, 44). The confrontation with Einstein’s theory of relativity leads Bergson to think that a single duration of the universe is necessary as a reference for all other durations in order to admit simultaneity. As Deleuze points out (1968, 87), if there is multiplicity in time it is necessarily by reference to a unit, since the multiple is only possible by reference to the one.

X. Duration and Originary Time

In his analysis of time in Bergson and Heidegger, Tugendhat states that for both thinkers there is a subjective time that is more original than natural time in its structure (Tugendhat 1992, 573–584). Certainly, it seems that Bergson treats *durée* as the time of consciousness and, in this sense, as either an original time or deeper and more real than “ordinary” time or the time of physics. However, is the *durée* only the time of consciousness? No, it is rather the time of life and, as such, it is not strictly subjective, but “internal” to things. It is not subjective because one can have an objective experience of that time or internal duration of things. The evident proof is that duration

operates in a real way: things flow irreversibly, and time operates in the same flow. Bergson says in *DS*:

The thing and the state are but instants artificially taken on the transition; and this transition, only naturally experienced, is the duration itself. It is memory, but not personal memory external to what it retains, distinct from a past which it would ensure the preservation of; it is a memory internal to the change itself, a memory which prolongs the before in the after and prevents them from being pure instants appearing and disappearing in a present which is constantly being reborn. (*DS*, 41) **13**

13 «La chose et l'état ne sont que des instantanés artificiellement pris sur la transition; et cette transition, seul naturellement expérimentée, est la durée même. Elle est mémoire, mais non pas mémoire personnelle extérieure à ce qu'elle retient, distincte d'un passé dont elle assurerait la conservation; c'est une mémoire intérieure au changement lui-même, mémoire qui prolongue l'avant dans l'après et les empêche d'être de purs instantanés apparaissant et disparaissant dans un présent qui renaîtrait sans cesse»

Memory, the original duration, is not a «time of consciousness», as Tugendhat and possibly Heidegger suppose, but the very time of flowing reality. Tugendhat in his analysis seems not to have understood Bergson's position well, since he takes the *durée* as the “original consciousness of time”; that is, according to Tugendhat, Bergson would have distinguished the homogeneous, spatialized time, which is a mental construction, and a previous original time of consciousness. The problem with this interpretation is that this original time for Bergson goes beyond consciousness, it is the duration of life itself. Only from this perspective can we understand Bergson's commitment to the creative evolution in order to explain how time operates in the flow of life.

XI. Conclusions

Bergson knew Aristotle's philosophy of time well, and not only did he write his doctoral thesis on its place in Book IV of *Physics*, but also in his courses at the *Collège de France* from 1902-1903 he exposed Aristotle's philosophy of time in contrast to Plato and Plotinus (Bergson 2016, 151-167). Curiously, we do not find there a criticism of the idea of time in Aristotle, but rather a defence against the Kantian interpretation, in a realistic sense. Bergson says that Aristotle does not believe that there would be no time if there were no human soul, since the soul of heaven that contains everything and possesses a regular movement would be the measure of all movements:

This sentence: suppress the soul, there is no more time, this sentence will simply mean that if there is movement of the sky, the sky enveloping all things and the sky moving with a regular movement, if there is sky, as it is not possible to do otherwise than to exist with it the soul enveloped by it, time will be born from an action and a reaction, from the movement on the soul and from the soul on the movement. Time will therefore be an absolutely necessary thing. (Bergson 2016, 162) **14**

14 «Cette phrase: supprimez l'âme, il n'y a plus de temps, cette phrase signifiera simplement ceci que si on se donne le mouvement du ciel, le ciel enveloppant toutes choses et le ciel se mouvant d'un mouvement régulier, si on se donne le ciel, comme on ne peut pas faire autrement que de se donner avec lui l'âme enveloppé par lui, le temps naîtra d'une action et d'une réaction, du mouvement sur l'âme et de l'âme sur le mouvement. Le temps sera donc une chose absolument nécessaire»

However, Bergson thinks that Aristotle is obscure on this point and does not finish explaining what it means that heaven has a soul. Now, to think that the universe has a “soul” might lead one to think that time is something internal to things themselves. This is a question that neither Aristotle in the *Physics* nor Bergson in his exposition of Aristotle addresses. Now, if Aristotle had assumed that time has its foundation in the soul and

that the universe has a numerical soul, we would be facing a thesis close to the real duration of the universe in the Bergsonian sense. However, this hypothesis is only a remote connection, although Aristotle points in some instances to an objective duration of the universe:

If, then, what is first is the measure (πρῶτον μέτρον) of everything homogeneous with it, regular circular motion is above all else the measure, because the number of this is the best known. Now neither alteration nor increase nor coming into being can be regular, but locomotion can be. This also is why time is thought to be the movement of the sphere, because the other movements are measured by this, and time by this movement (*Phy.* 223b17-24).

Aristotle thinks that there is a stable movement or rhythm that serves as a measure for time. «The only kind of movement which naturally maintains a uniform pace is movement in a circle; and the rotation of the heavenly sphere therefore furnishes the best unit for measuring the movement of everything else» (Ross 1936, 66). Now, if this is so, did Aristotle not point to the idea that beyond time as an act of measurement there is a rhythm to the motion of the universe, and that therefore, it would be a “real duration” of the motion? It seems so, and it is what Ross points out when he stresses that time is the *ratio essendi* of change (Ross 1936, 65). But it should be noted that time is then a certain circle (κύκλος τις, 233b29), and here lies the main difference with Bergson’s approach. Real duration thinks Bergson, is above all novelty, is continuous creation, and never mere repetition.

Going back to the analysis of time, Bergson’s turning point with respect to Aristotle would be that for Aristotle time would not exist without the numerical capacity of the soul, because there will be only movement, which is the “substratum” of time. In this way, time adds nothing to movement, there could be movement without time. For Bergson, however, movement implies internal time, duration. Something changes in the time arrow that transforms reality in an irreversible mode: there could be movement without time built by the soul, but there cannot be movement without internal duration, without irreversible flow towards something new and different.

For Bergson, time is not only a measure of the movement, but something else, because “before” and “after” are not simple moments; they point to the fluctuating arrow of the very movement of things. Time is thus the ontological property of being, which is movement, change. Time operates in the very heart of things in such a way that, contrary to what Newton and Kant had understood, it is not homogeneous, but always different; reality does not “pass” through time, but reality exists in a flow from past to future, is always new.

In this sense, Bergson could admit Aristotle’s analysis of time as valid as long as it is taken into account that it is “measured” time, “already past” time, since time of real duration cannot be measured:

The time that lasts is not measurable. The measure which is not purely conventional implies in effect division and superposition. However, successive durations cannot be superimposed to check whether they are equal or unequal. (*DS*, 47) ¹⁵

Bergson had already observed this in the *Essai*. To be able to measure something, it is necessary to group things into homogeneous units, identical from a certain point of view (*Essai*, 57). However, it is impossible to have two homogeneous durations, since the duration is

¹⁵ «Le temps qui dure n'est pas mesurable. The measure which is not purely conventional implies in effect division and superposition. Or on ne saurait superposer des durées successives pour vérifier si elles sont égales ou inégales»

always different. From this point of view, when Aristotle says that time is the measure of the movement according to the before and the after, what he has done is to homogenize the instants of time as segments that delineate a line. It is only possible to count according to before and after if I convert time lived to a succession of homogeneous instants.

One could still ask whether Bergson, although he did not openly criticize Aristotle's conception of time, would have misunderstood it by criticizing a conception of time that would be basically dependent on that of Aristotle. Would Bergson have misunderstood the Aristotelian conception of time and, if he had understood it correctly, would not have developed the philosophy of *durée*?

I think that Bergson would not need to criticize Aristotle too much on this point, although Aristotle could have deepened in the foundation of time: change (ἀκολουθεῖ τῇ κινήσει, *Phy.* 219b23). It is the primary duration of things and our experience of it that is the foundation of time. Actually Aristotle is very close to understanding time as a continuum. Bergson's understanding of *durée* is close to Aristotle's philosophy of the "now". The "now" (τὸ νῦν) is always new, different, and at the same time continuous. It is the very flow of movement (τὸ δὲ νῦν διὰ τὸ κινεῖσθαι τὸ φερόμενον αἰεὶ ἕτερον, *Phy.* 220a14), as Heidegger point out: «The now is consequently not a part of time but is always time itself» (*Das Jetzt ist daher kein Teil der Zeit, sondern ist immer die Zeit selbst*, Heidegger 1927b, 354). In the experience of the "now" is revealed the inner duration of things. Lévinas was certainly right when he denounced the summary execution of Bergson in *Being and Time* (Sinclair 2019, §11) because, in fact, it is through a peculiar reading of Aristotle that he can say that Bergson fail to overcome the Aristotelian paradigm (Massey 2005, 122).

For Bergson, time as a measurement is the objective measure of the movement, the constructed time that exists only for the soul it measures. Real time, however, is the flow of the universe, the continuous γήνησις of the cosmos. Bergson does not criticize the Aristotelian analysis of time, but rather accepts it as a valid analysis for the time of science, even for time as a measure of movement in our daily lives. Now, the appreciation that time is based on movement, as Aristotle had said, leads Bergson to situate time in the very heart of the flow of things. Thus, what Bergson could criticize Aristotle is his failure to realize that reality in motion is not a universe without history or duration. Aristotle thought that substances were there and moved in an unchanging universe, without internal time. Bergson's intuition is that time operates in nature creating novelty. The universe lasts, Bergson thinks in *EC* and *DS*, and involves the continuous creation of novelty. In this sense, the universe and things that change can be understood as an open potentiality, constant genesis (Mourellos 1964, 93), what Bergson calls "virtuality", as something that is not current but has a reality (Deleuze 1968, 99); power in the Aristotelian sense, but open to new actualizations.

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