Bergson and the Aristotelian model of immanent teleology

Cortina, A.

"La philosophie d'Aristote, tombée depuis deux siècles environ dans un discredit général et presque dans l'oubli, commence à s'en relever"

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Essai sur la 'Métaphysique' d'Aristote

Introduction.

Although the word "teleology" was coined in modernity, the main philosophical claims about it can be traced back to ancient thought. The Greek term "τέλος" ("*télos*") defines the fulfillment of a natural capacity. In philosophy this term is traditionally also referred to as 'final causality' and the most frequent translations of *télos* are goal, end, completion, perfection and function. The very notion of teleology also presents a challenge to philosophical materialism, according to which nature is reduced to homogeneous elements which move in "blind", non-perfective ways or even according to chance. Teleology can also be associated with certain theological frameworks. This use of teleology can be found from Plato's *Timaeus* onwards. It means that every goal in nature is due to a god, so it may involve theological concepts such as the providence of a hypothetical demiurge that arranges this world rationally, Christian creation *ex nihilo* or, in modern times, pre-design theories. These are different versions of what I call transcendental teleology.[1]

Yet, beyond and partially in opposition to this transcendental teleology, there also exists an immanent approach to teleology. Aristotle is the founder of the model of immanent teleology, and it pervades his vast oeuvre. Since in Aristotle's corpus there is neither theological creation nor providence, the final cause is exclusively an immanent cause. Thus, it cannot be the trace of one transcendental producer that introduces perfection in matter. According to Aristotle the *télos* is nature itself: "nature is an end and for the sake of which" (*he dè physis télos kaì hou héneka*, *Phys*.II. 2.194b29). Aristotle extends the idea of goal from the realm of the intellect to that of nature, which means that not only gods, humans, and their crafts have goals corresponding to intellectual plans. Within the non-rational living individuals there is an inner tendency towards survival, reproduction and also well-being. In Aristotle, the first two are innate goals of every living being from the moment it is alive and the third, well-being, can be found in superior species. For instance, in the case of humans, well-being may mean happiness, but humans are just one case among others. Every development of every specific organism has its own goal, its own flourishing, irreducible to others, inscribed in its specific form. The immanent teleological model understands nature in a pluralistic way, according to which it is full of different entities with their innate goals. Against absolute anthropocentrism (according to which there are only human goals among natural beings and everything in worldly nature is for the human's sake), immanent teleology recognizes in nature a diversity of forms, developments and perfections. There is a rich diversity of ways of understanding what perfection is, irreducible neither to human or divine use nor also homogeneous material compounds.[2]

[1] For this vision of the history of teleology, see André Ariew, Chapter 9: "Teleology." *The Cambridge Companion to the Philosophy of Biology*. Cambridge University Press, 2015; John Cooper, "Aristotle on natural teleology". In *Language and Logos*. Ed. M. Schofield & M. C. Nussbaum. Cambridge University Press, 1982, p. 221; also Sedley, David. "Teleology, Aristotelian and Platonic", in *Nature and life in Aristotle: Essays in honor of Allan Gotthelf*, ed. James Lennox and Robert Bolton. Cambridge University Press, 2010, p. 28. See more detail in Chapter 2. Introduction.

[2] See my account of ancient and modern anthropocentrism in 2.1.c.

In a few crucial texts Aristotle also conceived nature as a whole, as a compound of substances. Every particular being and its specific goal is seen in those passages as a contribution to a general order, a general *télos*. This complementary perspective of teleology does not emphasize plurality, but instead the convergence of that plurality. This overarching aspect of Aristotelian teleology is still perfectly immanent, since it does not involve a god's providence or activity, but merely the good immanent work of nature as a whole.

In this dissertation I argue that the influential 20th century French philosopher Henri Bergson subscribed to the immanent conception of teleology. Bergson was a *teleologist*, although in a singular and original way. Against the usual readings of Bergson,[3] I interpret his work as deeply rooted in the Aristotelian tradition, which he knew and taught.[4] In order to substantiate this interpretation I provide the first systematic book-length comparison between Aristotle and Bergson.

In more general terms, Bergson's view of the world was not that of the flux of pure becoming, progress without end. On the contrary, Bergson had a dynamic view of living beings, human psychology and history that may be considered finalist. In this framework, the organic world should be considered a directed tendency towards adaptation and ultimately, the fulfillment of natural potencies. Bergson's conception of human beings and their societies involves a teleological approach as well. His conception of the world as a whole is teleological too. In this case, the goal is not order or stability but the growth of freedom. In Bergson there are many more examples of global teleology than in Aristotle, but its perspective is equally immanent and, hence, non-theological. Behind every Bergsonian approach to nature, from a single embryo to the cosmos, there is always the search for a natural function. Here there is not pure becoming, but becoming for the sake of the fulfillment of one specific potency.

In comparing Aristotle and Bergson, first, I aim to highlight the latter's original approach to immanent teleology, an approach which was developed in the era of Darwin, modern physics and the philosophy of history. Within Bergsonian scholarship, I want to challenge the reading according to which Bergson's philosophy is a "refusal of mechanism and finalism".[5] I attempt to challenge the usual understanding of Bergson among scholars, according to which *every kind of* "finalism is not an alternative to mechanism, but only its inverted image".[6] This means that finalism has in the end the same problems as mechanism. According to this, the label 'vitalism', when applied to Bergson, may be seen to stand equidistant from those options. Bergson rejects not only modern mechanicism, according to which the world is composed of atoms whose movements and relations are governed by deterministic causal laws, but also hard theories of chance, since he finds that pure chance is an intellectual illusion. On the other hand, the case of final causality is different. Teleology was not a relic of the past for Bergson but an open field for fresh new speculation. This does not mean that Bergson held an uncritical stance toward theories of teleology. His critical remarks, however, are addressed to specific kinds of final causality.

[3] Chapter 1.
[4] Chapter 2, first section: "Bergson: Aristotelian scholar".
[5] "Creativité comme tendancialité". Vollet, Matthias. *Bergson*. Ed. Camille Riquier. Cerf, Paris, 2012, p. 371.
[6] "Time, life, concepts: the newness of Bergson". Paola Marrati. Vol. 120. nº5. The John Hopkins University Press, 2005, p. 1105.

Bergson himself wrote that final causality "will never be definitively refuted"[7] and that his own doctrine will "necessarily partake of finalism to a certain extent".[8] On the contrary, he rejects "vitalism".[9]

Finalism is not a doctrine, Bergson says, "with rigid outlines", it is "flexible", it is "extensible", it is "comprehensive".[10] He held the perspective of a reformer. In the end, Bergson claims "not to stop at the classic conception of finality, still less to contract or attenuate it, but, on the contrary, to *go further*".[11] An essential aim of my dissertation is to clarify systematically the meaning of the last two words in italics.

As I explain in detail in Chapter 1, some brief remarks by Étienne Gilson and Henri Hude have been more useful than certain studies on Bergson's teleology.[12] In *From Aristotle to Darwin and back again*, Gilson claims that Bergson's global teleology is "purified of its vices" which "owed its novelty *to what was a return of the ancient immanent teleology* of Aristotle".[13] Unfortunately, he did not clarified why.

Even from outside Bergsonian scholarship, this dissertation sheds light on the extraordinary richness and flexibility of the old Aristotelian philosophical model. I seek to offer a clear understanding of immanent teleology and its philosophical possibilities in modern times.[14] We can gain considerable knowledge by emphasizing the tension between the old master and the ambitious reformer.

The doctrine of immanent teleology contains a pluralistic account of life: it understands nature for the sake of itself and not for the sake of anything else. At the same time, its world-view is hierarchical, so it understands life as standing on an axiological scale. This double vision of nature (horizontal and vertical, democratic and monarchical) is projected in human beings too. Human beings fall under the whole world of nature and its perfections, but they also possess certain faculties that put them, by far, at the top of that natural scale. In the case of Aristotle it is intellect, in the case of Bergson it is, ultimately, freedom. In both, human beings are rooted in the rich realm of life. This pluralistic account of the living world and this naturalistic view of human beings challenge the most powerful trends of modernity, like Cartesian anthropocentrism or Darwinian relativism. From the perspective of global teleology, the question is different. The eternal cosmos of Aristotle (which includes everything) the overarching *élan* of Life (which includes biological evolution and human progress) are visions of reality as a whole. It is more difficult to explain how to apply them to contemporary problems. The two express different ways of understanding totality as such since they belong to different epochs. From the point of view of history, I wish to show the Aristotelian roots of modern ordinary terms, like 'progress'. It is enriching to see how, after immense lapses of time, old philosophical models are suddenly revived again.

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[7] EC, p. 40.
[8] EC, p. 40.
[9] EC, p. 42.
[10] EC, p. 40.
[11] EC, p. 53, my emphasis.
[12] On Bergson's bibliography on finalism see Chapter 1.1.
[13] Gilson, Étienne. *D'Aristote à Darwin et retour. Essai sur quelques constantes de la biophilosophie*. [*From Aristotle to Darwin and back again*.] Trans. John Lyon. Notre Dame Press, 1981, p. 99, my emphasis.
[14] In this way: Spaemann, Robert and Löw, Reinhard. *[Die Frage Wozu] Fini naturali. Storia & riscoperta del pensiero teleologico*. Trans. it. Leonardo Allodi and Giacomo Miranda Ares, Rome, 2013 and Weiss, Helene. "Aristotle's teleology and Uexküll's theory of living nature". Classical Quarterly 42 (1-2), 1948.

From the point of view of philosophical enquiry, I think is extremely enlightening to see how Bergson tries to combine global historical teleology with contingency, human freedom, and creativity. This problem, alien to Aristotelianism, is a conceptual tension that goes through Bergson's mature works. Furthermore, it remains quite relevant in the contemporary philosophical scene.

In Chapter 1 I introduce various important scholarly interpretations of Bergson's work. The rest of the dissertation is devoted to comparing the two models of immanent teleology. In Chapter 2 I deal in detail with Aristotle's classic view of immanent teleology. This chapter establishes the structure of the whole work: my overview of Aristotle's notion of teleology in section 2.1 lays the groundwork for a comparative treatment of Bergson in Chapter 3 and my treatment of the domains of immanent teleology in Aristotle's model, presented in section 2.2, correspond to a comparative treatment of such domains in Bergson's model, presented in Chapter 4. More specifically, in 2.1 I show the structural elements of the classic teleological argument (perfection, hierarchy, analogy, regularity) and I compare them with Bergson's modern approach in Chapter 3. The two main problems to be tackled in Chapter 3 are anthropomorphism and anthropocentrism. In 2.2 I lay out the different domains of application for teleological arguments in Aristotle, from embryology to ethics to cosmology. In that same section, I deal with the twofold vision of teleology. This means that among the many applications of the model to different phenomena, we can distinguish between the two main domains noted above.[15] Then correspondingly, in Chapter 4 I turn to Aristotle, as seen from the perspective of Bergson's reform. In this final chapter I again survey the different domains of his teleological argument, from embryology to ethics to cosmology. Just as I do with Aristotle, I distinguish two complementary domains of teleological explanation in Bergson.

Let me now briefly deal with some of these major philosophical topics of the dissertation following its order in the text. First, I address the structural affinities between Aristotle and Bergson, then their structural differences. The reader can find both similarities and differences in 2.1 and 3 respectively. Subsequently I address the contrast between the two in terms of empirical domains, as we find in 2.2 and 4.

Structural affinities: anthropomorphism, biomorphism and anthropocentrism

The Aristotelian and Bergsonian teleological frameworks defend a pluralistic vision of nature and both understand mankind as an essential part of it. Consequently, they both admit the possibility of establishing analogies between human consciousness and natural entities or even nature as a whole. As I show in Chapter 2 on Aristotle and Chapter 3 on Bergson, analogy is the methodological basis for immanent teleology and implies the rejection of the critique of anthropomorphism, according to which the use of analogy means automatically transferring human psychological features to nature in an illegitimate way. Note that both Aristotle and Bergson reject the possibility of establishing arbitrary analogies between the natural world and us, but they still defend that there are goals in nature beyond our intellectual goals, hence there is room for some sorts of analogies. They do not support the radical critique of anthropomorphism when it is held *in every case*: there is for them a way of establishing correct analogies. Teleology describes life as such, and not merely human life. It understands psychology in its original and genuine sense: the limits of the *psyche* are nothing

[15] Kullmann, W. "Different concepts of the final cause in Aristotle" in *Aristotle on nature and living things*. Ed. Allan Gotthelf. Bristol, 1985.

less than the limits of life. Analogy accepts a certain kind of anthropomorphism, provided that it describes life as such. In the end, teleology aims to be biomorphism. We share with the other living beings our internal perfective drive towards the fulfillment of innate potencies. Here is the teleological element: perfection.[16] Perfection is the ontological basis for teleology. Analogy is its method.

Regarding perfection and analogy, as dealt with in section 2.1 and Chapter 3, there are different problems at stake. From perfection and analogy the question of the status of human nature arises. Thus, behind these two structural elements of the teleological approach stands philosophical anthropology. In accordance with the positions of pluralism and biomorphism, both the ancient and the reformed teleological model of immanent teleology reject *absolute* anthropocentrism. In Aristotle and Bergson the world does not exist for the sake of human beings. Living beings have their own sake and coexist with human goals. From this perspective, teleology is actually compatible with a naturalistic conception of human beings. But at the same time, it is important to note that these two pluralistic accounts of nature and naturalistic accounts of human beings do not entail that human beings are *just equal* to other species. In fact, that is not the case at all. In the two cases there is an irrefutable hierarchical superiority of human beings over the rest of earthly nature. In both, the best human beings do not just represent the whole scale of nature through their different faculties but also possess unique faculties: Aristotle's wise man can think like gods do; Bergson's man can be free and creative like the original *élan* vital. As we can see, these special faculties permit human beings to establish special analogies between them and superior levels in the cosmos. Both Aristotle and Bergson reject anthropocentrism, since there are not only human goals in nature, but they also defend a definite hierarchical scale. This scale offers a nuanced pluralism, because, given that there are many different goals in nature, some of these goals are simply better.

I claim that in Aristotle there is a "mitigated anthropocentrism", to the extent that human beings are superior to the rest of nature. At the same time, this pluralistic position permits that the centrality of humans does not entail the reduction of the rest of goals in nature to human goals.[17] In the case of Bergson the problem becomes quite different because of his evolutionary perspective, but Bergson also defends a mitigated anthropocentrism.[18] Against the ancient Platonic world and the modern Cartesian world, Aristotle and Bergson defend anthropomorphism: the two have pluralistic approaches to nature and both agree on the essential superiority of humans.

Structural distance: the forms, freedom, evolution and time

Until now we have seen some general agreements between Aristotle and Bergson. Now, it is time to look at the distance and the clash between them.

In Aristotle the goal is related to the form, which is an indestructible constitutive of every substance. According to Aristotle the final cause is intimately linked and sometimes equated with the formal cause, thus to the form or *eidos*. At other times it is related to some specific activity, function or *érgon* (ἔργον). In Bergson there are not forms. We can say that he defends a more pragmatic view of individual teleology, one which is more concerned with

[16] See Chapter 2.1.a.
[17] There is one tension in this reading, as I indicate in the last passage from Aristotle in 2.2.b.
[18] See Chapter 3.2.

the function of every living being and not with indestructible items. Bergson considers that the function as such can be considered perfection.

In Bergson we have the idea of freedom. He understands freedom as a capacity for self-creation, for creating newness and overcoming past limits. Bergson attributes this freedom to a cosmic force that he calls *élan* and also to individual human beings. This is a key subject in Bergson and cannot be found in Aristotle. While this certainly affects the types of analogies employed by Bergson, it does not render the method of analogy invalid altogether. Actually, it is part of his reform.[19]

There is a third difference between them: evolutionary thought. This can be found in the problem of Bergsonian mitigated anthropocentrism and the Bergsonian theory of time, both discussed in Chapter 3. As I mentioned, evolution challenges the Aristotelian conception of an eternal world, composed of perishable individuals and everlasting species. Thus, this perspective is a source of philosophical disagreements between the two philosophies.

Within Bergson's framework there is, as I said, a hierarchy, like there is in Aristotle. But at the same time, this hierarchy is substantially different from the Aristotelian one. Bergson was born in 1859, the year of the publication of *The Origin of Species* and thus he grew up in Darwin's world. What we have in Bergson is a historical understanding of the scale of beings, which means that plants, basic animals and developed animals lead to human beings, chronologically speaking. Human beings are still on the top of this general development, although the reasons of that superiority, as I mentioned above, are not exclusively related with intellect but also with freedom. In comparison with plants, animals are more spontaneous. Humans are essentially the *only* genuinely free beings, since they can change their habits, their ideas, and the face of the earth. Bergson understands the Aristotelian scale of freedom not in a vertical static way, but in a horizontal historical way. He also adds important additions to the scale, in accordance with his reformative view. The consciousness of Life reaches its apex *only* with human beings. In accordance with the teleological argument, the other livings beings represent different "directions" of Life and they have their own irreducible goals. The human form is not the goal of the universe, since the goal of the universe is freedom. Everything is subordinated to it. To the extent that humans take part in freedom to an incomparable extent, they have exclusivity. In Bergson there is pluralism and hierarchy, and his evolutionary mitigated anthropocentrism adds fundamental differences to Aristotle's.[20]

In the comparison between Chapter 2.1 and Chapter 3 we see a great deal of difference between these two frameworks that seek to make human beings and their faculties part of the natural world, while at the same time giving exclusive privileges to human beings. Privileges that are analogous to the contemplative God, in Aristotle, or the Bergsonian *élan*, which is more related to the concept of the soul of the world.

Apart from analogy and perfection, there is another structural element in teleology: regularity. This concept is definitely transformed when seen from the evolutionary perspective. As we will see in Chapter 2.1, part of the Aristotelian argument in favor of teleology as found in *Phys*.II.8 rests on the notion of regularity. The fulfillment of goals in nature, such as the correct growth of teeth among animals, is something regular. Natural

[19] See 2.1. a and b and 3.1.
[20] See 2.1.c and 3.2.

things happen *usually* or *always* for the good. Teleological processes happen all the time. This is what I call primary teleology. However, in this section I also comment on *Phys*.II.4-6, where Aristotle talks about how to understand things that happen only once. These events are produced by chance or fortune, so they are unpredictable and do not happen according to forms. There is not the necessity of an ultimate fulfillment. The lucky or unlucky changes are not inscribed by nature in the entity. Around these events, according to some scholars, Aristotle leaves room for a secondary teleology. These events mean the retrospective interpretation of singular and unpredictable events as if they were naturally perfective. I call this narratology. It plays a notable role in Bergson's global teleology.

In Chapter 3 I show that in Bergson there are two dimensions of temporality regarding teleology, both rooted in Aristotle. Primary teleology and secondary teleology are to be applied to Bergson's model too. The adaptive process of an organism in nature is something regular. This can be derived from Bergson's early work MM and also LR. On the contrary, the general history of Life and of mankind is not something to be repeated. There are neither evolution*s* nor universal histories. Since they are singular, they are composed of singular events that happen only once: this is the realm of freedom in Bergson. This panoramic historical vision of Life and human beings related with Bergson's mature philosophy of the *élan* vital in EC, CV and DS could neither use nor imply the Aristotelian regularity argument. Hence, I propose that Aristotle's theory of chance can find a place in Bergson's theory of finality, too.

I have emphasized the feature of the singularity of history, but the other one, unpredictability, is even more important for Bergson. This second understanding of the "time of teleology" expresses one of Bergson's main concerns: to avoid a fatalist global teleology. The combination of primary teleology and secondary teleology is one of the major elements of Bergson's reform. Contingence comes to the center of Bergson's view of nature, in the end, for the sake of leaving room for human freedom.

Two domains of teleology: individual function and common function

After talking about the structural affinities and differences between the two teleological models, it is still necessary to clarify the different grounds of application. While in the whole of Chapter 3 I bring my treatment of teleology in Aristotle into conversation with Bergson's by addressing general philosophical topics in the latter, such as anthropomorphism, anthropocentrism, regularity and fatalism, in the fourth and last chapter my approach is more concrete and illustrative. I will examine the examples found in these philosophers' treatises. In this way, I aim to make clear how the previous philosophical claims measure up to the relevant phenomena. In 2.2, I lay out my twofold understanding of Aristotle's teleology. In Chapter 4 I set up another confrontation between Aristotle with Bergson. I also point out two areas in which Bergson's notion of teleology finds application. However, the twofold view of teleology may become evident earlier on its own, in Chapter 3, where I distinguish two main areas of the application of analogy, two main types of perfection and two main types of time. The general task in Chapter 4, on the other hand, is to make the general ideas more concrete by way of multiple examples.

In 2.2 I survey a large variety of phenomena. Basically, I defend the claim that in Aristotle we find two main domains of application for the argument regarding the notion of immanent teleology. As I said earlier, there is a paradigmatic model: an individual organism is compared with an intelligent action or with a tool that expresses intelligent actions. In the set

of grounds of teleological explanation in Aristotle I start from the biology of living beings and move upwards in the Aristotelian scale of being.

As said above in 2.2 I also analyze the few problematic but still crucial passages in Aristotle that do not follow the individual model of teleology, but rather the global one, where the *télos* has to do with imitation and participation. The craft analogy is not so present here, but still Aristotle proposes analogies with the intentional world, like the army, the household, or analogical terms like "imitation".

I defend a comprehensive view of Aristotle's teleology because I really find no problem, as many scholars do, in admitting two domains of teleology, the individual and the big-scale teleology.[21] I call the first one the teleology of development. The second, the cosmic one, is in my account called the teleology of contribution, a term that I prefer over the recurrent expression of the "aim". In short, I find that these are the two basic irreducible meanings of *télos* behind the different passages in the corpus. Note that the second global meaning is an addition to the first individual meaning of perfection, and does not diminish it. Undeniably, in terms of his doctrine, Aristotle poorly develops the cosmic understanding of the term *télos*. Also, the texts are few in comparison with the innumerable accounts of individual teleology in Aristotle. However, the passages which speak to a global teleology are indeed present in Aristotle's work and their content is both important and clear.

As we move upwards in the scale of being, in Chapter 4, I systematically deal with the phenomena that can be applied to teleology in Bergson. In the exhaustive set of examples I examine in this regard, I start from simple living beings. The main thing to note about Chapter 4 is that I also follow a twofold teleological scheme; in Bergson I distinguish a developmental teleology, which I call conservative teleology. This concerns individual living entities, including humans (regarding certain human faculties), as well as transgressive global teleology. The last one involves some exclusively human faculties as well as overarching tendencies, such as the *élan* vital, which runs through evolution and human history. Conservative teleology may include concepts such as survival, reproduction and well-being. It addresses the conservation of the individual and the species.

Let me refer here only to one particularly illustrative example. In the organic context of MM, Bergson says that action is the "fundamental law of life,"[22] and living corporeal beings are "centers of action,"[23] namely of "useful"[24] and "effective action."[25] There is a main aim for this activity: "to adapt ourselves to a present situation."[26] And, finally, the "purpose and function of our nervous system" is adaptation.[27] From this arise Bergson's concepts of regularity and of "attention to life", which contain teleological assumptions.

Some Aristotelian scholars have already claimed that behind the Darwinian concept of adaptation there is, in the end, a root of Aristotelian teleology, since being adapting in order

[21] For the scholars that defend global teleology in Aristotle, see 2.2.b.
[22] MM, p. 150.
[23] MM, pp. 228 and 242.
[24] I mean "vital utility", for the sake of life itself.
[25] MM, p. 154.
[26] MM, p. 151.
[27] MM, p. 160.

to survive is the goal of all living beings as well as each species.[28] Famous historians of biology have endorsed the Aristotelian background of the concept of adaptation.[29] To this extent, my work on Bergson follows this line of thinking. "Function" and "adaptation" are part of Bergson's new model of immanent teleology. I comment in detail on these and other passages concerning adaptation in Chapter 4.1.

The sort of progress which falls under transgressive teleology is brought about thanks to certain biological and historical trends (the ones that lead towards the progress of the locomotive functions and the development of the brain); religious, philosophical or cultural trends (especially, Christianity); normal humans and spiritual heroes (artists, saints, philosophers). Progress should be understood here as a gradual common good, it implies change (not conservation) for the better.

In the case of the teleology of individuals or in ethics, Bergson calls the goal "destination". It means, on one hand, self-development, and on the other, enhancing the world. Bergson writes: "Nature warns us by a clear sign that our destination is attained. That sign is joy", and adds "wherever there is joy, there is creation; the richer the creation, the deeper the joy."[30] Individual freedom is a combination of the two domains of teleology in Bergson. It implies an individual beneficiary (the personal fulfillment), and at the same time, it refers to the concept of creation which, as I show later on, means a contribution to more general orders.

Bergson's cosmology is teleological when he says that "the impetus of life (…) consists in a *need* for creation" and adds that the cosmos "strives to introduce into it the largest possible amount of indetermination and liberty."[31] The passage deals with one natural tendency: its need points to its goal, to how it would be satisfied. To some extent, human beings represent an attainment of that goal. The human being "continues the vital movement indefinitely."[32] Human beings are the "culminating point of evolution and they are nearest the source."[33] I note again that this does not mean that humans are the overarching goal of nature understood as a whole. They are not. To be sure, the *only* goal of nature is freedom. That is the *télos*, the perfective feature here. This statement has a major status in Bergson's philosophy of nature.

While the need for nature is stated categorically as something regular, the rest of Bergson's large-scale account of Life and history, found scattered over different places, emphasizes that these are an unpredictable by-product of contingency. He defends a perfective panoramic vision but he does not claim that this is a matter of necessity. Bergson reforms the Aristotelian vertical scale of beings. He interprets the "chain of being"[34] in horizontal and

[28] Lennox, James. "Darwin was a Teleologist". Biology and Philosophy. 8. 1998 and Gotthelf, Allan. "Darwin on Aristotle".Journal of the History of Biology. Volume 32, March,1999. Also: Judson, Lindsay. "Aristotelian teleology". *Oxford Studies in Ancient Philosophy* 29:341-66, 2005, p. 355.
[29] See Mayr, Ernst."The idea of teleology". *Journal of the History of Ideas*. Vol. 53, No. 1. Jan.-Mar, 1992. "Teleological explanations in evolutionary biology", Ayala, Francisco. *Philosophy of Science*. Vol. 37, No. 1. Mar., 1970, and Ruse, Michael. "Teleology: yesterday, today, and tomorrow?". Studies in History and Philosophy of Science Part C Studies in History and Philosophy of Biological and Biomedical Sciences 31(1): 2000.
[30] ES, p. 29.
[31]EC, p. 251. My emphasis. In the translation there is "need of creation", while I prefer "need for creation". I will put always "for". Also EC, p. 261.
[32] EC, p. 266.
[33] "Life and consciousness" (CV) in ES, p. 32. Also EC, p. 264.
[34] For this idea: Lovejoy, Arthur. *The great chain of being: A study of the history of an idea*. Harvard University Press, 2001.

historical terms. The vegetable form first, the animal form next, and finally the human form describe a progress directed toward indetermination, which, at the same time, is contingent. The vegetable, animal, and human forms were not inscribed in any plan. They are not necessary as such and there is merely retrospective teleology in the singular and unpredictable event of Life and also history. In addition, Bergson defends the branching pattern of Darwinism, according to which evolution is illustrated by the "tree of life". There is then a plurality of branches and lineages in Life. But singularity, unpredictability, and the branching pattern do not mean that Bergson overcomes the model of the scale of beings. In 4.2.b I offer a detailed a teleological reading of his history of life. In sum, he combines secondary teleology and the tree of life with the ladder of perfection and mitigated anthropocentrism. What is central, in regard to Bergson, is that despite contingencies and irregularities there is one cosmic goal, invariable and constant: indetermination. That is what I understand when he, cryptically, says that "the essential *function* of the universe" is to be a "machine for the making of gods."[35]

Thus, what in Aristotle is *táxis* or order, in Bergson is progress. To some extent these notions are as opposite as stability and change, but the two of them employ the same contributive teleological model. In this respect, the two cosmic-army passages are quite illustrative: in Aristotle we have a static general arrangement of different substances, in Bergson's army there is an army in "space and time" which moves forwards.[36] Again, in Bergson the wide-scale teleology is much more common than in Aristotle. Also, in Bergson the analogy of the self/Nature as microcosmos/macrocosmos is widely used, while it is not Aristotle. As I said, Bergson is an original interpreter of the model of immanent teleology, which means that he offers new paradigms for both analogies and perfection, two notions that, implicit or explicitly, he used massively.

While I said that the model of adaptation has gained attention from Aristotelian scholars, the model of progress has been mostly ignored. It is understandable since we have now moved far beyond Aristotle's framework, although prominent interpreters such as Guthrie[37] and

[35] DS, p. 317, my emphasis.

[36] I comment on this both in 2.2.b and in 4.2.b, respectively. In Aristotle see *Met*. XII.10.1075a10-25. In Bergson see EC, pp. 270-271.

[37] Guthrie says this in two different books. I transcribe the two passages because they are clear and useful: "in introducing the conception, one must say first of all that teleology as Plato and Aristotle understood it demanded the actual existence of the *télos* or end, that is, of a perfection under whose influence the activity of the natural world takes place. This is not a necessary presupposition of the idea of ordered progress. Ordered progress is a perfectly possible conception without the assumption that the perfection, or goal to which it is tending already exists somewhere. This is indeed the idea favoured by a modern evolutionary biologist like Julian Huxley". *The Greek Philosophers from Thales to Aristotle*. Routlege, London, 2006, pp. 130-131. 30 years later, Guthrie reformulates the same comparison, Aristotle/Huxley, so useful for our purpose, since it can be applied to my comparison Aristotle/Huxley. In the following passage, Guthrie adds a metaphor which can complete our conception of global teleology with no *télos*: "For him [Aristotle] there could be no progress that was not towards *something* and you could not progress towards something unless it existed. In the (evolutionist) metaphor in which emergent is intended here to suggest we cannot picture a light object as in the process of rising from the bottom of the sea to the surface unless there is a surface always ahead of it, up to which it is progressing. In Aristotle's view, we and the world are like that object, ever trying to reach the surface, which remains ever above us. To apply the same metaphor to [Julian] Huxley's, we should have to say that the world is like the level sheet of water itself, which is rising and rising –but rising into nothingness, or at least, into what was nothingness before and only exists as nature reaches it ". *A history of Greek philosophy*. VI. Cambridge University Press, 1981, pp. 117-118.

Owens[38] have noted the affinity between Aristotle's global teleology and global evolutionary teleologies. My argument follows their brief remarks.

My intention throughout the work will never be to force the similarity between the two. Bergson has to face his own problems, which are absent from, if not contradictory with, the whole framework of Aristotle.[39] Let me highlight two here. First, Bergson has to leave his transgressive teleology open, since transgression implies overcoming but not arriving at anything definite. Regarding individual transgressive teleology there is only one example: human beings. As any teleologist approach to the human being, Bergson's defends eudaimonology. The fulfillment of the human goal means happiness, and in this case, the goal is precisely to create oneself. Personal maturity involves attaining your personal goal. Although this perspective is quite regular nowadays, I believe it harbors a paradox: i.e., the possibility of a teleology towards non-existing items. Bergson's global teleology only expands the creative paradox. The teleology of the "wave which rises"[40] has a natural origin and a natural need but, again, there is no fixed *télos* to attain. This leaves room for unpredictability and freedom in the world, but also entails a paradoxical claim: namely, a teleology without a *télos*.[41] The second issue I believe to be more serious, because Bergson seems to not be aware of it and because it menaces the core of his entire philosophy: individual responsibility. Given that there is freedom in Life, Bergson didn't differentiate clearly between this overarching impetus and us, mere individuals. As we will see, Bergson sometimes talks about the freest human individuals as if they emerged from nature. The notion of self-creativity presents a stringent vision of freedom and human capacities, and it can be difficult to make it fit with a more general freedom in a compatibilist way, as we have in Aristotle. One can ask, finally, to whom belongs this freedom that goes through history, the progressive impetus that prolongs the biological *élan vital*. The problem of naturalizing humans (they all have goals, like any other being) and spiritualizing nature (the particular goal of nature, understood as a whole, is like the human's goal: freedom) is that they can easily become conflated and confused.

While I enter into the highly controversial field of Aristotle's scholarly publications with a comprehensive understanding, I concentrate the polemic side of my research on the Bergsonian flank. I affirm that this topic is not merely something to be found in Bergson, but even that it permits us to read his entire work as a continuous development of the same core idea.[42] Moreover, I see that in Bergson's work the two types of teleology, the "two irreducible

[38] For instance, Owens compare Teilhard De Chardin's "noophere" evolutionary notion with Aristotle's human historical stage. Owens, Joseph. "Teleology of nature in Aristotle". *Some philosophical issues in moral matters. The collected ethical writings of Joseph Owens*. Ed. Billy-T.Kennedy. Editiones Academiae Alphonsianae. Edalcalf, Roma, 1996.

[39] Bergson himself says: "the idea of creation doesn't exist in any degree in the ancient philosophy". Bergson, Henri. *L'évolution du problème de la liberté. Cours au collège de France. 1904-1905*. PUF, Paris, 2017, p. 298. See overall the sessions of the 27th of January 1905 and 3th of February of 1905.

[40] EC, p. 293

[41] Deleuze noted this idea, although he does not seem to see any paradox: "There is finality because life does not operate without directions; but there is no 'goal', because these directions do not pre-exist ready-made, and are themselves created 'along with' the act that runs through them." Deleuze, Gilles. *Le bergsonisme*. [*Bergsonism*] Trans. Hugh Tomlinson and Barbara Habberjam. Zone Books, NY, 1991, p. 106.

[42] According to Vieillard-Baron, Jean-Louis. "Bergson's secret," that is, the original intuition of all his philosophy, is the idea of unity of spirit and duality of the self. This author is applying to Bergson the theory of the original intuition found in "The philosophical intuition", in PM. *Le secret de Bergson*. Éditions du Félin, Paris, 2013, p. 159.

senses of life,"[43] are finally articulated in his last important work, DS. Thus, I hold a not only continuist but even a progressivist reading of Bergson's career. I deduce teleology from some aspects in DI, such as personal maturity. Yet, properly speaking the teleological model, based on functions and efficiency, appears in MM with regard to individual conservative teleology. EC is, in every sense, much more focused on transgressive global teleology, although it contains some important passages on conservative teleology like embryology and ethology. [44] CV and, to a greater extent, DS are the synthesis of these two types of teleology.

[43] Worms, Frédéric. *Bergson ou les deux sens de la vie*. PUF, Paris, 2004, p.18-19.

[44] Viellard Baron, Jean-Louis. *Le secret de Bergson*. Op. cit., p. 162. Vieillard-Baron notes three ways of understanding the whole work of Bergson. First, the most common, he says, is to study all his essays as a succession of independent works. Secondly, there is Alain De Lattre's and, I add, Kolakowsky's account, which finds rupture in his works. In short, Bergson starts elaborating a philosophy of consciousness or phenomenology and turns to continue within a cosmology or philosophy of life. Thirdly, there is a "continuist" account.[44] The author mentions Thibaudet and Jankélévich,[44] and could have mentioned the more recent Riquier and Worms. Riquier, Camille. *Archéologie de Bergson*. PUF, Paris, 2009. Worms, Frédéric. *Bergson ou les deux sens de la vie*. PUF, Paris, 2004. My vision is partially continuist. I think there is a dualistic vision of teleology in Bergson. That dualistic teleology is irreducible and can be found in all his works, but it is not equally developed in all his works.