The Intertwining of Nature and Artifice: Merleau-Ponty and The Philosophies of Physis

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Abstract: This paper attempts to outline the central tenets of Merleau-Ponty's understanding of nature, highlighting particularly the history of the notion developed in Merleau-Ponty’s last courses (La nature). The analysis covers the pre-Socratic cosmologies, the Aristotelian notion of physis, and the merleaupondyan interpretation of mechanicism and modern teleology. In the first place we focus on a critical approach to the categories with which philosophers have traditionally understood physis. This critique is founded on the originary ascription of these categories to what is humanly instituted and constructed. Secondly, we show the limitations of this critique by pointing out that human technique may be interpreted as imitation and extension of nature. By evaluating both sides of this circular argument, we end up with a particular intertwining (Ineinander) between the natural and the human. Toward the end of our paper we discuss Merleau-Ponty’s emphasis on recovering the original meaning of nature as “ground” and “surplus”.

Some interpreters are prone to distinguish in the development of Maurice Merleau-Ponty's thought, successive stages of dialectic-gestaltic, phenomenologico-existentialist, linguistic-structuralist and even of a strange post-structuralist ontological nature “in a Derridean sense”. Beyond in-

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tended turns or breaks and doubtful ascriptions of monstrous syncretisms\(^2\), the evolution of the philosopher’s thought may be approached more simply as the organic and original development of a philosophy of embodiment and a philosophy of nature. This latter project is recognizable since his first major work, *La structure du comportement*—where he outlines a philosophy of nature in which the physical, biological and human orders are distinguished as three intertwining structural dimensions—, up until those last courses at the Collège de France (1956-1960) published under the title of *La nature*, on which we will focus in this paper\(^3\). Perhaps the merleaupontyan project of restoring the philosophical value of a certain notion of "nature" may be considered extemporaneous or untimely, if not directly nostalgic, in light of the immediately following developments in Philosophy. Nature is for Merleau-Ponty not merely a "lazy philosophical postulate"\(^4\) thought-up in order to pass certain historical constructs for eternal and immutable, as is assumed in some recent cultural post-structuralist studies\(^5\). It is neither a matter, for the philosopher, of finding the definitive solutions to the traditional gnoseological problems in the latest findings of the natural sciences, in the style of some contemporary "naturalist epistemologies". The philosophical sense of nature is connected, for Merleau-Ponty, in somewhat enigmatic terms, with its "globalizing", "grounding" character, resistant to the human. In his later courses he defines even philosophy as “the will to confront the human artifice

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\(^2\) A charge of this kind is formulated by Vincent Descombes in *Lo mismo y lo otro. Cuarenta y cinco años de filosofía francesa (1933-1978)*, Madrid: Cátedra, 1979.

\(^3\) Also in his *Phénoménologie de la perception*, Merleau-Ponty affirmed repeatedly his purpose of “rediscovering the natural world and its mode of existence that is not confused with the scientific object” (*Fenomenología de la percepción*, translation by J. Cabanes, Barcelona: Planeta-Agostini, 1993, p. 47; forthwith cited as *FP*). In this sense Renáud Barbaras’s interpretation is incomprehensible, when he proposes that “throughout the whole of the *Phénoménologie de la perception* and “until the years 1956-57 Merleau-Ponty uses the notion of nature in a non-critical way and gives it its ordinary philosophical sense” as “a totality of objective events regulated by laws” (“Merleau-Ponty et la nature”, in: *Chiasmi International*, II (2000), p. 47). It suffices to remember that Merleau-Ponty is the author of *La structure du comportement*, to doubt this interpretation which considers that “the question about Nature answers to a turn in Merleau-Ponty’s thought”, representing a “late” interest (*ibid.*, pp. 47, 49). Jean-François Courtine takes up this view in his dialogue with *Areté* when he claims that it is “the projects of the later Merleau-Ponty” that seem “to approach the tradition of the *Naturphilosophie*” (*Areté*, XVI, 2 (2004), p. 331).


\(^5\) J. Derrida, for example, claims that “there is no nature, only naturalization exists”, quoted by Judith Butler in: *Cuerpos que importan. Sobre los límites materiales y discursivos del sexo*, traducción by A. Bixio, Buenos Aires: Paidós, 2002, p. 17.
with its outside, with Nature. Certainly, the philosopher’s position is not free of risk. As Bachelard says, what we call ‘natural’ is frequently no more than bad theory”. However, even after sliding this precaution, Merleau-Ponty invites us to ask whether “thought can live in a universe that is exclusively human and artificial”\(^6\).

His courses on the concept of nature propose initially to investigate “the primordial sense” of the term, which means not only to remember the senses it involved in the past, but also to envisage through this historical study “something that had always been seen”\(^7\) by those who first spoke philosophically about nature. We will list succinctly the general features of this notion, following the philosopher in the Introduction to his courses, as a sort of "clues" to guide his and our exploration. The “primordial” concept of \emph{physis} that Merleau-Ponty is after in the ancient meaning of the term is related, in the first place, "with movement, as is shown by the etymological derivation of the word from the verb \emph{phyo}, which alludes to the vegetable; the Latin word comes from \emph{nascor}, to be born, to love; it preserves something of the first, more fundamental meaning". In the second place, this natural movement would outline for the ancients an immanent sense: “there is nature where there is a life with meaning ... without this meaning being imposed by thought. It is the self-production of a sense. Nature... determines itself from within”. In the third place, the brief introduction underscores the idea that human being is not the creator or the constituent of this dynamic structure of nature, but part of the natural order and stage of the natural movement. Natural production would not be, therefore, comparable without residue to human technical production, since it is self-production of a meaning. Hence the tacit reference to the old sophistical distinction between the naturally and the humanly constructed (technics) or instituted (culture): “Nature is different than man; it has not been instituted by him, it is opposed to habit, to discourse. Nature is the primordial, that is to say, the non-constructed, the non-instituted”. Finally, Merleau-Ponty advances the idea, derived from the preceding point, that nature is imbued for human consciousness with a certain opacity or mystery that is inherent to it, and it resists our attempts to take away all its veils: “Nature is an enigmatic object, an object that is not totally

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\(^6\) N, p. 119.

\(^7\) Ibid., p. 19. In this paper we center our attention especially on Merleau-Ponty's first courses about nature (1956-1957), in which he develops a philosophical interpretation of the historical variations of the concept.
an object; it is not totally before us. It is our ground, not what is before us but that which sustains us”8.

In the first place, then, Merleau-Ponty intends to identify a “primordial” feature of the concept of nature in its dynamism: “Nature is but passing”, says the philosopher, quoting Whitehead9. This is, in fact, one of the marks of the ancient physis, that is why Merleau-Ponty begins by alluding to the verb phýo, the root of which phý means “to sprout” and applies primarily to living entities that change and grow10. It is customary to associate this idea of nature as a process of change and becoming with Heraclitus, and Merleau-Ponty surely refers to the thinker from Ephesus in proposing a "return to a pre-Socratic notion of nature" as dynamism11. But this conception of Heraclitean thought would be partial if it did not acknowledge that nature’s passing and movement takes place for Heraclitus at the same time according to a logos, a structure or order that equally defines physis. Heraclitus' first fragment shows the close semantic proximity between physis and logos when it asserts consecutively that “everything is produced according to that logos” and consequently it pertains the philosopher to enunciate “everything according to physis”12.

8 Ibid., p. 9. The French text says “ce qui nous porte”: what carries us, that on which we rest.
9 Ibid., p. 163.
10 This archaic connotation is present in the first appearance of the term physis in Homer (cf. Odyssey, X, 303), where a medicinal herb is applied, even if in the homeric passage the plant’s physis is rather translated as its “constitution”, a “weak” meaning or use of the term that will be present in all Antiquity. The ancient meaning of the term physis as “constitution” is not “weak” in contrast with a “strong” meaning of nature in the modern sense, that is, “in the collective sense of sum total or aggregate of natural things”, since this last [sense] was also quite foreign to the ancient use of the word. As Collingwood observes, there is another sense “that we recognize as its original, and strictly proper, sense: when it refers, not to a collection, but to a principle, in the proper sense of this word, a principium, arché or source”. In this sense, nature “means something interior to a thing or that corresponds intimately and that is the source of its behavior. This is the only sense that it has in the first Greek authors and throughout the whole of the history of Greek literature it is preserved as its normal sense” (Collingwood, R.G., Idea de la naturaleza, México/Buenos Aires: FCE, 1950, p. 59). Even if this weren’t the "only" ancient sense of the term, Collingwood’s observation is worth having in mind to prevent assimilating the ancient physis to the modern sense of nature as a collection of mundane things.
11 N, p. 119.
12 Eggers Lan, C. and V. Juliá (eds.), Los filósofos presocráticos I, Madrid: Gredos, 1994, p. 380. We are using the direct translation from the Greek proposed by Dr. Néstor Luis Cordero (University of Rennes I, France) in his Doctoral Seminar on “The notion of physis from Homer to the Stoics” (Faculty of Philosophy and Letters at the University of Buenos Aires, 2003). The structure of the Heraclitean physis, that “according to which” natural movement is governed is the tension between opposites, day and night, hot and cold, what rises and what falls, etc.
This coexistence of dynamism and structure that Merleau-Ponty is right to acknowledge in the ancient conception of nature is made especially evident in the Aristotelian notion of \textit{physis} as a process organized in terms of the end to which it tends. In Book V of the \textit{Metaphysics}, Aristotle defines nature “in its first and proper sense” as “\textit{ousia} [essence] of beings that have the principle of movement within themselves” and as “the principle of movement of natural beings”\textsuperscript{13}. As E. Hartman observes, Aristotle asserts that \textit{physis} is “at the same time essence and inner source of movement of natural substance. Now, the essence and source of movement can only be the same when the activity of the substance is involved in its definition.; and Aristotle seems to believe that this is the case with all natural substances that move by themselves”\textsuperscript{14}. Natural is therefore “self-moving”, what moves by itself, and Aristotelian “nature” is the essence of “self-moving”. This dynamism of nature does not contradict the presence of a \textit{form}, but rather allows itself to be regulated by it. Thus Aristotle asserts in his \textit{Physics} that “what is natured insofar as it is being natured goes from one term to the other. Towards which? Not towards the starting point; it is towards where it tends, that is the form; thus it is the form that is nature”\textsuperscript{15}. Aristotelian nature is therefore the essence of what moves by itself, but more properly it is the direction of this movement, its orientation (\textit{telos}) that coincides with its form (\textit{morphē}). Merleau-Ponty in his courses refers in this sense of the passage in the treatise \textit{Del cielo} (IV, 1, 308a15ss), where Aristotle claims that “through their own nature” light bodies ascend\textsuperscript{16}. As Merleau-Ponty suggests, dynamism passes to a second plane in the Aristotelian definition of nature, since ultimately "the idea of a qualitative destiny” prevails: “what matters is the relationship between the light body and weight, insofar as qualitatively defined region. The totality of nature is thus divided in qualitatively defined regions, location of certain natural phenomena (sublunary phenomena); it is realization, more or less achieved, of this qualitative destiny of bodies”\textsuperscript{17}. The Aristotelian definition of nature slides then from movement to the finality of movement, and to the definition of this end as form. Aristotle insists, that nature possesses or is in itself a kind of spontaneous ordering, specially when opposed to the conception of nature –that he attributes to the sophist Antiphon– as what is "unformed",

\textsuperscript{16} Quoted in: \textit{N}, p. 23.
\textsuperscript{17} \textit{Ibid.}
the *arythmiston* or unstructured (*Physics*, II, 193a): “for example, the nature of the bed would be wood; of the statue, metal. Proof of this is, Antiphon says, that if we bury a bed and putrefaction has the force to sprout, it is from the wood and not from the bed that it will be produced.”\(^{18}\) Aristotle considers a series of arguments that oppose that definition of nature as unformed matter to conclude defining *physis* itself as a form and type (*morphé* and *eidos*). Although it’s true, for example, as Antiphon said, that a bed does not grow from a bed but from the wood or the “vegetable”, the latter is not however mere unformed matter", but possesses in itself a form that is its principle of movement and it is because of it that the vegetable grows from the vegetable and not from something different. Antiphon’s example is thus redirected by Aristotle to the assertion of his own thesis that “it is still form that is nature”\(^{19}\).

Merleau-Ponty's reflection, however, stops at that difference emphasized by the Sophists between what is natural and what is fabricated or instituted by man, not only in his last course, but already in his *Phénoménologie de la perception* (1945). A natural thing such as a stone, he says in that work, has "something inhuman", “it ignores us and rests in it”\(^{20}\). “The real [*i.e., in the context, the natural thing*] differs from our fictions because it invests in and deeply penetrates matter. Of the painting, once torn, we no longer have in our hands more than the pieces of a painted canvas. If we break a stone and its fragments, the pieces we obtain will still be pieces of stone. The real lends itself to an infinite exploration, it is inexhaustible. This is why human objects, utensils, manifest themselves to us as proposed in the world, while things are rooted in a bed of inhuman nature. [Regarding a painting or utensil]... we feel that it is made deliberately, that in its case meaning precedes existence and that it does not involve more than the minimum matter to communicate itself. On the contrary, the wonder of the world resides in that, in it, sense is but one with existence”\(^{21}\).

Translated into the traditional Aristotelian terms, Merleau-Ponty is asserting not only that nature is the matter out of which human artifacts are made and that that matter contains form within itself, as Aristotle pointed out, but that in investing the totality of matter, the natural forms are much more essential, ubiquitous and mysterious than handmade forms. Now, if natural form coincides with its matter, differently from the fabricated object where they are distinguishable, aren’t we saying that the

\(^{18}\) Aristotle, *Physique I-IV*, p. 60.  
\(^{19}\) Ibid., p. 62.  
\(^{20}\) *PP*, p. 336.  
\(^{21}\) Ibid., pp. 337, 338.
distinction between matter and form dissolves when applied to nature and, to put it plainly, that these categories do not apply *strictu sensu* to natural being and are rather proper to the human artifact?

We may ask ourselves, then, if the Aristotelian distinction between matter and form is not itself borrowed from human technical fabrication and whether to attempt to apply them to nature Aristotle is not incurring a certain anthropomorphism. When from *Physics*, II, 194b Aristotle begins to distinguish the four causes of “generation and corruption and all physical change” –material, efficient, formal and final causes, where the last is the primordial (195a)– it is noteworthy that examples of human techniques proliferate in the Aristotelian text, especially medicine, sculpture and the construction of a house. Isn’t it at least a little curious, for example, that the four kinds of causes of “generation, corruption and movement” of natural beings can only be clearly distinguished in the construction of a statue? According to Heidegger, who called attention to this problem, the tradition of Western thought has considered “the thing” as the synthesis of matter and form –conformed matter– but these categories proceed from the mode of being of the artifact or the useful. Form is originally that which determines the choice of matter and the production of the artifact in view of a certain function or use that the artisan foresees. This utilitarian and anthropomorphic way of seeing things, Heidegger claims, regulates and limits our vision of *physis*, prevents us from seeing that the thing could be as mere thing, beyond the fabrication of man, and leads us to think of nature –even without being aware of it– as adapted to man: it suggests in a veiled way that it is under our control, management and mastery. However, the philosopher warns us, “there is much in things that man is incapable of mastering. Little is known. What is known is approximate, what is mastered uncertain. Being never is, as it may appear on first sight, our work and much less only our representation.” If form and finality are categories derived from human technical production and presuppose an hypothetical hidden artisan, we could say that it is the opacity implied for us by the "author" of the stone and its obscure "intention" –or rather, it is the nonexis-

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23 The fact that the Aristotelian categories applied to Nature are derived from them to think of human fabrications is evidenced by passages from *Physics* such as the following: “If artificial things are produced in view of some end, the things of nature are also ... for in artificial things as much as in natural things the consequents and the antecedents are in the same relation between themselves” (*ibid.*, II, 199a, p. 77).
tence of the artisan in a process that Aristotle appropriately defined rather as “self construction”\textsuperscript{26}—that gives it its characteristic strangeness and excess of meaning, makes it border with the \textit{arythmiston}—that nonsense that Aristotle attempted to repress—and opens it to an “infinite exploration”. We perceive the stone as stranger than the spoon, since no human fabricated it and it harbors therefore an obscure and perhaps unfathomable function. And it is necessary to remember that this consideration of the inherent mystery of nature is at least as old as the observation that the \textit{logos}, order or good sense is immanent to its movement. It was Heraclitus, observer of \textit{logos} that governs natural becoming, who also asserted that “\textit{physis} likes to remain hidden”\textsuperscript{27}. Merleau-Ponty will even say that nature, insofar as it shows itself only hiding itself, represents “the non-phenomenology”\textsuperscript{28}.

Merleau-Ponty suggests that the fact that this order inherent to nature in which man is immersed has not been posited by him, that it escape thought and be self-generating, connotes not just an essential mystery of nature, but places man and nature in a particular relation of ontological intertwining that differs from mere difference and opposition.\textsuperscript{29} In this sense, the philosopher refers in \textit{La nature} to the stoic ideas of sympathy, destiny, bond and action at a distance (as that observed in a spider’s web), all of them expressing the same feeling of belonging that epitomizes the stoic statement found in Diogenes Laertius: “our \textit{physis} is part of the uni-

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\item[26] “If the art of constructing ships were in the wood, it would act as nature” (Aristotle, \textit{Physique I-IV}, II, 199b, p. 79). In this sense, according to Pierre Hadot in his recent study of the history of the concept of nature, Aristotle “adds radical oppositions” to the simple analogy between human technics and \textit{physis} as a divine art defended by Plato (\textit{cf. Sophist}, 265css). This problematic of natural self-organization introduced by Aristotle “will dominate all the history of the notion of nature” (Hadot, P., \textit{La voile d’Isis. Essai sur l’histoire de l’idée de Nature}, Paris: Gallimard, 2004, pp. 39-42).
\item[27] Eggers Lan, C. and V. Juliá (eds.), \textit{o.c.}, p. 394, fragment 123. We are using the translation by Dr. Néstor L. Cordero (\textit{cf. supra}, note 12). P. Hadot considers alternative translations and interpretations of the enigmatic sentence (\textit{physik kryptesthai philei}), in: \textit{o.c.}, pp. 25ss.
\item[28] \textit{Cf. Merleau-Ponty, M., Signes}, Paris: Gallimard, 1960, pp. 225-227. On this point the merleaupontyan reflection approaches M. Heidegger’s: it is enough to recall the inspired heideggerian paragraph about the impenetrability of the weightyness and color of the stone, that ends in a very heraclitean way: “the earth only opens and illuminates as it is itself where it preserves itself as essentially insurmountable, receding at each discovery... The earth is what has as it essence to conceal itself from itself” (Heidegger, M., \textit{o.c.}, p. 68).
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verse”\textsuperscript{30}. This means for Merleau-Ponty not only that nature, far from being an object in front of us, is “our ground” and “that which sustains us”\textsuperscript{31}, but also that insofar as participants of its mystery, and insofar as natural beings, we are opaque to ourselves. The opacity that nature represents in my own existence is found modeled in my being mortal. My carnal existence connects me intimately with "an originary past" like that of my birth that prevents me from being transparent to myself and at the same time points me in the direction of an "inaccessible future" such as that of my death\textsuperscript{32}. We can thus repair, in the impossibility of remembering the strange philogenetic past of which our most intimate anatomical constitution is, however, the trace. Nature is a past we carry in our body like our own past upon which we rest, though it does not cease to be a strange past that resists our remembering since we have never lived it in the present: “an original past, a past that has never been present”\textsuperscript{33}. Insofar as our existence is corporeal and we are therefore in "ontological circuit"\textsuperscript{34} with the world, it presents itself to us not only as a "problem" to solve or explain and whose data I can display before me, but also as a "mystery" in which I am involved and that I cannot but experiment, according to Gabriel Marcel’s famous distinction, which Merleau Ponty seems to take up here\textsuperscript{35}. In this sense, Pierre Hadot has rightly recognized in Merleau-Ponty’s reflection a tendency to point to the limits of natural-scientific explanation and “to open the possibility … of a lived contact with the inexplicable appearance or sprouting \textit[jaillissement] of reality, that is, with \textit{physis} in the original sense of the word”\textsuperscript{36}.

\textsuperscript{30} Dioegenes Laertius, \textit{Vie, doctrines et sentences des philosophes illustres}, translated by R. Genaille, Paris: Librairie Garnier Frères, s/f, VII, 87. We are using the translation proposed by Dr. Néstor L. Cordero (cf. note 12).


\textsuperscript{32} \textit{FP}, p. 375. We develop some implications of this \textit{Ineinander} between the property and the strangeness of our experience in our paper “Incommensurabilidad, experiencia de lo extraño y comunidad carnal en Simone Weil y la fenomenología contemporánea”, in: \textit{Dianoia}, XLV (1999), pp. 187-216.

\textsuperscript{33} \textit{FP}, p. 257.

\textsuperscript{34} \textit{N}, p. 288.


\textsuperscript{36} Hadot, P., o.c., p. 313.
To do justice to this inherent opacity in natural being it becomes necessary, therefore, at least to weaken the strong Aristotelian teleology. Ending his course through the ancient and modern conceptions of nature, teleological as well as mechanistic, Merleau-Ponty will conclude that teleology—which is found in different forms in Aristotle and later, as we will see presently, in Kantianism—is a form of anthropomorphism in the same sense as mechanicism. From the verification of “Being is not before us but behind us” there follows rather for Merleau Ponty “a return to a pre-Socratic idea of nature: nature...is a child that plays; it gives meaning.... [but] that meaning is never total. For a thought of this kind, finalism and causalism are both rejected as artificialisms that, as such, ignore natural production”. The return to this pre-Socratic idea, then, would amount to doing justice to the dynamism of nature weakening its form or finality in terms of an “outlined or open sense”: it is true that nature seems to arrange or sketch a meaning, but to intend to unveil its ultimate meaning or to postulate a “final end” to its movement—as Aristotle’s first unmoved mover—means ignoring the fact that we are part of its movement and not its constituents. Aristotle is forced to postulate that the form in its ultimate sense, such as the physicist “must know it”, escapes the movement that defines the natural: the ultimate finality of movement ends up being the end of movement when the physicist’s knowledge—already transformed into “metaphysical” in the latter sense of the term—ends up subsuming natural movement in an all-encompassing last of the “first causes”. If instead we consider that we do not institute or fabricate the perpetual ”natural production”, not only do we give up deciphering its ultimate finality, but we also have to affirm that it does not have it, since if it did it would lose its essential dynamism. That is why Merleau-Ponty talks about the world as a “structure in perpetual re-structuring” or as possessing a “sense in perpetual signification” “never completed”.

“The natural world—says Merleau-Ponty in his Phenomenology of Perception—is the horizon of all horizons... that guarantees a unity to my experiences”, but it does not do so in the manner of a last or total meaning: “the same world is not a certain signification common to all our experiences”. Since because I am a body I am also a natural being, “my life es-

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37 “The mechanism affirms an artificial natural and finalism a natural artificial” (N, p. 119).
38 Ibid.
39 We refer to "the unmoved movers, as the absolutely unmoved mover and the first of all" (Aristotle, Physique I-IV, II, 198b, p. 75).
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It is circumscribed by impersonal zones”40. And this incompleteness in my experience of the world—which is incompleteness of the world itself—is not an obstacle to my experience’s being significant, but rather a condition of its being so, since there could not be a spatial environment nor a temporal context except for a body that inhabits them from a limited and circumscribed point of view. This is how the world is always given to us in a movement that simultaneously dissociates and composes the present with its unpresented horizons and for this reason consciousness cannot separate its clarity from error41. In sum, Merleau-Ponty summarizes, it is essential to the world to present itself as "open" and promise us "always 'something more to see'". This is sometimes expressed in saying that the thing and the world are mysterious....They are even an absolute mystery, that bears no explanation, [and] not because of a provisional defect of our knowledge... There is nothing to see beyond our horizons, but other landscapes and other horizons; nothing inside the thing, except other smaller things”42.

A step beyond Merleau-Ponty, we can ask ourselves if a “return to a pre-Socratic idea of nature” such as that proposed by the philosopher would mean we should definitely beware of falling into some kind of anthropomorphism. We ask ourselves, more generally, if “the long received tradition—which Merleau Ponty seems to echo—claims... the precedence of the philosophy of nature over that of man and culture”43. According to the traditional view that claims the precedence of the cosmic problem with respect to the human, Western philosophy would have appeared for the first time “with the pre-Socratic naturalists, in the form of a cosmology and... only later, with the sophists and Socrates, [it would have descended] from the heavens to earth, turning towards man and his moral, legal, political, artistic, etc., creations, etc., that is, to the world of culture”44. This traditional supposition (expressed in diverse ways by Zeller, Berthelot, and to certain extent Jaeger) is questioned by R. Mondolfo in his work En los orígenes de la filosofía de la cultura45. The philosopher points at least to

40 FP, pp. 342, 344.
41 Cf. FP, p. 345.
42 Ibid., p. 346.
45 Mondolfo’s developments bring together and elaborate in an original way the suggestions by Karl Joël (El origen de la filosofía de la naturaleza desde el espíritu de la mística), A. Rey (La jeunesse de la science grecque) and B. Farrington (Ciencia griega, El cerebro y la mano en la antigua ciencia griega), among other authors (Cf. Mondolfo, Rodolfo, o.c., pp. 15, 22).
three realms of human action that would have provided the basic categories on which the first philosophies of nature rested: **mythology** and anthropomorphic polytheism, **morality** and the legal and political functioning of ancient communities and, lastly, human **techniques**. Aristotle (Metaphysics, I, 982b) as much as Plato (Sophist, 242c), compared those who first philosophized with the narrators of myth and it is clear that these mythical representations –which, at least formally, inspired them– were characterized by an anthropomorphic polytheism. Cosmic beings and forces were frequently represented as gods with forms, characters and reciprocal relations analogous to those proper to men and human societies: the love that joins them, the hate that separates them, the alliances, struggles, generations, etc.\(^{46}\) One could think, however, that philosophy itself is born just when it separates itself from anthropomorphic and mythical representations and attempts to provide a synthetic or organic vision of the world, finding principles, regularities and laws. But when asking ourselves about the origin of this properly philosophical conception of an impersonal and immutable need that sums up the concept of "law", we are lead to considering the following source of the implicit "pre-Socratic anthropomorphism" pointed out by Mondolfo: morality and the legal-political life belonging to the ancient communities. Already in Homer and Hesiod “the subjecting of the human world to the law of justice (Dike, Némesis, Themis) begins to imply an indirect and partial subjection of the natural world to the same, prelude of a total projection of the law”. The idea of law appears thus initially “as a demand and realization of justice”, having to do, in sum, to an idea of "social and not natural origin".\(^{47}\) The first properly philosophical claim of the legality of nature should probably be attributed to Anaximander, whose “cosmic justice” reminds us that “the Greek idea of cause (aitía) has been in its origin, one and the same with the idea of blame” and, as Jaeger also asserts, “has been transferred from legal imputation to physical causality”.\(^{48}\) The same could be seen in Heraclitus, in whom the typically Greek concept of “as in the polis, so also in the universe there is a law..." prevails. His doctrine of the opposites gets is live power... from a direct intuition of the process of human life”.\(^{49}\) The projection of the human law on nature would have retroactively conferred greater value and power to the idea of law itself, so that once the idea of an ordered nature had been accepted, it would have served, thanks to a paradoxical inversion, as a model to justify the order  

\(^{46}\) Cf. Mondolfo, R., o.c., p. 18.  
\(^{47}\) Ibid., p. 21.  
\(^{48}\) Ibid., p. 32.  
\(^{49}\) Ibid., p. 34.
and law of the human microcosm as much in the political as in medical technics –later we will refer to the Hippocratic school in this sense. In this last case, the very concepts of the functioning of human society would not have been directly transferred to the human body, but would have been first projected to the natural macrocosm, to later fall upon the organism by means of a cosmic *melotesia*, that is, an assimilation or correspondence between the elements and parts of the cosmos to the elements, members and organs of the body\(^{50}\). According to Mondolfo’s last hypothesis, nature would have been nothing but a mirror that reflected humanity’s own image –that which men had previously projected on her– without our knowing it while we sought a foundation or explanation of humanity’s own order in it. Let us remember, lastly, that in order to guarantee the third source of anthropomorphism referred to by Mondolfo, that the technical inspiration of the pre-Socratic cosmologies is evident to the many historians that have observed that Greek philosophy was born precisely in a time (VI\(^{th}\) Century) and a place (Ionic colonies) of intense contact with technically advanced Eastern civilizations\(^{51}\). In Anaximander, for example, “Everyone seems to have been conceived in the image of the machine”, and particularly of the wheel\(^{52}\). The technics of the sling combined with the technics of lighting a fire by rubbing would have inspired the idea in Anaxagoras and the atomists, that the sun and the stars are stones lit up by the speed of circular motion. The very terms used in Anaximenes’ cosmology are terms proper to the filling of textile matter in the art of weaving that flourished in Miletus\(^{53}\). His conception of the heavenly vault as crystalline would be indebted to the technics of the manufacture of glass, that the Milesian had brought from Egypt. In Heraclitus the examples multiply: technics like sieving, weaving, fermentation or commercial exchange, and instruments like the bow and the zither are some of the uncontroversial models that inspire Heraclitean thought about *physis*, while painting, panification, the fabrication of glass and clepsydras inspire the ideas of Empedocles about the functioning of the world and the organism\(^{54}\). “The ancient natural philosopher –Mondolfo

\(^{50}\) *Melotesias* such as those found in Empedocles and before him in oriental, Egyptian and Babilonian, conceptions, the legacy of which was transmitted even to the Middle Ages and the Renaissance. In this respect, cf. for example, Wayman, A., “The Human Body as Microcosm in India, Greek Cosmology, and Sixteenth-Century Europe”, in: *History of Religions*, 22, 2 (1982), pp.172-190.

\(^{51}\) Cf. Mondolfo, R., o.c., p. 86.

\(^{52}\) Ibid., p. 89. Also the blacksmith’s bellows is Anaximander’s model to understand the fire of the stars.

\(^{53}\) Cf. *ibid.*, pp. 91, 92.

\(^{54}\) Cf. *ibid.*, pp. 93-98.
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sums up—attempts an interpretation of the changes that take place in nature, in the light of the changes that the man of that time was able to [technically] realize"55.

Apparently, Aristotle with his concepts of form and finality—extrapolated from the artifact—, as much as the first “philosophers of nature” and their mythic, legal and especially technical inspiration, painted without knowing it, a too human picture of nature. By means of an overview of the fate of ancient notions like cause or finality in modernity, Merleau-Ponty shows in his later courses that if the anthropomorphism of the ancients is perhaps unconscious, the anthropomorphism of the moderns is, on the other hand, explicit—since Descartes proposes to consider the physical world as a great machine, that is, by analogy to a human construction—and culminates, moreover, with the restoration of the teleology of enlightened Kantian humanism in a monumental anthropocentric affirmation. According to Merleau-Ponty, the general features that characterize the ancient conceptions of nature—dynamism, teleology, the Aristotelian qualitative definitions of "natural places", the human located as part of nature in the Stoic pronouncements—will be radically transformed at the beginning of modernity when the idea of nature as "a totally external being, made of external parts, external to man and to itself, as a pure object" takes shape56. The rupture that takes place in modernity would be indebted to that judaeo-christian tradition and its notions of creation and infinite, by means of which order and teleology, immanent in nature for the Greeks, shift towards a transcendent creator God. Thus nature can be seen for the first time as a homogeneous totality (devoid of qualitatively distinguishable places) and made of parts external to each other that maintain purely causal relations between themselves57. Merleau-Ponty recognizes in Descartes the way in which all the ancient marks are revised: nature “loses its interior” to take on “the external realization of a rationality that is in God” and “finality becomes a notion without use”, since it is possible to describe nature by means of purely mechanical and causal notions. More accurately, finality is no longer immanent to it but has been "sublimated" in divine transcendence: teleology is not simply abolished but rather "stoops" and concentrates in one point, not at the end of a natural movement as in Aristotle, but in the moment of creation. Now the form of nature is found contained in the creative intention of a divine artisan, but can be explained

55 The terms are Farrington’s (El carácter de la primitiva ciencia griega), quoted by Mondolfo en: o.c., p. 105.
56 N, p. 25.
57 In the restricted sense of "efficient cause".

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without appeal to him, since human thought possesses in itself the – basically mathematical– “manual of instructions” that governs a priori the functioning of all that exists.

The fact that nature is conceived explicitly as a mechanism in modernity, weakens the idea of the natural as not-constructed that Merleau-Ponty found in Antiquity, constituting a symptom of the exacerbation of artificialism and anthropomorphism. Human being, on the other hand, is no longer integrated and intertwined with nature as in the Stoic perspective but its essence is thought as a substance separate from the res extensa, the universal machine that includes its own body: “it is manifest hat I am in truth distinct from my body and that I can exist without it”, says Descartes in his Metaphysical Meditations. Modern anatomic-physiological research is coherent with this Cartesian dualism that places the body next to the res extensa and subjects it to a closed causality: the body is now properly a machine whose parts anatomy and whose functioning physiology will study. Plato (Timaeus) had already compared the movement of vertebrates with hinges and pivots, and Aristotle (De Motu Animalium) had outlined a clear parallel between the organs of movement and the parts of machines in his time, such as the arm of a catapult hurling a projectile. But just as it was evident in these machines that their functioning needs a source of energy (human strength in this case), so also for Aristotle the body needed to be linked to his psyché as a principle of movement. Descartes’ time knows other machines –clocks, watermills, Church organs and hydraulic automats– that only need the intervention of a force to build them and make them function, to later give the impression of functioning by themselves even if only for a limited time. The image of the machine that can function by itself was necessary –the automaton– to conceive the body as a closed causal totality. Baglivi’s Praxis Medica (1696) includes in the body-machine –apart from tweezers (teeth), hydraulic tubes (vascular system), cables and chords (muscular system)– at the very beginning of movement as one more part, a pump: the heart.

59 Cf. Canguilhem, Georges, “Máquina y organismo”, in: El conocimiento de la vida, Barcelona: Anagrama, 1976, pp. 117-149. Merleau-Ponty observes that this reduction of nature to machine is not performed without residue or contradictions in Descartes himself, and that is why the philosopher acknowledges “two Cartesian inspirations” that alternate. The double source can be seen in the detoured path of the Metaphysical, that changes sense after the third. Thus in the last meditation it is claimed, for instance, that “I am not only present in my body as the sailor in the ship, but I am connected so intimately with it, as if mixed in together in such a way that I form a totality with it” (Descartes, R., o.c., pp. 214, 215). There would be in
In the second part of the *Critique of Judgment*, Kant asks himself if in fact the organism and nature in general can be described by means of relations of causality and compared to mechanisms, as Descartes thought. Kant observes there that the organism manifests at the same time a "progressive causality" and a "regressive causality": the whole is a product of the parts, but the parts depend on the whole for their functioning and existence. This last causality (which operates from the whole to the parts) is only conceived in analogy with intelligent design: it is as if the heart, the lungs, etc. had been designed and placed there "on purpose" for the sake of the perfect performances of a particular type of mechanism that could not function without each of these organs in interrelation. According to Kant, we cannot *know* that it has been thus but, insofar as our scientific knowledge must be guided by our aspiration to reason, we must investigate an organism *as if* it had been constructed intelligently. This means to integrate again teleology with causal inquiry, as a regulative principle that guides empirical research: “the concept of the finality of nature ... counts as necessary for our human judgment as if it were an objective principle”\(^60\). Now then, if in the case of the organism it seems easy to think the parts in terms of the whole, since we have a specific idea of the whole (such and such organs suit that kind of organism), it is harder to do the same in the case of the non-encompassable totality of nature. Kant’s “solution” to this enigma – or his way of *escaping* from this strangeness – is the following: given our human aspiration to reason, we must think the totality of nature teleologically, and to that effect the only option is to consider one part of nature as exceeding nature, as extra-natural, *anti-physis* or final-end (*Endzweck*).

It is, of course, rational humanity that shows up in Kant’s argument to take over this vacant role. Kant is aware that it is more difficult to find sense (*telos* or function) in the organization of nature broadly considered than in a particular organism, and his defense against this displacement into senselessness is to place in human rationality the ultimate meaning of the whole natural display. Kantianism, as Merleau-Ponty sums it up, ultimately represents "a humanist thought. Man reintroduces the concept of finalized Nature, despite the Cartesian reduction. But it is about nothing more than human finality"\(^61\).

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\(^61\) *N*, p. 47.
The Intertwining of Nature and Artifice

What this merleapontian story of the notion of nature shows is always the reduction of the dynamism and mystery of nature to an artificial model –i.e., proper to the artifact– to man’s measure. The resulting diagnostic seems close to that Adorno and Horkheimer had anticipated in their *Dialectic of the Enlightenment*: modern thought has simply exacerbated the same movement of reduction and mastery of the strangeness and natural alterity that was implicit in the origins of reason. It is precisely against this subjection of nature to reason and humanity, and particularly against the rational subjugation of nature that pulsates behind the humanist project of the Enlightenment, that the romantic concept of nature arose, attending to the "resistance" of nature against the human. Nature is, for Schelling “a savage or destructive force” and, according to the same philosopher, the thinkers of the XVIII century, in their laudable effort towards *Aufklärung*, dissolved everything in thought and dissolved... this barbarous principle, fountain of all greatness and beauty. Merleau-Ponty harks back to this romantic intuition when he writes that “this erste Natur is the fundamental material of all life and of all that exists... a barbarous principle that we can overcome but without ever being able to dispense with it.”

According to the interpretation we have outlined, philosophical modernity in its "mechanistic" as much as "technological" approaches to nature would have only extended and made explicit the same anthropomorphism that secretly animated the Greek philosophers of nature. On this point, however, we will attempt to invert our argument to give room to the idea that the technical instrument –implicit and explicit model of ancient and modern nature, respectively– can be considered originally, in its turn, as a product of nature. The claim that human technics continues and imitates nature and that a utensil is an extension of the sensible and motional capacities of a natural organism –a sort of prothesis–, was presented contemporaneously in many ways and in the context of various disciplines. We find it expressed, for example, in the writings of S. Freud, G. Canguilhem, M. Merleau-Ponty, A. Leroi-Gourhan and M. McLuhan, even if it goes

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64 N, p. 62.

65 “To become habituated to a hat, a car or a walking stick is... to make them participate in the bulkyness of our body. Habit expresses the power we have to dilate our being-in the world ... Adding on new instruments” (*FP*, p. 161).
back at least to Aristotle and the Hippocratic theoreticians. Aristotle (Physics, II, 199a) claims that “generally, handicrafts either execute what nature cannot, or else imitate it”\(^{67}\). After more than twenty centuries of technical development Freud expresses a similar intuition when he asserts that “with tools man perfects his organs –locomotive as much as sensory... Thanks to the ship and the plane, neither water nor air manage to limit his movements. With lenses he corrects the defects of his crystalline lens and with the telescope he contemplates the farthest distances”. By means of the technical surpassing of his organic limits man has come to be, in Freud’s happy definition, “a god with protheses”\(^{68}\). This interpretation of technical experience as an extension of the natural functions of the body acquires a sort of empirical confirmation in contemporary paleonthological research\(^{69}\). The reconstruction of technical evolution since prehistory carried out by A. Leroi-Gourhan shows that technical development followed the course of a progressive externalization of the the motor and sensible faculties first immanent to the body. Technical evolution can be considered in this sense a prolongation of biological evolution: “all human evolution comes together in displacing outside of men, what in the animal world responds to a specific adaptation... The tool is seen to literally emerge from the primate’s tooth and nail, without anything marking the decisive break in the gesture”\(^{70}\). Evolutionary biology, in fact does no longer dispense with technics as a fact of biological interest, since the appearance of the tool effectively determined the evolution of the primate’s body by means of the atrophy of the organs that were technically "externalized". As D. Dennett brilliantly points out, since the clothing and the technical instruments are technical parts of its "amplified phenotype", “to represent the Homo sapiens naked in an illustrated encyclopaedia of zoology has the same sense as representing the Ursus arctus –the black bear– riding on a bicycle dressed as a clown”\(^{71}\).


\(^{67}\) Aristotle, *Physique I-IV*, p. 77.


\(^{69}\) I have referred critically to certain limitation of this prosthetic understanding of technics not considered here in: “The Tool as an Extension of the Body: The Technological Illusion”, in: *Outis. Publication of the Society for Phenomenology and Media*, II (2004), pp. 49-55.


Now, if tools and machines can be seen as extensions of the natural behaviors of living organisms, then to approach the research into bodies as machines means simply to research bodies as bodies, and there is no deficiency at all in the mechanistic consideration of the body and nature. Perhaps, as has been affirmed by Georges Canguilhem, we are dealing with “a tautology, because machines can be... taken as the organs of the human species. A tool, a machine is an organ and organs are tools or machines”. However, the French epistemologist reminds us that the appearance of a tautology masks what is in truth a series that had its first term in the body and, ultimately, in nature. The tool and the machine certainly extend or replicate an aspect or mode of behaviour of a body, but to explain the living body as a mechanism is to invert the terms and to impoverish our vision, because a body is surely something more than, and something distinct from, a mechanism. The functional polyvalence of the organs, the mysteries of embryology and the wonderful processes of cellular regeneration remind us that in contemporary biology, as Spinoza already claimed, “nobody has determined until now what the body can do”.

We have turned our initial argument around when we observed that even if it were true that nature has always been thought on the basis of what is constructed by man, it is no less true that human tools and artifacts can themselves be seen as extensions and imitations of the functioning of the natural beings that we are –of the behaviors, the sensory and motor capacities of our bodies. If that is so, then understanding nature on the basis of human creations is to understand nature on the basis of itself and our categories remain relatively justified in their application to nature because they proceed ultimately from her: the circle seems to close. We find this type of complex circular reasoning at work in the ancient Hippocratic treatise On the diet to justify knowledge of the body: “Men do not know how to observe the invisible on the basis of the visible. Because they use techniques similar to those of nature and ignore it. The providence of the gods has taught them to imitate their own functions ... ignoring what they imitate.” A translation picked up by Mondolfo underscores more explicitly

72 Canguilhem, Georges, o.c., p. 134.
73 Spinoza, B., Ética, translated by A. Rodríguez Bachiller, Buenos Aires: Aguilar, 1980, Part III, Prop. II, Escolio, p. 165. For Canguilhem (in o.c.) the need of an alternative investigation of the body beyond mechanicism is derived from this, and the complementary development of this new understanding of the being of the tool and of the machine: in his terms, it is necessary to develop an “organology” of technics.
74 Hippocrates, Sobre la dieta, translated by Carlos García Gual, in: Juramento Hipocrático. Tratados Médicos, Madrid: Gredos, 1995, p. 199. In fact, also Aristotle seems to have this circular reasoning in mind as a possible justification for his teleological
and clearly the sense that interests us: “the gods taught men to imitate the functions of their organisms in technics... [and for that reason] their technics look like human physiological processes; but men do not know it”\(^75\).

The Hippocratic author not only affirms that in his treatise he applies analogies between the human technics and the "functioning" of the body and nature –something that, as we have seen, the ancient philosophers of nature never failed to do tacitly; but if he does it, it is justifiedly, since these technics are nothing more that imitations of nature even if men don’t know it. Human technics are “copies of life and nature”\(^76\) and for that reason we can know, on the basis of their being familiar to us and visible, how what is most difficult to observe functions: “the invisible”, life and nature. If, for example, the potter’s wheel serves to explain how the universe’s rotation produces a great diversity of beings with the same materials, it is only because in the first place –the hippocratic thinker asserts– the wheel “imitates the universe”\(^77\). Now, since we first know the movement of the wheel and know what it is that it imitates, we can extend our knowledge of it to the world without the epistemological priority of our technical knowledge taking away the ontological priority of nature.

It is perhaps in this sense that Merleau-Ponty affirmed that the ancients possessed the key to this "primordial" notion of nature that their philosophy sought: because even if his natural explanations were anthropomorphic –and it is not possible to completely disengage from anthropomorphism– they were not anthropomorphic for that reason. ¿How are \textit{physis} and \textit{nomos}, \textit{physis} and \textit{techné}, nature and what is established and constructed by man connected? There seems to be no better exegete of the answer that is proposed by Merleau-Ponty’s philosophy than the Hippocratic thinker. The two terms differ from each other as the visible –insofar as known because fabricated by man– is distinguished from the invisible –the mystery of nature, what is not fabricated or instituted by man. But insofar as the fabricated imitates nature without knowing it and develops from the ground of nature, the two terms are not opposed but are intertwined, and it is for that reason that the Hippocratic author affirms that “everything [nature and technics] is similar while different, convergent while divergent, dialogical while not entering into dialogue, possessed of reason while being irrational. Opposed in the mode of being of things here and there, agreeing

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\(^{75}\) Mondolfo, R., \textit{o.c.}, p. 103.
\(^{76}\) Hippocrates, \textit{o.c.}, p. 200.
\(^{77}\) \textit{Ibid.}, pp. 203, 204.
with each other (concertándose). Because convention and nature ... do not agree while agreeing."\textsuperscript{78}. The paradoxical adjective of "possessed of reason while irrational" turns out to be a good paraphrasing of that other sentence by Merleau-Ponty with which we started this paper: \textit{est nature ce qui a un sens, sans que ce sens ait été posé par la pensée.} Nature, even appearing to be “irrational” in contrast with human understanding, possesses a \textit{logos} of its own that shows itself to us and escapes us in a similar way in which – according to the hippocratic author– “the stomach lacks understanding, but with it we understand that we are thirsty or hungry”\textsuperscript{79}. There is a sort of "operating intelligence" in nature that has not been put there by man, insofar as it evidently differs from the clear and distinct rationality of our thinking, but that predates us and in which our own intelligence rests.

Previously we reconstructed R. Mondolfo’s thesis appealing to a specular metaphor: ancient nature revealed itself in its analysis as an unconscious human mirror. But it is in the first place humanity that mirrors nature –insofar as its technical behaviors don’t but imitate and extend it–, the situation of man with respect to nature is better expressed, as Merleau-Ponty does in \textit{The visible and the invisible}, in terms of “two mirrors that find themselves one in front of the other”, from which “two indefinite series of images embedded within each other that do not really belong to either of the two surfaces, since each is just a replica of the other, so that they constitute a pair, a pair that is more real than each one of them”\textsuperscript{80}. It is not possible, in sum, to prevent definitively against any type of anthropomorphism in thinking about nature –of finding order, structure, finality, cause, function, reason and sense– and it is not even necessary, since if we project human and technical categories on nature, it is also because man and his techniques are ultimately products of nature, which validates in some measure our "projection". But, on the other hand, if this relative justification is based on the fact that we are part of nature, that is, product of a process that transcends us, then we must continue heeding the warning made by ancient romantics, to include in our characterization of nature its opacity, its resistance, its excess with respect to the human, its "ground" and "globalizing"character. It is not just about defining nature as a teleo-

\textsuperscript{78} Ibid.
\textsuperscript{79} Ibid., p. 201.
logical process, the end of which we simply do not know but can think, but of recognizing in nature –to do justice to the reality of its excess– a process that outlines an always unfinished meaning of which our human consciousness participates. In this particular sense, Merleau-Ponty pointed out the need to “return to a presocratic idea of Nature: Nature, Heraclitus used to say, is a child that plays; she gives sense, but in the way the child plays, and that sense is never total”\textsuperscript{81}. This return leads us, in sum, to the full assumption that our knowledge, to the extent that it is no more than the continuation of the unfinished \textit{logos} of nature, will be always and only in progress.

(Translated from Spanish by Victor J. Krebs)