Heidegger and Aristotle on *techne* and *phusis*

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1. Introduction

The great amount of investigations of Martin Heidegger's philosophy of technology deals with his late considerations in "The Question Concerning Technology", first presented in 1953. As is generally known Heidegger depends here on an exegesis of a few passages of Aristotle. In this paper, however, I shall not exactly examine this essay but I shall focus on the early treatise *Vom Wesen und Begriff der Φύσις: Aristoteles' Physik B1* (1939) and discuss the complex relation between *techne* and *phusis* which builds the real starting point for Heidegger's mature theory of technology as *Gestell*. In this sense I'll try to avoid the widely accepted differentiation between Heidegger I and Heidegger II, Heidegger before the *Kehre* and Heidegger after the *Kehre*. On the contrary, my primary objective is to demonstrate that we can't evaluate Heidegger's hermeneutics of Greeks, and especially of Aristotle, in it's full measure if we don't take into account the political context of his lectures and speeches of his rector's period. Heidegger was convinced of the superiority of Greece over modernity, and so Plato and Aristotle were real mentors who could help to master the challenges of the modernity and carry out the project of reevaluation of values under the badge of conservative revolution.

My hypothesis is that Heidegger in his interpretations of Aristotle from 1930th seeks to restore the original Greek sense of *techne* as closely related to *phusis* which is conceived as *revealing and disclosing of beings*. In opposing it to the modern sense of technology as "machination" (*Machenschaft*), i.e. *making, representing and managing beings*, Heidegger elaborated a reactionary-modernist vision of "genuine technology" (*echte Technik*) which was supposed to serve the German *Volk* and to secure his future. And Aristotle was the philosopher who could provide the German thinker with the instruments suitable for responding to the challenges of modern planetary technology.

I also try to show that the discussion of the relationship between *phusis* and *techne* in Aristotle's *Physica B1* was the conceptual model for Heidegger's later *double vision of technology* as an "extreme danger" of the oblivion of Being, on the one hand, and the "saving power" which allows us to return to a more authentic way of being, on the other.

The structure of my report is as follows.

First of all I shall briefly point out the main stages of Heidegger's early engagement of Aristotle against the background of fundamental ontology of *Sein und Zeit* (1927). Next, I shall discuss the question of the relationship between *phusis* and *techne* in Aristotle's philosophy. Finally, I shall give attention to the matter of "genuine technology".

2. The phenomenological interpretation of Aristotle's writings

Many Heidegger commentators consider Aristotle's work to be one of the most influential factors in the development of Heidegger's own philosophical approach. Heidegger himself attested to this in his essay "My Way to Phenomenology":

Indes konnte ich mich von Aristoteles und den anderen griechischen Denkern um so weniger trennen, je deutlicher mir die wachsende Vertrautheit mit dem phänomenologischen Sehen die Auslegung der Aristotelischen Schriften befruchtete. Zwar konnte ich noch nicht sogleich über sehen, welche entscheidenden Folgen die erneute Zuwendung zu Aristoteles bringen sollte ("Mein Weg in die Phänomenologie". GA 14. S. 97-98).

Heidegger's major work, *Sein und Zeit,* was published in 1927. Prior to this, he taught in Freiburg and Marburg, and many of his courses were devoted to Aristotle. In 1922, he gave a course entitled *Phänomenologische Interpretationen zu Aristoteles: Ontologie und Logik* (GA 62)*.* In 1924, he taught a course called *Grundbegriffe der aristotelischen Philosophie*, (GA 18). This course, which focuses mainly on Aristotle's *Nichomachean Ethics* and *Rhetoric,* was followed by a course now published as *Platon: Sophistes* that contains a lengthy analysis of Aristotle's *Nichomachean Ethics* VI. Over the same period, he offered other seminars on Aristotle's *Ethics, De Anima,* and *Metaphysics*. This confrontation with

Aristotle continued into the 20th and 30th with courses on Aristotle's *Rhetoric, Metaphysics,* and *Physics,* as well as extended analyses of Aristotle's treatment of logic and truth.

Heidegger's interpretation of Aristotle's treatises (first of all, *Nicomachean Ethics* and *Metaphysics*) in the 1920th shows the fundamental importance of Aristotle for the project of "phenomenological destruction" as the "critical dismantling" of leading concepts for the sake of identifying positive opportunities of the Western metaphysical tradition. Aristotle's importance for the history of ontology is that he formed the notion of Being (*ousia*) basing on the everyday experience and interpreting it in terms of presence-at-hand (*zuhanden*). Heidegger claims further (cf. *Phänomenologische Interpretationen zu Aristoteles*, GA 62, 398) that the original definitions of Greek ontology were derived from the categories of production, bringing forth (*techne* is a disposition of *poiesis* which is translated by Heidegger as *Her-stellen*, *Her-vor-bringen*).

Heidegger returns to Aristotle in the 1930's in his course on Aristotle's *Metaphysics* Θ1–3 in 1931, and, especially, in the 1939 essay,*Vom Wesen und Begriff der Φύσις: Aristoteles' Physik B1*. Although this essay is clearly indebted to his work on Aristotle in the 1920s, it is nevertheless not coincidental that Heidegger wrote this essay on Aristotle's understanding of nature during this period, which is so much influenced by Hölderlin, for whom nature is in many ways the source of the poetic overturning of metaphysics.

In this essay Heidegger follows the Aristotelian discussion of *phusis* discovering in Aristotle's ontology the primordially Greek, phenomenological sense of Being: Aristotle gives in *Physica* B 1 "the interpretation of *phusis* that sustains and guides all succeeding interpretations of the essence of 'nature'" (*Vom Wesen und Begriff der Φύσις: Aristoteles' Physik B1*, GA 9, 312). Aristotle used the word in the original Greek sense of *phusis* as a title for being in general. In this insight, Heidegger restores the primacy of *phusis* in its relationship towards *techne*.

3. The question of the relationship between *phusis* and *techne* in Aristotle's philosophy

Heidegger alludes in the beginning of this essay to our own age and to his interpretation of technology and the global planning of modern times and says that today the world is shifting out of joint. He writes parenthetically:

(Denn der Erdkreis geht aus den Fugen, gesetzt daß er je in solchen war; und die Frage erhebt sich, ob die Planung des neu-zeitlichen Menschen — und sei sie planetarisch — je ein Welt-gefüge zu schaffen vermag (*Wesen und Begriff der „Physis"*, Wegmarken, 312; GA 9, 242)

The nexus of the relationality of human being and nature is replaced by a notion of world order. In technology, the human being's orientation toward beings brings to fulfillment the withdrawal of Being. For Heidegger, the issue of world depends on the metaphysical disposition of the New European era which is based on a specific understanding of nature. Heidegger attributes the birth of technology to a reductive transformation of the Aristotelian sense of nature, causality, and motion. Heidegger's claim that the world is out of joint implies that the interconnectedness between these key terms of the European metaphysics is blocked and endangered in our time and replaced by planning.

One of Heidegger's strategies for withstanding this danger is to raise anew the question of the relationship between *phusis* and *techne* in Aristotle's philosophy.

In saying that production governs the Aristotelian conception of Being, Heidegger is not arguing that Aristotle understood all beings including human being on the basis of a model drawn from *techne*. Beings from *techne*, produced beings in the sense that their coming to be is handled and managed by a craftsperson, natural beings, and human beings all are produced differently, but all are interpreted (through *techne* or *episteme* or *phronesis*) as ways of being produced or brought forth. In fact, when it comes to making explicit the ontological structure of beings, Aristotle's field of research is not beings from *techne* at all but beings from *phusis*. The primary text for an ontological investigation of produced beings is the *Physics*. Aristotle's *Physics* is primarily an investigation of moved-beings and of being-moved as the way of being of these natural beings. Inasmuch as beings are understood in terms of their being-produced, movement must be what constitutes their Being. Finally, the *Nichomachean Ethics* is about the "movement" or way in which one becomes human.

Aristotle distinguishes two regions of beings: natural (*phusei onta*) and artificial (*techne onta*). Natural beings and produced beings have two different ways of Being which differ from each other in their relation to movement (*kinesis*). Natural beings have the

movement in and of themselves. Produced beings emerge from something outside of themselves; their cause is that which initiates *poiesis*, i.e. *techne* (Aristotle's third cause).

In the emergence of both kinds of beings, humans play a role, but the role is different. Heidegger traces the origins of the word *techne* showing that to the Greeks *techne* means neither art nor handicraft, but rather a letting something appear among the things present as this or that, in this way or that way. *Techne* belongs to *poiesis* in the sense of bringing-forth. So *techne* is a way of revealing.

In *Der Ursprung des Kunstwerkes* (1936) Heidegger argues that *techne* originally meant the same as *episteme* (*Weise des Wissens*); it was a mode of knowing and *aletheia* – a revealing and disclosing of beings. *Techne* does not primarily mean the act of making. It is not the actions of the artist that are at issue but the way of disclosing and relating to beings that is the basis for these actions. He translates therefore *techne* as *Sichauskennen*, "knowing one's way around", being familiar with one's environment. (*Vom Wesen und Begriff der Φύσις,* 251). It is the kind of knowing that one carries along in one's everyday dealings and which makes it possible for one to situate oneself in the midst of things. It is this knowledge that governs all bringing forth. In pointing to the distinction between *techne* and *episteme*, Heidegger refers to the *Nicomachean Ethics* VI.3-4. (In fact, Aristotle distinguishes among five modes of *aletheuein*, of revealing, in Heidegger's terminology: *techne*, *episteme*, *phronesis*, *sophia*, and *nous*.) Aristotle says in the *Nichomachean Ethics*: All *techne* is concerned with the realm of coming to be, that is, with planning and deliberating on how something which is capable both of being and not being may come into being, a thing whose *arche* is in the producer and not in the thing produced: "for *techne* is concerned neither with things that are, or come into being, by necessity, nor with things that do so in accordance with nature since these have their origins in themselves" (*Nicomachean Ethics,* 1140a10–14). Heidegger emphasizes the inclusiveness of the Greek concept of *techne* as being closely bound up with *episteme* as a way of revealing truth in the sense of bringing-forth, in the sense of unconcealment.

Heidegger uncovers in the Greek word for truth something which he insists was lost in the translation of *aletheia* into *veritas* which we in turn translate as "truth," understanding the term as meaning something like "the correctness of an idea" – truth as correct

correspondence, a notion which admittedly finds its roots in Aristotle but also, Heidegger suggests elsewhere, a little more obscurely in Plato. The alpha privative, Heidegger argues, functions as the privative influence on what is concealed, the word *a-letheia* involves the *un – concealing* of something and this, Heidegger believes, is what the Greeks heard in their word for 'truth'. Technology then is not simply a means to an end, it is a *way of revealing* the world we live in and this is the rationale behind Heidegger's claim that the essence of technology is the realm of *truth*.

It is worth noting that Heidegger's understanding of *techne* is due to a specific interference of two senses of *techne* which can be found in Aristotle's treatises. The first one is the (metaphysical) use of the term in *Physics* where it means *aitia,* the third cause which initiates producing. In another (cognitive) sense this term is used in *Posterior Analytics* and *Nicomachean Ethics* (*techne* is a "true course of reasoning"). In *Posterior Analytics* (II.19) Aristotle discusses the origin of how we come to know *archai* at the close of the. There he claims that "from perception comes memory" and "memories that are many in number form a single experience [*empeiria*]. And from experience…there comes a principle of skill (*techne*) and understanding (*episteme*) – of skill if it deals with how things come about (*genesis*), of understanding if it deals with what is the case." (*Posterior Analytics* 100a4-9) So both *techne* and *episteme* come to be known in the same way: *empeiria*, experience.

Returning to the *Nicomachean Ethics*, of *techne*, Aristotle says that "art [*techne*] is identical with a state of capacity to make [*poiesis*], involving a true course of reasoning." (*Nicomachean Ethics* 1140a9-10) In addition, *techne* concerns things that can be or not be (*Ibid.* 1140a12-13) (which is why they can be brought forth). As we just saw in the *Analytics*, *technai* are learned empirically, by repeated perception, just like the truths of *episteme*; however the *Analytics* concerns *techne* with *genesis* (coming into being), where the *Ethics* concerns it with *poiesis* (bringing into being). So we can draw the following conclusion: *episteme* is knowledge of what is the case that cannot be otherwise, but *techne* is knowledge of how things come to be the case (what is responsible for a thing), concerning things that can be otherwise.

It is clear now that Heidegger claims to consider Aristotle's metaphysical analysis of *techne* in *Physica B1* through the glasses of the cognitive and practical interpretation of the term.

Techne involves having the requisite rational conception of what needs to be made and the understanding of how to make it which precedes the actual *production* of it; it reveals originally how the bringing-forth should *proceed*. Furthermore, any such technical *savoir-faire* is such that it is identical "with a state of capacity to make, involving a true course of reasoning." *Techne* then is concerned with things that can come into being and with how they can be *made* to do so.

In the Metaphysics, Aristotle says that the architect is not wiser because he can do things but because he holds himself in relation to logos (dwells in logos) and knows the causes (981 b6–7). Just as there is an essential sameness of meaning in *episteme* and *techne* (both are guided by nous, see the whole, and are ways of *aletheia* governed by logos), so also the contrast between *phusis* and *techne* is made within an essential sameness in that both are ways of revealing, ways in which beings show themselves as they are; both have to do with beings whose way of being is *kinesis*.

Let us summarize by the following intermediate conclusion.

Heidegger emphasizes a specific character of the Greek concept of *techne* as closely related to *episteme* as a way of revealing truth. As the way of revealing *techne* supposes the understanding of *phusis* as disclosing of beings. If man wants to determine what can be brought forth, he must rely on the experience of beings in his life-world. In other words, technology can be concerned as "know how" to let beings appear in one's familiar world.

Both *phusis* and *techne* are ways of revealing. Aristotle makes explicit the ontological structure of beings by the example of beings from *phusis*. The essence of *phusis* consists in the power (*dunamis*) to produce beings and to make them manifest. Aristotle demonstrates further that the capacity of the craftsperson to produce beings is founded on a prior and presupposed awareness of *phusis* as the Being of beings. "*Techne* can only cooperate with *phusis*" (*Vom Wesen und Begriff der Φύσις,* 327) – this is Heidegger's conclusion which will lead us to the concept of "genuine technology".

4. What is the "genuin technology" in its relationship to *phusis*?

Returning to the question of political connotations of Heidegger's hermeneutics of Aristotle, it would be quite remarkable to find a Greek thinker speaking directly to the problems we face with respect to modernity and technical revolution. That does not mean, however, that we cannot learn something interesting concerning the original and perhaps definitive notions of *phusis* and *techne* from which are crucial for the European metaphysics and, as consequence, for the history of Being.

Aristotle has prepared us to look toward this horizon for our understanding of beings by showing the difference between *techne* and *phusis*. Our consideration has demonstrated that *techne* presupposes an awareness of the Being of beings. It presupposes an understanding of phusis. This awareness can be taken for granted in *techne* and even not explicitly recognized since *techne* is not concerned with the Being of beings but with the way such beings can be used.

But how can we understand Heidegger's remarkable claim at the beginning of the essay that the world is out of joint? It means that New-European mankind has forgotten about the true sense of *nature* and *technology* which is nowadays is replaced by planning. The whole world is endangered by the technology which treats nature from the model of producing and controlling and thus manipulates and destroys nature.

It remains for us now to try and understand more precisely what Heidegger considers to be historical task of German *Volk* concerning nature and technology. Exactly this question was at issue in Heidegger's speeches and writings during the rector period.

There is a danger that we content with the explanation of Heidegger's criticism of modern technology which is often supposed to be something like a "demonization of technology". But we see in his works of the 1930th a quite different estimation of technology which is for Heidegger rather "the world-shaping power of the human-historical *Dasein*" („Die Selbstbehauptung der deutschen Universität", GA 16, S. 111) and can be conceived equally with "nature", "history", "art" and "state". The unconcealment of this power or principle (Heidegger means undoubtedly the German translation for Aristotle's *arche*) is the essence of truth. Heidegger does even speak about the "genuine technology" (*echte Technik*)

and its "forming power" which has to be bent (*dienstbar gemacht*) to the free deployment of nature. The Dasein's fundamental mode of being-in-the-world, understood in its historical dimension and applied to the German *Volk* in its history, is for Heidegger the *Care* (German: *Sorge*) or work (German *Arbeit*) which shall "place the people in a force field of the essential powers of Being (Seinsmächte)" and make it open to the Being. („Der deutsche Student als Arbeiter", GA 16, S. 206).

On the 25th of November 1933 the passionate and ambitious rector of the University of Freiburg holds a speech in Südwestdeutschen Rundfunk concerning the immatriculation of students. This speech is known as "Der deutsche Student als Arbeiter". I quote from this text:

> So wird z.B. die Natur offenbar als Raum eines Volkes, als Landschaft und Heimat, als Grund und Boden. Die Natur wird frei als Macht und Gesetz, jener verborgenen Überlieferung der *Vererbung* wesentlicher Anlagen und Triebrichtungen. Die Natur wird maßsetzende Regel als Gesundheit. Je befreiter die Natur waltet, um so großartiger und gebändigter ist die gestaltende Macht der echten *Technik* ihr dienstbar zu machen. In die Natur gebunden, von ihr getragen und überwölbt, durch sie befeuert und begrenzt, verwirklicht sich die *Geschichte* des Volkes ("Der deutsche Student als Arbeiter", GA 16, 200–201).

I dare to make a conjecture that this passage contains the strong but esoteric reference to Aristotle which could be quite transparent for Heidegger's students. Heidegger translates here *phusis* as "living space", landscape and motherland, as soil and ground. At the same time, the "genuine technology" supposes a deep relation to *phusis* which is seen not as the mere object of manipulation but as the measure of health. We shouldn't make hasty conclusion that the words about heredity (*Vererbung*), instincts (*Triebrichtungen*) and health (*Gesundheit*) shine to be a *sacrifizio dell'intelletto* of the national-socialist rector, his intellectual concession to the "new German reality". On the contrary, I would propose to take this heraclitizing text in his philosophical significance and address again to the Aristotle, the son of physician, which is at stake in this passage.

I quote:

> „Überdies aber ist die φύσις, die angesprochen wird als Ent-stellung in den Ent-stand, (nichts geringeres als) Gang zur φύσις. (Und dies) keineswegs nämlich wie die Verarztung angesprochen wird als Gang nicht etwa zur ärztlichen Kunst, sondern zur Gesundheit; denn notwendig geht zwar die Verarztung aus von der ärztlichen Kunst, aber sie hat nicht die Richtung auf diese (als ihr Ende); aber auch so nicht (wie

Verarztung zur Gesundheit) verhält sich die φύσις zur φύσις, sondern das, was von der φύσις her und in ihrer Weise ein Seiendes ist, das geht von etwas weg zu etwas hin, sofern es von der φύσις (in der Bewegtheit dieses Ganges) bestimmt ist. ‚Zu was' nun aber geht es φύσις-mässig auf? Nicht zu dem ‚woraus' (es sich jeweilig ent-nimmt), sondern zu dem, als welches es jeweilig entsteht" (*Physica*, 193 b 12–18).

This is Heidegger's interpreting translation from *Physica* B1, 193 b 12–18).

The human being's way of bringing forth beings is not natural; it is based on a learned familiarity with what is and can be; it is learned. The human being can employ this knowledge by allowing beings that have this power in themselves to emerge out of themselves, but he can never induce this power.

"Die *techne* kann der *physis* nur entgegenkommen, kann die Gesundheit mehr oder weniger fördern; sie kann jedoch als *techne* niemals die *physis* ersetzen und selbst an ihre Stelle zur *arche* der Gesundheit a.s. werden" (*Vom Wesen und Begriff der „Physis"*, GA 9, 255).

"*Techne* can only cooperate with *phusis;* it can to a certain extent promote healthiness. But it can never replace *phusis* and become itself the *arche* of health". Nevertheless, *techne* is a mode of revealing, of bringing beings (of allowing beings to come) into unconcealment. It is the *arche,* the power, Macht, as Heidegger translates, of the emerging and that which governs the coming into presence of produced beings. Even here though, *techne's* power is limited.

Thus Aristotle prepares us to look toward *phusis*, the Being of beings – this horizon for our understanding of beings – by showing the difference between *techne* and *phusis*.

I come to the conclusion.

Like many other conservative-revolutionary thinkers of his time Heidegger gave attention to the highly important question of the productive role of the German *Volk* in the technical revolution. He shared neither the technocratic and optimistic view of Ernst Jünger's *Totale Mobilmachung* which could only force the rationalization and speed up the process of the "widening desert" nor the pessimistic view of the traditional *Technikkritik*

which sought to restore the traditional order of values and saw in technology nothing but a demonic power.

Heidegger was aware of the *clear alternative* between the "genuine technology" cooperating with nature and relevant to the *Dasein* of a people and the "machination" which turns into the thoughtless production of things, exploitation of natural resources, the total rationalization, and so threatens the whole world. However, the complex relationship between „genuine technology" and "machination" involves both continuity and discontinuity. On the one hand, both are modes of revealing, but on the other, modern technology does not look to avail of what nature already proffers or provides for us. Modern technology, which is the "machination" in its essence, looks to manipulate nature, to impose upon it, to undermine its ontological and structural integrity in multitudinous ways.

Now we can see what was the conceptual model for Heidegger's later *double vision of technology* as an "extreme danger" of the oblivion of Being, and the "saving power" which allows us to return to a more authentic way of being.

Heidegger doesn't question how the European mankind could refuse of the modern technology and return to the handwork technology, to *poiesis* as bringing-forth. He doesn't call as to become all poets. What is at stake is the change of aspect in which we understand the technology as such in its relationship to our living world. So we come to realize that technology can't be reduced to the mere equipment or machine technology because it has essentially to do with the certain *episteme* as the way of *aletheia*. I can make further the suggestion that this intuition of interconnectedness of *phusis* and *techne* paves us the way to the idea of technology as ecological sustainability in the endangered world and let us become thoughtful about the environmental ethics anticipated by Heidegger.

The essence of technology, Heidegger claims, is something nontechnological. Technology can't be exhausted by a combination of the anthropological and instrumental definitions of the concept. Technology is for Heidegger rather "the world-shaping power of the human-historical *Dasein*". In his double vision of the essence of technology as the way of revealing Heidegger confronts 1) to the overpowering of modern technology as setting up or "enframing" of nature in terms of human interests to the extent that nature is revealed as standing-reserve for human needs. At the same time he demonstrates 2) the forgotten capacity of technology to bring forth knowingly being open to what nature offers to us. The

"genuine technology" as opposed to "enframing" of nature is conceived by Heidegger in conformity with Aristotle as creative power guided by the *phusis* that governs all bringing forth.

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