"TECHNOLOGY" AS THE CRITICAL SOCIAL THEORY OF HUMAN TECHNICITY*

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Abstract: The aim of this article is to argue for an interdisciplinary social theoretical approach to the technicity of human agency. This approach covers the spectrum of individual and social action from a perspective that logically precedes techno-optimism and techno-pessimism, and is intended to be both descriptively and normatively plausible. The study is anchored in a critical reading of Aristotle's thought on *techné* and *phronésis*, as his work is the precursor of action theory and phenomenological hermeneutics, the central methodological orientations of this study. The importance of the "disposition formed under the guidance of reason" as the unifying trait of agency is affirmed with, and against, Aristotle. The article advocates reactivating and developing this trait of agency for a descriptive and critical discourse on the technicity of action, providing an outline of how to accomplish this task. The technicity of the individual agent is examined, reflecting on rule-following, the relation between technicity and creativity, and the interpretative moment of technicity. Next, the interwovenness of the skilful body with biological, social and symbolic aspects of human existence and with systems of technical artefacts is clarified. Finally, a case is made for the critical potential of this "technology," reverting to Aristotelian means of normative thought.

I. "TECHNOLOGY" AS A DISCOURSE ON THE TECHNICITY OF HUMAN AGENCY

One of the most difficult aspects of philosophising about technics or technology is gaining a proper understanding of the technicity of human beings involved in technics or technology. This enterprise is made all the more difficult by the paradox that the technicity of the human agent goes far beyond the domain of his/her capacity as *homo faber* (the capacity of a human being in strictly technical processes), while the far-reaching technicity of the human agent by no means exhausts the nature of the human being.

As one considers widely held views and scientific literature on human beings and technology,[1] one becomes aware of several recurring obstacles that need to be overcome

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to develop a useful and acceptable account of the *human being as technical agent*. In particular, three obstacles, which are often interrelated, need to be addressed:

> *Ideologically biased approaches*—There is a tendency to argue from a preconceived pessimism or optimism regarding technical processes in general, even among philosophers and other theoreticians of technics. This compromises an accurate and comprehensive account of technical agency, because it results in certain aspects of the existence of the agent, or certain qualities of the life of the technical agent, being privileged or emphasised at the expense of others, distorting the description of technical agency.
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> *Fallacy of the instrumental degradation of the agent*—Thought on human agents as technical agents is often dominated by the fear that considering human technicity may lead to an instrumentalising degradation of human existence, in other words, that it might ultimately reduce people to mere "cogs in a machine." This concern may be justified in some practical contexts, but it would be fallacious to reduce the nature of human technicity to its more pathological manifestations. Moreover, this fallacy typically leads to a neglect of the technical aspects of human agency.
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> *Exaggeration of the distinction between anthropological aspects*—This third obstacle is closely related to the second. It refers to a recurrent insistence on a strong distinction, if not an opposition, between the human agent as a technical agent on the one hand, and as an agent of ethics, aesthetic production or politics on the other. This strong distinction is charged with preserving the dignity of other aspects of human existence that are considered more humane or essential to being human than technicity. Thus, technical agency is implicitly or explicitly denigrated from the outset, or relegated to a specific role that is to be adopted, ignored or rejected at will by the true human agent.

In this programmatic article, I propose a combined hermeneutic and action theoretical approach to the human being as a technical agent in response to these three theoretical difficulties in order to lay the groundwork for an *integrated theory of the technicity of human agency and action*. I use the term "integrated" in a dual sense: first, this study aims to respect and explore the mutual integration of technical and non-technical aspects of human agency; second, my ambition is to demonstrate how such a theory of human technicity can integrate descriptive and normative concerns. Perhaps the biggest challenge in this project is that it requires continuous openness to issues that span several disciplines. Among these, philosophy of technology, social theory and action theory (philosophical, sociological and anthropological) feature strongly in this article. I draw on a number of methodological allies: the history of philosophy, phenomenology and hermeneutics. The reward, if the risky business of undertaking such an encompassing project is successful, is a transversal view on the entire range of the technicity of human agency, and the above disciplines will in turn benefit from the results.[2]

I identify four essential, interrelated aspects of human existence in order to point out the specificity of the technical aspect of human existence, without losing

sight of the ways in which this aspect is integrated into the larger range of anthropological traits. These four aspects—identified for *heuristic* purposes—are the biological, the social, the symbolic and the technical. These aspects are subject to different degrees of change and variation, and, taken together, are constitutive of the overall historical condition of being human. This historical condition calls for continuous interpretation. If one accepts the trajectory of modern Western hermeneutics—from Schleiermacher's hermeneutics as the interpretation of all texts, to Dilthey's hermeneutics as the methodology of understanding in all the human sciences, and then to Heidegger's widening of hermeneutics to the very fibre of the existence of human beings,[3] in other words, to considering interpretation as the mode of existence of human beings—then it could be claimed that the *different aspects of human existence are each a matter of understanding or interpretation, albeit in different ways*. Whereas the hermeneutic constitution of the symbolic and social aspects of human existence has been subjected to extensive philosophical and social scientific enquiry (for instance by philosophers such as Gadamer and Ricœur, and social scientists such as Garfinkel, Goffman, and Bourdieu), less work has been done on the hermeneutic constitution of the technical aspect of human existence.[4] This neglect is to the detriment of our understanding both of socio-technical systems and of the human being. Proposing a rehabilitation of the technical aspect of human existence in the framework of a complete hermeneutic anthropology calls for a *methodological* strategy in which our attention is temporarily drawn away from the characteristics of technical artefacts, systems and procedures where human beings are taken up as agents, in order to first examine carefully the human being, whose technicity is deployed as much in technical contexts as in what is commonly considered to be non-technical contexts.

On the basis of the above considerations, by which I have turned our attention to the human being and his/her technicity, I invite the reader to regard the term '*technology*' as we regard the names of other social sciences, such as 'criminology' or 'sociology' or 'anthropology.' Accordingly, 'technology' refers to intelligent discourse on technics or human technicity, in other words, on the *human ability to embark on skilful action and the application of this ability in coordination with artefacts*.[5] It is not my aim to call into existence a new discipline. My intention with the somewhat provocative title of my article is polemical: I focus attention as much on the still widespread neglect of technics in the human and social sciences[6] as on the reduction to the mechanical (often assumed in other academic disciplines) of technics as an aspect of human existence. To formulate positively what I put forward for consideration, "technology," understood in the way proposed here, is practised as an elaboration of a *social theory*, as a theory of social action, social order and social change (cf. Joas and Knöbl 2004, 37). By exploring technology in this way, and stressing for current purposes social action, one could demonstrate the plausibility of the underlying *hypothesis* of everything that follows, namely that neglect or distortion of human technicity is an offence against human nature as a result of which one may well expect offences against human beings themselves. The last section of the article outlines the critical import of this hypothesis. Critique is used here in a very broad sense. Accordingly,

"technology" could be considered a *critical* social theory in that it contributes to our efforts to expose or to "diagnose" faults in the social conditions that obstruct people's self-realisation.[7]

It has to be recognised that there is a long and honourable tradition of study and reflection on technics in most human and social sciences. Archaeology, anthropology, history and cultural studies are barely conceivable without scholars who are devoted to this aspect of their discipline. However, technics seldom takes center stage in the social sciences (let alone the humanities) in a manner comparable to what has been the case for, say, reason, language, or politics. Very often "technology" is treated (or neglected) as a minor subdivision of disciplines of the human and social sciences. In order to demarcate the space for a full-fledged discourse regarding human technicity, a strategic methodological stance has to be adopted: instead of thinking of technics as a particular kind of object of study, it should primarily be conceived as a distinct perspective on the entire human reality. This suggestion has already been made by a few other authors, notably by André-Georges Haudricourt in his book *La technologie science humaine* (Technology as a human science), which provided the inspiration for the title of the current article[8] (cf. also Haudricourt 1987, 37).

The most fundamental presupposition of this approach to the technical human agent is of *phenomenological* origin. It is also one of the most fundamental convictions shared by philosophical hermeneuticists, namely that all forms of human existence can be considered (unless proven otherwise) to be forms of openness to the world and, as such, legitimate grounds for knowledge (see Husserl [1913] 1993, §24). Accordingly, all forms of interaction with the world, including the technical constitution and mediation of action, should be relevant to the acquisition of knowledge, in this case, for a study of human agency. This presupposition is appropriated in the current article along the lines of Ricœur's hermeneutic transformation of Husserl's concept of plural intentional directedness to the world—in such a way that the *what* and the *how* of intentionality can reflexively identify and characterize the *who* (the human being as a capable agent).[9] Conceived in this manner, "technology" is, in the first place, the study of the technicity of human action. Here, "technicity" refers—as I demonstrate in this article—to the skilful human body, whose abilities are deployed in striving towards forms of excellence and/or in the corresponding use of means.

The development of such a hermeneutic of the technicity of human action aspires to do justice to this anthropological aspect to overcome the three recurrent obstacles to this endeavour (discussed above). Accordingly, the current study has four objectives.

The *first* objective is to establish a *nuanced description of the technical condition of the human agent.* A legitimate assessment of the general tendencies of technical developments can only be made from a perspective that logically precedes techno-optimism and techno-pessimism, or more sophisticated convictions concerning the general tendency of macro-technical developments. A plausible account of technical agency would be an essential component of such a perspective. It would preclude neither negative nor positive assessments of the general tendency of

technical developments. In fact, the phenomenological approach aims at preparing a more justified, but therefore also a more nuanced, assessment. However, such assessments follow only as a second step.

The *second* objective is to establish the *essential technical nature of human existence.* Careful inspection will show how the technical agent is almost permanently engaged to varying degrees with the multiple facets of the technical system, and that technical systems depend on technical agency. Without such an account, the workings of technical systems are distorted, and typical ways of human existence are misrepresented beyond recognition.

The *third* objective is to establish the *close interconnection of technicity with other aspects of human existence.* If the full extent of human technicity is grasped, a strong distinction or even opposition between different spheres of human agency becomes untenable. Furthermore, it becomes clear that the biological, social and symbolic aspects of human agency are intimately related to human technicity. In fact, human beings are biological, symbolic and social beings in a technical manner. The current study validates the stated hypothesis (that neglect or distortion of human technicity is an offence against human nature from which one may well expect offences against human beings themselves) and thus contributes to overcoming the three obstacles referred to above. A fourth objective is directly derived from this.

The *fourth* objective is to *demarcate the normative potential of a theory of human technicity.* If "technology" is to be a critical discourse, it is important to demonstrate how normativity can be derived from the nature of technical agency, and how the technicity of action is related to ethical considerations, which, although they are not non-technical, can never be reduced to their technical dimension.

Having set the objectives of the study, the strategy for meeting them can now be delineated. First, (section II) the article is rooted in a critical discussion with Aristotle as the significant methodological and thematic ancestor of my enterprise. By means of a critical re-reading of Aristotle's distinction between virtue (the domain of *praxis*) and skill (the domain of *poiésis*), I argue that, as human capacities, the ethico-political and the skilful share a number of significant qualities and that the fine distinction between them does not amount to an opposition, but should rather be thought of as coordinating two mutually complementary facets of action (section III). Subsequently, the way toward a contemporary actualisation of both the critique of Aristotle's position and its perennial value is affirmed, in the form of a phenomenological and hermeneutic account of the technical agent. This approach firmly rejects typological approaches to action.

The remainder of the article consists of three moments, in which essential components of this project are outlined. First (section IV), a nuanced presentation is given of the technicity of the human agent, reflecting on rule-following, the relation between technicity and creativity, and the interpretative moment of technicity. Then (section V), the interwovenness of the skilful body with the biological, social, symbolic aspects of human existence, as well as with the systems of technical artefacts, is clarified. In conclusion (section VI), I make the case for the critical potential of this "technology" by reverting to Aristotelian means of normative thought.

II. POINT OF DEPARTURE: RETHINKING *PHRONÉSIS* AND *TECHNÉ* AGAINST AND WITH ARISTOTLE

II.A. JUSTIFICATION

At least two important reasons may be given for starting this inquiry into human technical agency with Aristotle. Both are closely related to the adopted phenomenologico-hermeneutic and action theoretical approach to agency.

The *first* reason is *historico-methodological*. Phenomenological hermeneutics has drawn a lot of inspiration from Aristotle. In fact, Heidegger's phenomenologising re-reading of Aristotle's *praxis* as *Dasein*[10] is central to the enlarged vision of hermeneutics that Heidegger introduced to philosophy (see above). Hence, post-Heideggerian hermeneutics always carries with it a stock of Aristotelian thought—in particular on practice or action—as potential to be activated.[11] I have serious reservations[12] about the early Heidegger's own accepting and widening of Aristotle's distinction between *praxis* (depending on ethico-political wisdom, *phronésis*) and *poiésis* (depending on technical skill, *techné*) and Heidegger's subsequent introduction of an implicit "ethics" of authentic human existence. Nevertheless, my study, as a hermeneutic action theoretical study, remains indebted to this initial re-reading of Aristotle by Heidegger. The importance of Aristotle's thought for work in phenomenological hermeneutics makes it important to revisit Aristotle on my own terms, in order to make Aristotle's thought fruitful for hermeneutics in a manner different from the way in which Heidegger uses Aristotle's ideas.[13]

The *second* reason is *thematic.* Central to Aristotle's exposition in the *Nicomachean Ethics* is his strategy of arguing for the specific nature of character virtues by contrasting them with technical skill. This line of argumentation is one of the main sources in Western thought for the clear distinction between human technicity and other aspects of human existence, and often inspires either claims of the innocence of technical life, or a denigration of technical life. When Aristotle's *phronésis* is used to clarify the nature of hermeneutics or interpretation, many authors do this in contradistinction to Artistotle's *techné*, which is, in the same movement, associated with an inferior or innocent form of human existence.

It can then be argued that Aristotle is part both of the solution (in suggesting, through Heidegger, what the nature of the hermeneutic existence is) and of the problem (in suggesting that the notions of *praxis* and *phronésis* that inspired hermeneutics should be clearly separated from the notions of *poiésis* and *techné*). I believe it is possible to keep the gains of a phenomenological reading of *phronésis* intact, while problematizing what I consider its exaggerated distinction from *techné*, as I show in the next section.

II.B. RECONSIDERING *TECHNÉ*

There is no need to question that Aristotle, in Book 6 of the *Nicomachean Ethics*, makes a clear distinction between the two intellectual virtues charged with phenomena that change, namely *phronésis* and *techné*.[14] It seems to me impossible to collapse this distinction entirely. However, if one turns to the first three books of the *Ethics*, it quickly becomes clear that Aristotle deploys an invalid distinction

between the forms of excellence of human conduct that lead to happiness—the character virtues (*aretai*) practised under the guidance of *phronésis*—and the forms of excellence of skill (*technai*). The great pains that Aristotle takes in this section of the *Nicomachean Ethics* to distinguish character virtues from skills is not central to his main argument of establishing the practice of character virtues as the particular manner in which fulfilling human action takes shape. In fact, the need to distinguish between virtue and skill arises only as an unexpected and undesired consequence of his *extensive use of the analogy (that is, an accepted similarity) between virtue and skill* to explain the nature of virtues. How is one supposed to tell apart virtue and skill if it is true that virtue can be shown *by analogy to skill*:

1. to be a form of excellence in action;
2. that it aims at some good;
3. that one cannot expect a high degree of precision in theorizing about it;
4. that it is not a natural capability,
5. but is acquired through habituation (*ethizein*), in other words, that we acquire a virtue by practising it;
6. that it can be destroyed only by means of re-habituation;
7. that it is situated in the non-rational but reason-obeying part of the soul;
8. that it is "archived" in the soul as a disposition (*hexis*); and
9. that is has to do what it can with what is given in a particular context,

since virtue and skill are the same in all of these respects?

Aristotle's main argument for this distinction comes from a passage (NE 1105a17–b18[15]) in which he explains what he means when he claims that one acquires the capacity to act virtuously by doing virtuous actions. This would seem to be an erroneous claim, as one could establish by means of an analogy: someone who spells correctly is not *becoming* a grammarian, but already *is* a grammarian (grammar is explicitly categorised by Aristotle as a technical skill). However, Aristotle argues that this is not correct, since one does not call anybody a grammarian for having spelt a word correctly once or by chance, but only if that person spells words correctly in the manner that grammarians do, in other words, because of having acquired the grammarian's skill. Analogously, one calls someone virtuous not because the person has once, or by chance, done something in a virtuous manner, or for merely having done *something that* a virtuous person would do—but if that person does so by acting *as* a virtuous person.

Having established this principle *on the basis of* an analogy between virtue and skill, Aristotle then approaches the question of the relation between the agent and the product from a different angle: his question is now not "*what qualifies* someone as virtuous/skilful?" (to which the answer is "the qualities of the agent count more than the qualities of what s/he brings forth"). Instead, he asks "*where* is the merit of virtuous/skilful action respectively *situated*?" It is on the basis of this adjustment to the question that Aristotle hopes to undo the strong impression

of similarity created by his deployment of analogy: whereas the merit of a good skilful or technical action is determined by the *product* of that action, Aristotle claims that in the case of virtuous actions, the merit lies outside of the actions, *in the agent* that brings them forth.

Before we look at the three criteria that would qualify the merit of an agent of virtuous action, let me say the following about this claim: one may well want to accept that the merit of a product of skill resides in the product, but even so, Aristotle's initial point remains true for skill too: it is very difficult to imagine how an excellent product of technical skill would come about if it is not through the working of a skilful agent. Thus, even though it is not on the merit of the technician that the quality of a product is evaluated, it is impossible for a good product to be created by any means other than by good technical agency. The merit of the product of technical action then seems to lie equally in the product and in the technical agent. As for virtue, the merit resides in the agent, since, even though the virtuous agent may fail to act virtuously here and there, it takes nothing away from his/her being virtuous and acting in a meritorious manner even when he/she fails. However, virtue is worthy of its name only if it is capable of attaining the goal reasonably often (that is, being an *areté stochastiké*). This implies that it is not consistent with Aristotle's argument to claim that someone could be virtuous even if he/she regularly fails to produce virtuous action. In other words, if there are not enough virtuous actions behind the name of the agent of virtue (virtuous "products" of action), then even his/her virtuous action does not qualify to be called "virtuous"; in the domain of virtue, merit resides in the agent, but this has to be an agent that reasonably consistently produces meritorious actions. In this way, the claim that the good for virtue resides in the agent is relativized again. *To conclude with and against Aristotle*: an action is virtuous not merely on the basis of a virtuous agent, but also *not without* virtuous actions; an action is skilful, not merely on the basis of skilful products, but also *not without* a skilful agent.

But let us return to Aristotle's effort to distinguish the agent of virtue from the agent of skill (in the passage referred to above). According to Aristotle, it can be demonstrated that the agent of virtue can be seen as something quite different from the agency of skill by considering the following three defining traits of the virtuous agent:

1. this agent acts with knowledge of the action to be accomplished;
2. this agent acts by exercising a choice and the choice elects actions for themselves (in other words, these actions do not serve as means to attaining a goal, but could be considered the ultimate goal of human action); and
3. this agent acts from a firm and stable disposition.

These qualifications of the agent of virtue do not apply to the agent of skill, Aristotle claims, except for the need to act out of knowledge (trait n°1), and that is more important even in technical actions. This leaves two traits that distinguish virtue, but it is difficult to agree with Aristotle on these. He defines "choice" as "deliberative striving" (NE 1139a22–23, *orexis bouleutiké*). Striving (*orexis*) is the striving force of all forms of life towards goals. Deliberation (*bouleusis*) is generally applied to

all consideration of alternative actions. It is difficult to see why the agent of skill should not be said to be equally acting out of choice, as deliberative striving (trait n°2). As for acting out of a firm and stable disposition (*hexis*) (trait n°3), Aristotle has already argued that this is typical of the agent of virtue, by analogy with skill in the first place! All that remains of this partly spurious distinction is that the actions of virtue are chosen for themselves and not to serve some other good[16]—and that the accent in skill is on the product, and the accent in virtue is on the agent.

The close affinity between skill and virtue is clear when the arguments above are transferred to Aristotle's definition of virtue:

> Virtue, then, is a disposition of choice in matters of the mean [of emotions and actions] relative to us; this choice is made in accordance with reason and as the person gifted in practical reason would do it. It is a mean between two vices, one of excess, the other of deficiency. (NE 1106b36–1107a2, my translation)

What should strike us in this definition of virtue is that there is nothing in Aristotle's action theory that prevents us from compiling a parallel definition of skill. In fact, the closeness of skill to virtue (which Aristotle would have to concede if my arguments above are valid) may even be considered to invite such a definition. My neo-Aristotelian definition of skill would subsequently be this:

> *Skill, then, is a disposition of choice in matters of the mean relative to us, the choice is made in accordance with reason and is ideally executed as the person gifted in technical reason would do it. It is a mean between two flaws, one of excess, the other of deficiency, and where this mean can be described in terms of the discernible increments on the continuums of all the categories that determine the particular quality of an action (its agent, object, instrument, manner, time, place, duration, reason, purpose*[17]*) between the two flaws.*

I will refer to this definition again in the concluding section of the article (section VI), in relation to the critical deployment of the term 'technology.'

II.C. NO ACTION WITHOUT A DISPOSITION FORMED UNDER GUIDANCE OF REASON (*HEXIS META LOGOU*)

The close similarity established in the previous section between virtue and skill can obviously be examined further. However, for now it is more important to note that the overlap between these notions and the parallel definitions that capture their similarities allow us to claim that there is in fact only one disposition for making a choice (*hexis prohairetiké*) under the guidance of reason (*meta logou*—supported by NE 1140a3–5). The disposition for reasonable choice-making works in two similar but discernible ways, in the domain of *praxis* and of *poiésis*, both of which should be understood as deliberative striving (*orexis bouleutiké*). Consequently (without entering into the difficulties of Aristotle's articulation of the relation between *praxis* and *poiésis*), I suggest, with Robert Bernasconi, that *praxis* governs *poiésis*. In other words, technical action is guided by virtuous action through a complex process of decision-making or choice, in the sense that virtue is concerned with technical life as part of the constituent intermediaries for its own realisation (Bernasconi 1986,

137–138). If this is plausible, then it makes sense to see *praxis* and *poiésis* not as two types of action, but as two distinguishable aspects of all action.

While this critical reading of Aristotle's attempts to distinguish virtue and skill stands in clear tension with the Aristotelian tradition, the *Nicomachean Ethics* nevertheless enabled us to gain *four important insights with regard to human agency*.[18]

Firstly, the sharp distinction between ethico-political agency and technical agency should be softened considerably. In fact, these two manifestations of agency seem to be indissolubly interwoven.

Secondly, although human agency functions in a variety of ways, there is a significant overlap of the aspects of human capability at play in these different functions. This already suggests that we should adopt a non-typological approach to action.

Thirdly, the notion of disposition (*hexis*) is central to an understanding of the acquired capacities for action in human agents.

Fourthly, a number of important pointers outline the nature of disposition: if action is guided by practical wisdom or by skill, it seems in both cases to depend on a previously established disposition that (although it is not under the direct command of conscious reason and calculation) is formed under the influence of reason through habituation (disposition as *hexis méta logou*) and is activated by being exercised in a responsive way to each specific context.

It should also be noted that none of these thematic modifications with regard to Aristotle's position poses any essential obstacles to the hermeneutic re-appropriation of the Greek philosopher initiated by Heidegger,[19] and which I have appropriated as my methodology for this study. On the contrary, the regained insight into the close similarity between *praxis* (which inspires phenomenological hermeneutics) and *poiésis* (which often serves as the argumentational opposite of interpretation) opens the way for a new and fruitful hermeneutic re-appropriation and elaboration of these elements from Aristotle, with the help of the broad phenomenological and hermeneutic tradition.

I pursue the question of the nature of technical agency below by developing these gains from my rereading of Aristotle. The most appropriate way for a reactualization of these findings takes as its point of departure the unity of wisdom and skill in the disposition formed under the guidance of reason.

III. TOWARDS A NON-TYPOLOGICAL APPROACH: THE SKILFUL BODY[20]

A contemporary exploration of the technical agent has to integrate the above gains into the context of current human and social scientific concerns. It should do so, avoiding the use of an action typology, as initiated by Aristotle, and developed in the long history of such typologies. It should also anchor the "technology" in an equally long tradition of exploration of the skilful body. As a point of departure for thinking with (and against) this tradition, I use Marcel Mauss's notion of *techniques du corps*. Without digressing into that debate now, the discussion that follows will show that I find Mauss's classical definition of the *techniques du corps* as "traditional and efficient acts" (*actes traditionnels et efficaces*—Mauss [1934] 1950,

371) at best insufficient. However, I do accept the essential point of this notion, namely that there is "something" in the incarnate human being—something that is described differently each time in the tradition, when it is designated as *hexis*, *habitus* or skill—that deserves to be characterised as "technical." The preceding discussion in debate with Aristotle should suffice as a justification for accepting this technicity of the body. In the remainder of the article, I refer to this fact as bodily skills.[21] This phenomenon, which I examine in more detail later, is the *primary* technical phenomenon. However, as I will demonstrate, it is *not* the *origin* of human technicity, and as constituted does not represent the *basis* or *substrate* of the being who acts.

As a first approximation, I use the term 'bodily skills' to refer to the series of abilities, dexterities or capabilities that are gradually acquired by the human body during its development. They have in common the fact that they are diverse ways of disciplining the natural tendencies with which the body comes into the world, namely tendencies (i) to release emotional tensions, (ii) to perform reflex movements (to suckle, to seize, etc.) and, especially (iii) to fidget or wriggle[22] (on their own, but also in interaction with others). I deliberately present these phenomena, well-known to those who rear children, in this manner, which explicitly avoids attributing interests, expressive intent, or the pursuit of any end to these tendencies.[23] In other words, bodily skills refer to ways in which the spontaneous movements of the body are stretched out or projected, or strive toward a state other than that of the present.[24] In this manner, bodily skills shape actions by guiding, restricting, specialising or refining the movements of the body, which then shows itself, most often (but not always), to be formed by discipline(s). Thus bodily skills are, together with the natural movements of the body,[25] an aspect of the capability to act. In fact, they are a condition of the possibility to act, rather than a specific type of action.

Note from the outset that the language used to present bodily skills may mislead us about what these skills are. These bodily skills are often presented by citing very common examples: walking, swimming, singing, keeping one's balance or, to cite less evident examples, paying attention, keeping one's composure, etc. I obviously agree with this. However, in using a single verb, these examples are often already the product of a procedure of isolation or of generalization: either one *isolates* a component from a larger bundle of actions in which several actions and their corresponding bodily skills are interwoven (for example, "keeping our balance" may only be a part of cycling), or one *generalizes* this bundle of actions and their bodily skills by means of a general term (for example, "cycling" consists of coordinating several skills in action, including keeping our balance, steering, observing, navigating, exerting ourselves, and persevering).

As the capability of doing certain things, bodily skills are fairly stable dispositions to do things in certain ways when confronted with certain contexts (this "stability" has to be defined further—see section IV.A on "rule-following"). Thus, bodily skills are an essential component of the body's familiarity with the world. Familiarity[26] here refers to the non-consciousness-centred practical knowledge-ability about the world.

A convincing presentation of bodily skills would have to expose their stability (the fact that the agent can more or less count on them) and explain the ways

in which these skills, which often remain *tacit*, can nonetheless be brought to *conscious* attention and reflection and thus become available for us to improve on. Such an exposition would also have to disclose the ways in which the acquisition and exercise of bodily skills remain dependent on objects that are engaged in action, on the biological conditions of the body, on the processes of individual and social apprenticeship, on interaction between people, and on the symbolic order. In full cognizance of the often standardising or automatizing effect that skills have on action, the task of elucidating the exercise of the bodily skills should enable us to give an account of how these bodily skills allow agents to embark on strings of action that may range between the extremes of routine and improvisation. The skilful body is thus central to our considerations, as justified at the beginning of this article, first, to articulate the interdependence of human technicity with other anthropological aspects, and second, to find the hinge that allows communication between the descriptive and normative, critical moments of "technology." Laying the groundwork for all of these requirements is aim of the remainder of this study.

IV. FROM CAPABILITY TO ACTION: JUDGMENT, CREATIVITY, INTERPRETATION

Human beings' capability to discipline their own bodies and the bodies of others to the point where their bodies can repeatedly execute specific actions at a high degree of efficiency has been known to humanity for a very long time.[27] Some of the fears regarding the industrial exploitation of the disciplinability of bodies and the subsequent inducement of machine-like, standardised, mindless action were captured comically, but eloquently, by Charlie Chaplin in *Modern Times*. I do not intend to make a plea for a return to a putative pre-industrial Eden of healthy, pleasurable uses of bodily skills. Nor do I suggest that we disregard the horrors of Fordist and Taylorist labor management, or the ideological celebration of the unity of people under tyrannical regimes as evoked in the military parades and other extravaganzas of mass gymnastics of which dictators are so fond. The *thesis* that underpins this article, and for which the expositions that follow argue, is that a proper study of bodily skills can demonstrate that pathological manifestations of standardisation of action—be it for industrial, military, political or other purposes—do not give us access to the full array of what the skilful body allows agents to do. In fact, our indignation regarding the exploitation of the efficiency of bodies for economic, military or similar ends is only intelligible against the background of a full picture of technical agency under non-oppressive conditions. The identification and critique of pathologies in the technical life of human beings depend on an accurate understanding of what the technicity of agents is and can be.

Earlier on in this study, I have argued for a non-typological approach to the technicity of human agency. A reading of Aristotle's action theory—and considerable opposition to it—has highlighted the disposition formed under the influence of reason as an indispensable point of orientation in any study of human agency. The contemporary reactivation of the insights gained from the classical author places the skilful body in the center of concern in the study of agency and of technical agency in particular.

Three interrelated traits of the passage from bodily skills as capabilities to the practical deployment of these capabilities in action need to be examined in order to get an understanding of how it is possible for bodily skills to be at the origin of standardized action as much as of innovative action—at the origin of practically all human action. First, the specifically human[28] way of *following rules* in action has to be considered (section IV.A). This highlights the judgement associated with the deployment of bodily skills. Then, I argue that there is a relation of mutual implication between the technicity and the *creativity* of action (section IV.B). Finally, the gains of these two explorations allow us to thematize the *hermeneutic* working of action, notably in action through various means (section IV.C). By clarifying these three traits of the deployment of bodily skills in action, I establish the core of the technicity of agency. The aim of these three discussions is to reach an understanding of the particularity of the technicity of action.

IV.A. RULE-FOLLOWING AND JUDGMENT; PRIMARY TECHNICITY

What is the typical rule-following or patterned nature of the deployment of bodily skills that can account for both internalized constraints to standardized discipline, and perfectly acceptable and sophisticated actions such as paying attention, playing musical instruments, arriving on time for appointments, or remaining steady under stress?

The manner in which human agents follow rules evidently corresponds neither to the determinism with which objects follow natural laws, nor to the idea of a free-standing rational subject that prescribes to him-/herself instructions to be performed like a theater script.[29] There is really no rule that explains bodily skill. The "rule" of this regularity of action lies rather in the description and schematization of action after the event. Typically, such descriptions and schematizations refer to patterns or standards to which people tend to conform. Now, these regularities result from the fact that the body is only able to act thanks to the bodily skills with which it has gradually been "equipped" through the processes of habituation or exercise. To be more precise, everybody is equipped—or disciplined—to perform a specific series of movements or gestures (or to adopt certain states, such as composure) and to perform them in a particular manner—*and not another series*. To be skilful in performing series *x* of activities and not series *y* does not mean that an agent will never execute an action from series *y*, but that his/her skilfulness facilitates actions from series *x* and hence promotes the launching of chains of actions in which the practical advantages of these skills can be drawn on. At the same time, and by default, other actions and other ways of performing them remain more difficult; hence, launching chains of action in which these actions are integrated would be met with more resistance. As a result, it is less probable that an agent would execute a way of performing an action in which the agent has had no practice, without such unfamiliar ways of performing actions thereby becoming entirely impossible (except in some borderline cases). Thus, bodily skills dispose their agents to act in a more or less regular, stable and recognizable manner—through an effect of the contrast between facilitation and absence of facilitation[30] that we may call a 'disposition.' The pronunciation and diction that someone employs in a particular language

may be taken as a paradigmatic example. The fact that these skills remain only relatively stable—in other words, that they are subject to factors that may change them gradually—is already implied here (see section III for further elaboration).

However, the power at work in this disposition is not deployed in identical ways in the divergent contexts in which an agent acts. When an agent acts in relatively similar contexts in relatively similar ways, this repetition constitutes an exercise or practice in the ability or skill to perform the action in that specific manner. In fact, frequent engagement with relatively similar contexts of action is a condition for the development of bodily skills. When an agent acts under conditions at odds with the usual circumstances, the degree to which the performed action diverges from the exact manner in which it was executed habitually contributes to the shift in the manner in which the agent will be disposed to execute that action (since what Aristotle claimed for virtues holds equally for skills: one acquires them by practising them).

Since one acts under a variety of conditions, ranging from the familiar to the unfamiliar, bodily skills do not guide the power to act in an identical manner each time one acts, and in every context of action. There is a gap (Taylor 1999, 41 speaks of a "phronetic gap," a gap of judgment) between the kind of action to which an agent's bodily skills tend to predispose that agent, and the real action performed in a specific practical context. There are a number of reasons why there has to be such a gap. Firstly, the condition of the body is not always identical. Secondly, the contexts of action may differ. Thirdly, different skills are combined with others in the flux of action, sometimes in familiar combinations, sometimes in new combinations. It is because of these traits of action that bodily skills, although they are responsible for the regularity of action, cannot be reduced simply to generators of mechanical repetition (even if such reduction may occur in practice under oppressive circumstances). Rather, the deployment of bodily skills always involves at least a certain degree of *judgment* regarding the practical fit[31] of agent and context (although this tends to be negligible under extremely familiar circumstances). This judgment depends on constant non-conscious, tacit interpretation, rather than on conscious thematizing and calculation.

I accept the term that Bourdieu assigned to this form of interpretation, namely a "sense for the game" (*sens du jeu*) (Bourdieu 1980, 111–112).[32] Bourdieu's theory of practice, as a former collaborator explains,

> thus opposes a conception of conduct as the execution of external rules that take effect in the juridical manner of laws, with the internalisation and incorporation of schemas that provide the possibility to act with discernment without recourse to injunctions, prescriptions or prohibitions that are intended to be followed literally. (Boltanski 1990, 254)

This "sense for the game" that bridges the gap between the skilful agent and his/her practical action is thus more than "know-how"; it is less a tacit "*know*-how" than a tacit "*finding*-how" that is responsible for the fine adjustments of action in practice,[33] even if the relative regularity with which certain actions are repeated in similar contexts confers on them a familiarity equivalent to "know-how." In other words, every disposition to act in one or other particular manner (to "follow

rules") nonetheless remains dependent on judgment regarding the agent's adaptation to a context and to specific skills involved in actions. Moreover, since in regular dispositions it is the capacity to act itself that is at stake, every string of actions is underpinned by the functioning of putting into practice the bodily skills that (at least in part) make that string of actions possible (cf. Giddens 1984, 5–6; Taylor 1999, 34). The capacitating function I describe here, with the singular bodily skills in mind, under certain conditions, puts in place life routines (sets of repeated coordinated action, of more or less stable cohesion), through the bodily skills themselves, because of the physical and technical context and, possibly, interaction with other people.[34]

Hereafter, I use the term '*primary technicity*'[35] to refer to the bodily skills, their familiar enactment and their possible combination and extensions in larger complexes, routines.[36] Primary technicity may be exercised mostly through interaction with other agents, and may be supported by technical means. However, these two recurrent traits are neither the sufficient nor the necessary conditions of primary technicity. It should already be clear that this notion of technicity has the particularity that it is non-teleological: the means-ends schema is not a necessary condition of primary technicity, even if primary technicity allows its teleological transformation. This idea is elucidated later (section IV.B), when it can be contrasted with secondary, teleological technicity. We approach this question now, albeit obliquely, by turning to the question of the relation of technicity to creativity in action.

IV.B. MUTUAL IMPLICATION OF TECHNICITY AND CREATIVITY OF ACTION: SECONDARY TECHNICITY

The previous section has already suggested problematizing the widespread idea of technical action as the opposite of, or as a threat to, the creativity of action. The *coup de grâce* can be delivered to this idea by examining the relation between the technicity and the creativity of action. Hans Joas's (1992) work on the creativity of action is of immeasurable value here, since it will allow us to grasp this relation as one of mutual implication.

Instead of considering the creativity of action as the last in a series of types in a typology of action, Joas (1992, 213) explicitly rejects the principle of typology formation, where creativity would in any case be seen only as a watered-down form of rational action. Instead, Joas (1992, 213) formulates a theory of creativity as a dimension of all human action. Correspondingly, creativity is a dimension of the traditionally identified types of action, be it instrumental action or normative action. My project corresponds with that of Joas in three important points. Firstly, like Joas, I resist approaching the question of technicity in action by means of an action typology (in my case this is justified by exposing its weakness in Aristotle, as an example). Secondly, I attempt rather to understand an aspect of (almost) all action—that is technicity in my case, and creativity in Joas. Thirdly, I also strive to find a perspective that values this aspect neither positively nor negatively, as Joas does.

According to Joas, creativity as an aspect of all action has to be caught in action, as it were, in the uninterrupted flux of everyday action that fluctuates between

unreflective routine doing, and episodes in which this comfortable doing is frustrated or challenged. Since action consequently continuously has to negotiate familiar and unfamiliar conditions of acting, there is a repeated need for reorientation in acting. The ability of a routinized agent to adapt in action to the changes and unexpected turns in events is what Joas (1992, 190) sees as creativity. He thus understands creativity—in line with the American pragmatism[37] that informs his entire undertaking—by situating it in action, rather than in the consciousness (Joas 1992, 190).

In order to reveal the particularity and significance of his perspective on the creativity of all human action, Joas contrasts this perspective with the dominant means-ends schema of rational action, which is submitted to critique in the same movement. Theories that take such a point of departure for theorizing action typically presuppose "firstly that the actor is capable of purposive action, secondly that he has control over his own body, and thirdly that he is autonomous vis-à-vis his fellow human beings and environment" (Joas 1992, 217/1996, 147). Correspondingly, Joas reviews the "intentional character of human action, the specific bodiliness and the originary sociality of the human ability to act" (Joas 1992, 217/1996, 148, translation modified). An examination of the former would be sufficient to point out the relation between the creativity and the technicity of action. The idea that action is best or primarily to be understood within a means-ends schema is underpinned by the assumption that human knowledge has its origin in the thinking subject who establishes a relation to a world constituted of facts (*Tatsachen*), by selecting and ordering these facts, and that human intelligence thus consists primarily of the action-independent epistemological capacity (Joas 1992, 230–231). As a result, the natural or initial condition of the human being would be one of rest, during which the detached, observing and calculating subject contrives objectives that should, according to the demands of rationality, preferably be compromised as little as possible by habit, tradition or the temptation of immediately available means. In other words, this teleological view on action starts with the knowing, planning subject who deliberates about ends and corresponding means, in a manner free from the body, context or other people (Joas 1992, 231–232).

Identifying these assumptions of this teleological understanding of action does not amount to denying that a human being can reflect about action or that agents use means to enhance the efficiency of their action—which I shall shortly affirm. Rather, identifying these assumptions serves to question the elevation of the teleological model of action to the originary or primary perspective on action. Joas questions these assumptions by recognising that reflection is incorporated into the continuous stream of action that constitutes everyday life and thus, according their due primary position in reflection on action to the necessary bodiliness, situation-relatedness and sociality of action. Things are accessible to humans, first, in and through practical interaction. This continuous practical interaction is based on the bodily and striving directedness to, and in response to, the agent's context of action that, in turn, happens only on the strength of the body's capabilities, habits and relations with the environment (Joas 1992, 232).[38]

The importance of this point in Joas's argument should not be underestimated, because, on the strength thereof, he would have to concede that the kind of non-teleological action theory that subtends his notion of creativity presupposes

the technical or skilled body in terms very close to what I have presented above. Consequently, Joas would have to acknowledge (1) that there is no creativity of action if it is not innovation on the basis of a skilled interaction with the world.[39] He would also have to admit (2) that this skilled interaction with the world exists only as primary technicity and (3) that primary technicity would have to be as non-teleological as the creativity that he defends.

This demonstration of the mutual implication of the creativity and the primary technicity of action can be strengthened and elaborated by drawing on Joas's own views on the instrumental, or rather the teleological, aspect of action. This then allows the introduction of the notion of secondary technicity as derivative of this technico-creative complex.

As stated above, Joas defends the pragmatic conviction that reflection on action, objectivization and the conscious setting of goals grow from the frustration and failure of striving action.[40] Moreover, it is exactly from such moments of frustration and failure that the restructuring, innovative functioning—the creativity—of action takes effect. It falls beyond the scope of this article to discuss how Joas subsequently derives the teleological capability (which I refer to as '*secondary technicity*,' that is, the capability for calculative and strategic selection and use of various means in order to attain goals set in advance) from this originary view on action. However, note that his understanding of teleological capability plays a crucial role in preventing Joas's insistence that action is context-dependent and responsive from degenerating into behaviouristic determinism. The spontaneous creativity that characterises action on an original level (as demonstrated) and the teleological capability that is a secondary derivative thereof remain in a relation of mutual supposition in human action (Joas 1992, 236).

In my view, it would be invalid to conclude that technicity is a secondary form of action, derived from a more originary creative aspect of action (even if we grant Joas's claim that there is a relation of mutual supposition between creativity and teleological calculation). It seems more convincing to conclude that when one situates the technicity of human action *en bloc* in the teleological derivative of the originary creativity of action, then the most original form of the technicity of action has already been missed. In the light of the examinations (above) of rule-following and judgment as essential to the technicity of action, it seems more plausible to affirm through this alternative route that the technicity of action is characterized by the creative enactment of the body's acquired skills, since in practically all action the body's striving to act in a context is facilitated through more or less standardized skills, and since this "application of rules in action" normally consists of variations on the theme of "finding-how" in action (and only under pathogenic circumstances identical repetition of patterns).

In conclusion, there are at least two reasons why the technicity and the creativity of action cannot be separated. Firstly, Joas's reason: without the teleological capability, which I call 'secondary technicity,' the effect of the milieu or the context of action on action would be so direct that action would tend to be determined by the milieu in a behaviouristic manner. Secondly, my reason: technicity and creativity are inseparable, because the originary creativity of action already presupposes a relation to something that is more originary than the teleological capability, namely

the primary technicity of action.[41] This idea can be schematically reformulated: technicity and creativity presuppose each other, with regard to both the disposition or capability to act (cf. *hexis*) and the reflexive influence that thought and planning can have on it (*meta logou*).[42]

In order to consolidate this conclusion, let us return to the interpretative quality of the *hexis meta logou*.

IV.C. INTERPRETATION IN PRIMARY AND SECONDARY TECHNICITY

In section II of this study, I argued both against and with Aristotle that the core of the human ability to act—be it ethico-political action or manufacture—is characterised by a fairly stable acquired capability and disposition to act in certain ways. Moreover, this capability, even though it does not participate in human reason, stands under the influence and formation of human reason (according to Aristotle's anthropology). It has furthermore been argued that this re-interpretation of Aristotle is not an obstacle to a hermeneutic re-appropriation of Aristotle's categories in the manner initiated by Heidegger. Working on a contemporary, anthropological re-actualization of the hermeneutic re-appropriation of Aristotle, it has been argued in section II.A above that the "rule-following" nature of the deployment of bodily skills is usually accompanied by tacit judgment.

The moment of judgment in rule-following can be argued to be a moment of the broader interpretative nature of human interaction with the world. I accept Heidegger's concept of the "hermeneutic as" (*hermeneutisches Als*) as the key to understanding the connection between judgment and interpretation. Accordingly, judgment, as connecting a subject to a predicate (S is P), has to be considered as a specialization of a more originary interpretation, consisting in viewing or using something *as* something.[43] When we use something, Heidegger explains,

> that which is [by so doing] designated is understood as that as which we are to take the thing in question. . . . The "as" makes up the structure of the explicitness of something that is understood. It constitutes the interpretation. (Heidegger [1927] 1993, 149/[1962] 1988, 189).

This interpretation does not have to be articulated explicitly (as a judgment), since "[a]ny mere pre-predicative seeing of the ready-to-hand is, in itself, something which already understands and interprets" (Heidegger [1927] 1993, 149/[1962] 1988, 189). In other words, primary technicity participates in the interpretative existence of human beings. The anthropological twist I give to Heidegger's thought in this claim is not in direct harmony with the ontological objectives of Heidegger's early thought. However, a path has already been cleared to such a post-Heideggerian hermeneutic anthropology by Ricœur (which I simply assume here without reviewing the intricate justification that such a transformation requires).[44]

What Ricœur allows us to see—and this is the backbone of his anthropological hermeneutic—is that interpretation arises from interaction between agents and the products of culture around them, and where the interpretation allows, first of all, a glimpse of the interpreter. A reader, in reading a text, first interprets him-/herself as reader of the text. My contribution to Ricœur's argument is to explore the validity of this schema in technical matters.[45] By analogy to reading, one could, for instance,

argue that when a cyclist rides a bicycle, the cyclist is an agent who enacts acquired bodily skills and interprets not only the bicycle as means of transport and the terrain through which he/she cycles, but equally the action of cycling and, through all of these, him-/herself as cyclist. This process is not entirely different from that of a reader reading a book, and one could consequently adopt the metaphor of "reading" as a key to disclose the relation between a skilled body and the means adopted in action. Formulated in the terms proposed in this article, one could say that as primary technicity unfolds in action, it follows an interpretative or hermeneutic spiral, "starting" from the bodily skills, passing through engagement with means and artefacts by which the agent comes to a practical understanding of the agent, the means, and the ambient world.

The third segment of this spiral, the "reading," can take two different forms, represented by primary and secondary technicity. Either the interpretative quality of technicity unfolds itself tacitly in action, as when we lose ourselves in doing something (primary technicity) or, due to whatever factor of disturbance or joy, the deployment of skills and the means for and context of their deployment are subjected to conscious attention and planning (secondary technicity). However, in both cases, a similar interpretative spiral is followed.

In every action, the possibilities of a particular agent are, then, interpreted in practice in the specific context of action and through the mediation of means, probably most of which are technical artefacts. It follows from the preceding discussion (section II.A) that such practical interpretation depends on the previously established familiarity with action in the world. Moreover, this invites us to reaffirm that the interpretation associated with primary technicity is a more primary or "originary" phenomenon than the conscious planning of strategy.

It follows that the meaning that is "read" from such events of practical interpretation cannot be reduced to the technical, instrumental meaning of these events, and this despite my concern with technicity in this article. In fact, at least *three kinds of meaning or reference*[46] need to be distinguished, *woven into the very fiber of human technicity*.

1. The *compositional or configurational meaning* of the technicity of action. This refers to the understanding that an agent has of the internal references of the different components of technical artefacts and procedures to each other—be it the assembly of machines or the coordination of workers—or, to put it simply, the understanding of technical events, as may be represented on a flow diagram and where the relations are based purely on the technical qualities of the components of the process.

2. The *meaning of usage* of the technicity of action. This meaning emerges from the framework of the utilisation of a means of action that is open to different uses: when something is used *as* this or that, the agent, means and action derive a practical meaning. This is even more evident in the wide variety of cases where this meaning is derived from a consciously set project. Through the execution of the projected task, the project can obviously also be adapted, in which case, the usage meaning of the elements involved then also changes.

3. All technicity also has a *symbolic meaning* by which the technicity of action advances or frustrates social values. Think, for instance, of values such as precision, beauty, fashion, sophistication or environmental sensitivity that form and inform all technical processes (and see the discussion below on the dialectic of technicity and symbolics). Without these values, the vital ingredient of the technicity—namely standards of excellence—would not exist.

It is the meaning of usage and the symbolic meaning that constitute the "worldliness" of the technicity of action; they nonetheless remain inseparably linked to the compositional meaning.

Instead of demonstrating that the hermeneutic spiral of the technicity of action, through which these three interrelated forms of meaning are active, is an integral part of our human existence, I shall merely illustrate it with two facts.[47] Firstly, people continuously play a series of relatively stable social and symbolically shaped technical roles: the roles of profession, age, gender—none of which can be understood without the hermeneutic spiral of technicity described above. Each of these roles includes a set of specific bodily skills, means, criteria for their excellence, etc., irrespective of whether the skill involves walking in high-heeled shoes, shaking hands with a firm grip, talking with the voice inflections of a radio announcer, concentrating on what a lecturer says, and so forth. Secondly, what is commonly considered "good" behavior in a given social context cannot be performed without the acquisition of virtues and (as has been argued in section II with and against Aristotle) virtues are very often acquired and improved in concert with the technicity of action. Where would one acquire the ability to act with patience, economy, constancy or perseverance, amongst others, if not through the exercise of the technicity of action, for example, manual work or sport?

It should be clear that, although the symbolic character of these illustrations—the phenomenon of technical roles and the characteristics of excellence in action—is salient, it is insufficient to represent either (technical roles or ideals of excellence) without their technical aspect. This is the level of ambition for my claim about the technicity of agency and action: agency and action cannot be reduced to their technical aspect, but cannot be understood properly without it either, even in cases where the technical aspect does not immediately meet the eye. The double negative—*not without*—is crucial here.

V. TECHNICITY IS INTERWOVEN WITH OTHER ANTHROPOLOGICAL ASPECTS

In the introduction (section I), I postulated that the *social, symbolic and technical aspects of human existence are equally the matter of understanding or interpretation*. While I have for the sake of presentation limited my view up to now to the individual agent, the technicity of action and interaction is far more complex. The formation, deployment and change of bodily skills involve a decentering in respect of the individual agent's body to different spheres outside of the technicity of the skilful agent. Because the bodily skills always function in "symbiosis" with mostly non-technical phenomena, the technicity of action of necessity remains interwoven

with other anthropological aspects in the flux of interpretative existence. I discuss five such dialectical relations in which the technical agent participates in the broader phenomenon of human existence:

V.A. DIALECTIC OF THE BODILY SKILLS AND THE BIOLOGICAL ASPECT OF THE BODY

Since Aristotle, the formation of skill has been seen to occur by processes of habituation or of disciplining the body. However, this does not mean that the entire body is susceptible to being formed under the pressure of discipline. The particularities of each human being's biological constitution continue to interfere with the acquisition and implementation of technical skills. This is clear from the role that fatigue, hormones or diet can play in what a technical agent is capable of acquiring and exercising as skill. As I argued earlier (section III), the impetus (*orexis*, as Aristotle would say) precedes all technicity and enables its acquisition. Hence, the biological condition of the agent (for example, the presence of illness or fatigue, or the agent's level of fitness) feeds directly into the skilful action of the agent. However, the biological constitution of the technical agent is not merely the domain of passively endured influence; it is also possible to intervene deliberately (technically) in the domain of the biological constitution of the technical agent—in this regard, think of medical interventions that, without directly changing the skills of the body, change (positively or negatively) the biological conditions of the deployment of these skills. If a medical intervention has long-term or permanent outcomes, it could facilitate the acquisition or transformation of skills.[48]

V.B. DIALECTIC OF THE TECHNICAL AGENT AND ELEMENTS OF TECHNICAL SYSTEMS

Despite the fact that bodily skills are a quality of the human body, they are acquired by processes of habituation through frequent repetition of certain actions, very often *with certain objects*. Bodily skills therefore involve not only an agent's familiarity with the typical functioning of his/her own body, but familiarity with the manner in which the agent's body is typically capable of responding to the demands of different fields of action and in interaction with the things that typically constitute those fields of action. These "things" may include, apart from technical artefacts, "thought instruments" such as alphabets, the order of numbers, or the idea of a seven-day week, in other words, technologies of attention. Although the specifics of technical systems are very important in understanding even the technicity of the agent (as can be seen in the key position accorded to technical mediation in the agent's hermeneutic openness to the world[49]), for the purposes of this article, it suffices to indicate the place of technical systems in the technical life of the agent.

Interaction with technical artefacts often consists, as already suggested above, of interactions with technical systems, rather than with the isolated means alone. When disciplining interaction with objects is considered, it should be borne in mind that we are speaking of complex systems that may vary in size from the technical micro-cosmos (for example, a studio, office or other work space), to the technical

meso-cosmos (the larger context, for example, of a factory or an organisation), to the macro-scale (a city or a national or international institution)[50]—with decreasing directness of the agent's influence on the system as a whole.

V.C. DIALECTIC OF INDIVIDUAL AGENCY AND EXERCISE THROUGH SOCIALIZATION

Although a certain range of the bodily skills is acquired, developed and exercised by the single agent, a broad variety of social interactions function as implicit or explicit facilitation or sanction of this acquisition, development and exercise. As facilitated by social interactions, the formation of the agent's skill—no matter how individualised and contingent the historical process of that formation may be—remains partially of a socialized nature. Consequently, the agent tends to act in ways that reflect those typical of a particular social context, and use objects associated with that social group, for aims that are, most of the time, not be too unfamiliar to that group, and so on. In short, the rules followed by the technical agent include social rules. This is why it is possible in a number of technical situations to infer something of the social setting by merely examining the characteristics of typical actions. Consider, for example, the different ways in which people stand comfortably, carry objects, bend down, run, set the pace or rhythm of their working tempo. Again, the frequent use of typical culturally specific objects tends to promote the formation of skills and routines that correspond with the use of these objects, for instance, consider the different bodily skills required to eat with one's hands, chopsticks, or with a knife and fork. In turn, becoming acquainted with these different ways of eating, the routines that archive the familiarity of eating in these respective ways, contributes to identifying someone broadly, for instance, as traditionally African, Asian, or European. It is true, of course, that under the influence of globalisation there is a tendency in some places where such differences are hybridised, sometimes to approximate "dialectal" differences of a fairly homogenous technical world.

The sociality of the acquisition and practice of the technicity of agency is thus an indisputable reality. However, it is equally important to notice the particular form in which individual agents acquire skills under social pressure (for example, because of specifics of their bodily condition, their talent and aptitude to learn and other factors), and how individuals are entangled in different life narratives, possibly corresponding with divergent social pressures and relations to social groups. Such pressures and relations may fragment and thus obscure the effect of social processes of learning.

V.D. DIALECTIC OF INDIVIDUAL AND ASSOCIATIVE ACTION

Technical agency is formed and activated not only in interaction with the constitutive objects of that domain, but also in collaboration with other incarnate, organizational and institutional subjects. Acting is thus rarely ascribable to an isolated individual agent or to a homogenous social unit—in this case, not because of the sociality of the acquisition of skill, but because of the sociality of interaction.

The technicity of action is therefore situated in an association of co-agents, whose level of collaboration can be represented on a scale ranging from close

interaction in tightly woven networks of the agent in *collective agency* (as typically found in a well-motivated sports team) to the episodic, short- or long-term coordination of relatively independent projects in a *contractual agency* (as required, for instance, in complex manufacturing projects, like that of passenger aeroplanes). In none of the forms of associative agency that lie between these two poles can the result of action be attributed simply to the sum of individual agents' projects. Besides, the more tightly the network of associative actors is bound, the more the ensuing associative action would tend to display something like a collective style, due to the increased importance of intercorporiety and the corresponding "co-world" of the participating agents.[51]

V.E. DIALECTIC OF THE TECHNICITY OF ACTION AND THE SYMBOLIC AND LINGUISTIC ORDER

The symbolic and linguistic order here refers to the widest concept of representations that may be present in the human mind or that may have an impact on it. Unconsciously such images or ideas feed into continuous activation of bodily skills (primary technicity), for instance, reluctance toward risk-taking, the traditionality of actions, or personal aspiration. These images or ideas also inform conscious planning of and deliberation on action (in the sense of secondary technicity) in purposive training to change bodily skills, practising counter culture, invention, the subjection of technical processes to non-technical standards or criteria of excellence, such as beauty or safety.

Again, the symbols or symbolic complexes that may influence technical agency may be ascribed to an individual's creativity. But more often these symbolic complexes belong to groups or societies. This is true independent of the degree of conscious knowledge of and engagement with those symbols by the agents. On the level of individual or group agency, we might think of personal aspirations or convictions that might influence the deployment of technical skill. On the level of cultural groups or societies, it is rather the silent workings of ideology that come to mind. Here, Max Weber's theory of the Protestant work ethic serves as an excellent example:[52] through the effective transmission of a symbolic system (the disenchanting Protestant theology), people in modern Western Europe and North America have acquired the habitus of acting in a frugal manner. Once frugality has taken root, not only through the transmission of the Protestant ethical ideas, but through the practice of "innerworldly asceticism," the world order that came about as result of this new form of work (namely, modern industrial society) served to maintain this habitus of frugality (and everything associated with it)—and it is this training by the socio-technical order that Weber calls the "iron cage."

In these five ways individuals' technical agency appears organically linked with aspects of human existence that are not technical in nature. Neglecting the significance of these non-technical aspects of human agency for individual technical agency would distort our understanding of the phenomenon of the technicity of agency beyond recognition. The opposite is equally true: none of these other aspects of being human can be contemplated plausibly without recognizing the place of technicity in these aspects.

VI. "TECHNOLOGY" AS CRITICAL DISCOURSE: ITS POSSIBILITIES AND LIMITS

Thus far the discussion has centered on "technology" as a rational discourse describing the technicity of action. Having developed a framework in which to present the value and scope of such a discourse, I now turn to how the discourse on the technicity of action may be "critical." The adjective 'critical' refers—over and beyond the wish to analyze the phenomenon of the technicity of action accurately and to situate it in a sophisticated manner in the context of human life—to a normative discourse, according to which the better forms of human technicity may be distinguished from the undesirable ones (in other words, evaluation in terms other than expediency, efficiency or even beauty), or to be more exact, a normative discourse by which to expose or diagnose faults in the social conditions that obstruct people's self-realisation (according to our Honnethian (1999) definition, presented earlier in section I). "Technology" as critical discourse has to be able to comment on ways in which the social condition of the technicity of action in a particular context contributes to or infringes on people's lives and wellbeing. If the technicity of action is spread over practically all parts of human existence, then this critical discourse would have to extend equally wide.

To justify the normative potential of an intelligent discourse on the technicity of action is an enormous task. For the purposes of this article, I limit my efforts to presenting the essence of such a normative discourse of technicity by returning to the Aristotelian (and somewhat anti-Aristotelian) definition of skill that I argued for earlier (section II.B):

> *Skill, then, is a disposition of choice in matters of the mean relative to us, the choice is made in accordance with reason and is ideally executed as the person gifted in technical reason would do it. It is a mean between two flaws, one of excess, the other of deficiency, and where this mean can be described in terms of the discernible increments on the continuums of all the categories that determine the particular quality of an action (its agent, object, instrument, manner, time, place, duration, reason, purpose) between the two flaws.*

It is well known that the core conviction of Aristotle's ethics (and similarly of all virtue ethics[53]) is that the practice of virtues represents the internal conditions for a flourishing life (*eudaimonia*)[54] and that the virtuous life is thus a good life.

As an extension of the Aristotelian framework that has guided my argument thus far, I shall now attempt to demonstrate what the value—and limits—of affirming a similar normativity for skill would be. In other words, the core of the proposed Aristotelian critique of the technicity of action resides in affirming the normative assumption that it is good for people to act and to be able to excel in action. Besides, if *phronésis* and *techné* overlap as I argue in section II, then it seems plausible that the good life does not depend only on virtuous action, but also on skilful action (provided that skill is understood in the terms set out in this article). Accordingly, the merit of a negative formulation of the same assumption has to be acknowledged too: where the skilfulness of action is undermined, excellence of

the action is threatened, and since virtuous action depends on skilful action (see section II.B), the ability to flourish in life would be endangered.

In arriving at this conclusion I have gone a long way toward relativizing the distinction between *phronésis* and *techné*. However, I have not conflated the two terms completely, nor do I advocate considering them on absolutely equal terms. *Skill cannot give to itself the ultimate justification or limits of its practice*. This insistence on this inability of skill is not a *deus ex machina* in terms of my argument thus far. The exact place of this inability and its interlinking with considerations from the symbolic order (ethical, moral and political, in this case) have been demarcated at two places in the argument above: first, in the insistence on a symbolic meaning of technical action (point 3. in section IV.C); second, in presenting this same phenomenon from the point of view of the dialectic between technical action and the symbolic and linguistic order (section V.E). That said, reaffirming that ethical decisions ultimately cannot be reduced to technicity does not mean that I wish to resuscitate the separation between ethical life and technical life. It is the great merit of Weber's thought on political responsibility that he argued this point: in order to act according to one's judgments regarding what is just and unjust, in other words, to give reality to such judgments, considerations of technicity (for example, strategy, collaboration, use of means, compromise) have to be taken into consideration from the outset.[55] In short, the technicity of action should inform responsible deliberation about ethical and political action. It almost goes without saying for a readership of social scientists that the ethical and the political cannot be reduced to the technical without catastrophic consequences.

On the other hand, reducing the technicity of action to the mere deployment of instrumental reason or elevating efficiency to the exclusive value of human technicity both amount to amputating technicity from its essential implication in non-technical aspects of human existence. It is to commit violence to the primary, non-teleological nature of the technicity of action and/or to miss the plurality of ways in which human beings in different spheres justify their actions.[56] Formulated negatively, the critical strike of "technology" is aimed against both the *technicist reduction* of human technicity (the reduction of human technicity to a specific type of action, which moreover is considered through the lens of the teleological prejudice) and the *anti-technical marginalization* of human technicity (the attempt to ban technicity from human nature or to limit it to certain types of action).[57] These two tendencies that distort the human being as technical agent would most often result in techno-optimism and techno-pessimism, respectively. Formulated positively, "technology" as critical discourse on human technicity is guided by the desire to gain insight into the full potential of the development of human agency, since it is a condition for the possibility of ethical, as well as moral and political excellence.

Since space limitations do not permit a full discussion, I briefly summarize the typical pathologies or distortions that may arise as a result of the distortion of the technicity of action from a technicist reduction or anti-technical marginalization in the Table 1 (next page). This brief presentation will have to be followed up on another occasion by a detailed discussion and justification. Nonetheless, in its current format, the contents of the table should suffice to demonstrate the critical potential of "technology" as developed from the definition of skill given above.

Table 1: Technical agency: its constitution and distorted and optimal conditions

Dialectic of individual technical agency and . . .	**Distortions of the technicity of action . . .**		**Optimal condition of technicity** = development of excellent technical agency which is integrated with other anthropological aspects
	. . . through negligence of the dialectics = technicist reduction *tendency toward techno-optimism*	**. . . due to exaggerated emphasis on the non-technical pole of the dialectics = marginalisation or concealment of human technicity** *tendency toward techno-pessimism*	
(1) . . . biological aspect of the body	Repressive discipline through intolerance toward the biological condition of agents	Insufficient development of skills (and possible loss of self-esteem) due to reduction of agency to spontaneous natural forces	Empowerment; acquisition of skill in realism about agent's capabilities
(2) . . . the technical systems	Over-boldness in ability of agent to act independently from technical system, in the ability to plan the functioning of the system and/or in programming the system in a value-neutral way; insufficient attention to harm to people due to contemporary technical system, e.g., alienating labour	Summary judgement of the inhumanity of technical systems; techno-conservatism, sometimes rooted in nostalgia for small-scale technical set-ups, but in ways inappropriate to the present technical needs of humanity; lack of recognition of judgement in technicity of action and, possibly, ensuing fatalism	Recognition of human dependence on means and their advantageous and harmful characteristics; creative technicity

(3) . . . socialisation (training)	(Blindness in respect of) mediocre competence due to the illusion of self-sufficiency; unrealistic self-esteem of the individual agent; one-sided transfer of required skills to means, with lack of insight into the dangers of standardisation as normalisation of action through exposure to technical means	Overestimation of spontaneous social interaction, of ability to weigh normative considerations in practical context and/or of ability to act accordingly; unrealistic confidence in ability to take creative action and loss of possibilities of stable capabilities	Continuous apprenticeship and increasing experience in innovation in unknown and uncertain contexts
(4) . . . associative agency	Technocracy; exaggerated insistence on bureaucratic management; disregard for common values that arise through collaboration	Unrealistic expectations of spontaneous collaboration or collaboration out of agreement, or disregard for the potential to realise individuals' potential in collaboration; "innovation" in respect of organisational technologies: corruption; populist decisionism	Informed and reflective associative decision-making and action
(5) . . . symbolic and linguistic order	Technicist interventions and/or distortion of human relations, e.g., technology transfer without consideration for cultural context; cultural conservatism and ethnocentrism	Utopia of society as organised on shared symbolics or immediate interpersonal contact (with possible ensuing political cynicism); or underestimation of technical ability in the face of hegemonic symbolic orders	Competence in the mediation and coordination of human action through non-technical considerations

In the left-hand column, the technicity of the human being in its five-fold dialectics is represented (as in section V, above). In the right-hand column, an idea is given of what the optimal manifestation of human technicity would be, according to each of the five dialectics. In terms of the argument above, this optimal manifestation of human technicity represents the part of the definition of skill identified with "as the person gifted in technical reason would do it." The two center columns represent the two sides of flaws (as in the definition of skill), in other words, pathological relations to human technicity. The underlying structure of this table therefore reflects not only the excesses and deficiencies that have to be prevented through a judicious perspective on technicity, but also an indication of the excellence that should be sought between these two flawed extremes.[58] One aspect of excellent human action is the ability to realise skilfulness in different contexts and under different conditions of the justification of action (what Aristotle calls "the mean relative to us")—not only in the critical analysis performed after action by social scientists, but especially in the practice itself.

Two dimensions of this appreciative vision on the excellence of skilful action and the critical vision of the distortions thereof need to be underscored. First, while providing the framework for the normative potential of "technology," this framework simultaneously provides an outline of the technicity of ethico-political agency and action itself. Second, nothing further is claimed in this normative framework, aside from articulating the technical conditions of ethics, in other words, of the wish to live well, the realization of which aspiration is an essential component of self-esteem. In formulating the "ethics" of technicity in this Ricœurian parlance, I invite the reader to place this ethics in a *theoretically* irresolvable tension with the moral discourse on universalizability, as Ricœur does. This tension can, as Ricœur argued, only be solved *in practice* by prudent, responsible action.[59] Such responsible action would in turn require, amongst other things, creative technicity for its practical realization.

The critical social theory of human technicity is never elevated in my argument to the sole or decisive normative discourse on action. The highest ambition for the normative potential of "technology" as critical discourse can again be formulated with a double negative: the ethical aim for the good life *cannot* be realized *without* due consideration for the optimal condition of technicity (nor can the good life be realized without the technicity of action); and if ethics remains bound, in tension, with morality, this tension can only be resolved in practice, which in turn *cannot* happen *without* creative technicity.

ENDNOTES

* During this article's long gestation, I was able to read drafts and parts of this article at conferences and in guest lectures in Bochum (2009), Pretoria (2011), Rochester (2012), Antwerp (2012), and Paris (2013). I thank my hosts and interlocutors for engaging in debate with me, and for their helpful suggestions. A much shorter version of sections of the current article first appeared under the title "Tegnologie as kritiese sosiale teorie" in *Tydskrif vir Geesteswetenskappe* 52(1), March 2012, 36–51. Some of the current content is translated

from the earlier version. I thank the editors of that journal and of the *Journal of Philosophical Research* for accepting this overlap.

1. The scope of the present article prohibits an exhaustive overview. For the purposes of the study, suffice it to refer to the vast compendium of attitudes and opinions held and defended over the centuries on the relation between human beings and technology presented in Johan Hendrik van der Pot's *Encyclopedia of Technological Progress: A Systematic Overview of Theories and Opinions*, 2004. Among the classical philosophical overviews that speak to the present issue, see Mitcham 1994, Part 1 and Feenberg 2002, chapter 1.

2. Given the limited scope of an article, it is not feasible to present the comprehensive literature review required for such a project. Key references are provided, as the aim of the study is to *demonstrate the plausibility of this long, transversal approach*; the debate with other sources is left for a monograph. I refer to a number of my own studies in which aspects of these debates may be studied.

3. An overview of this development from Schleiermacher, to Dilthey and Heidegger can be found in Ricœur 1986, 83–111 and in Grondin 2006, 14–42.

4. In this context we might consider the work of philosophers such as Don Ihde or Bernhard Irrgang. It is important to read the ideas I propose as being in debate with their work, but doing so explicitly goes beyond the scope of the current study. The same constraints oblige me to limit my debate with significant authors working on action theory and agency to a few brief remarks where apposite.

5. While the current study aims to establish what exactly may be understood as "technics" or "the technicity of action," a few preliminary pointers for the definition are in order regarding my understanding of "technics." In his discussion of the notion of "Technik," Günther Ropohl (1999) distinguishes both a broad and narrow usage of the term. Referring to the notion of "Technik im allgemeinen" of Gottl-Ottlilienfeld as the foremost representative of the *broad* use of "Technik," Ropohl justifies his preference for *not* using the term in this broad way "because it would bring all human praxis in play and no sector would be demarcated" (1999, 30). These are precisely two of the reasons why I *do* opt for such a broad notion of the "technical" or "technicity." Furthermore, I decline Ropohl's own suggestion for a *medium-range* notion of "Technik"—he suggests speaking "always and only then of "technics" [*Technik*] when objects are artificially made by humans and used for specific ends." The justification for my rejection of such a medium-range notion is that it seems to promote the prejudice of narrowing down "Technik" to the use of instrumental reason from the outset.

Since I explicitly include the unreflective deployment of bodily skills in the definition of the technical, my understanding thereof is broad, so as to include both moments of Hickman's definition: "Technology in its most robust sense, then, involves the invention, development, and cognitive deployment of tools and other artefacts brought to bear on raw materials and intermediate stock parts, with a view to the resolution of perceived problems. Technology in this sense is what establishes and maintains the stable technical platforms—the habitualized tools, artefacts, and skills—that allow us to continue to function and flourish," Hickman 2001, 12. Obviously, one does not have to share the value judgment built into the last phrase of this definition.

6. Two decades later, the "technical turn in philosophy and social theory," see Feenberg 1995, had still only unfolded to a modest extent, despite advances in Science and Technology Studies, Digital Humanities, the continued study of material culture, etc.

7. This understanding of critique is directly derived from Honneth 1999, 370 and 388–390. The above outline of my intention with "technology as critical social theory" should already reveal my proximity to Andrew Feenberg's critical theory of technology. I share, *inter alia*, his polemics with essentialism, his approach to technology as medium of human life, his desire to identify social pathologies without abandoning emancipatory or democratic action—see Feenberg 1999. However, my affinity is rather with the more recent critical theory from Frankfurt, as could partially be seen in the way I will deal with pathologies against the background of a general anthropological theory. This obliges me to underplay the importance of modernity during the *initial* development of my theory, over against the predominance of modernity as frame of reflection in Feenberg's work, see, for example, Feenberg 1995. But more substantially, I aim to offer the fuller theory of the *technicity of action*, which remains relatively underdeveloped in his work despite the important inspiration he derives, amongst others, from constructivism (see further detail in Feenberg 1999, chapter 5).

8. However, the wide use of the term "technology" has significant historical antecedents (see Meier-Oeser 1998) and has found its way into contemporary philosophy of technology at least in the case of Günter Ropohl's *Allgemeine Technologie*, 1999.

9. See Ricœur 2004, 181. Ricœur's hermeneutics of the capable human being is found in Ricœur 1990a. For a reading of the technicity of Ricœur's "capable human being" see Wolff 2013.

10. This can be traced back clearly to Heidegger's *Natorp Bericht* [1922] 2003. Franco Volpi's 1988 essay gives an excellent account of this reinterpretation of Aristotle in *Sein und Zeit*.

11. See for instance the manner in which Ricœur's hermeneutics of narrative—in which he insists on the long detour through the study of texts nonetheless ends up in a reflection on historical thinking that is explicitly devoted to action, see Ricœur 1985, chapter 7.

12. Expressed at length in Wolff 2008.

13. In a similar fashion my undertaking also remains critical in its appropriation of the broader phenomenological and hermeneutic tradition, in which technicity rarely got (or gets) its due. It is beyond the scope of this article to examine my reasons for turning to the early Heidegger (despite my objections) at the expense of his later philosophy where technology is more directly thematized. For current purposes, see the significant evaluation of this part of Heidegger's later philosophy by Séris 1994, chapter 7: "Métaphysique et essence de la technique: Heidegger."

14. The exposition on Aristotle that follows takes up some elements of an earlier study (Wolff 2008), but refines and develops them further.

15. I refer throughout to the bilingual edition of Aristotle's *Nicomachean Ethics*, 2003.

16. And even then, how does one practise a virtue for itself without technical support? How could one, for instance, be simply patient, without being patient while struggling to play the piano?

17. I follow here, the excellent exposition on the mean by Michael Pakaluk 2005, 110ff.

18. These conclusions contradict Heidegger's reading of Aristotle, and thus oppose the implicit "ethics" of authenticity of *Sein und Zeit*, but none of these conclusions interfere with the Heideggerian generalization of hermeneutics, to which I remain indebted.

19. The problems that are created are rather Heidegger's (his understanding of "authentic" and "inauthentic" existence would be seriously affected, for example) and do not affect the concerns set out in this study.

20. The aim of this section is to show the way towards an independent reflection on the skilful body in response to the preceding reading of Aristotle. However, it will be clear to the reader that what follows is developed mostly against the background of the phenomenological tradition in a broad sense. Important elements of this tradition could be traced from Husserl [1930] 1973, §32 and [1939] 1999, §25, to Heidegger's presentation of "das Man," especially Heidegger [1927] 1993, §27, to Merleau-Ponty 1945, 166ff and 177ff, to Ricœur 1950, 264–290, and to Bourdieu, despite his critique of phenomenology, 1972, 256–320 and 1980, 87–134.

21. Bodily technics, techniques and technologies are possible translations, but each of these results in some undesirable ambiguities.

22. Unsatisfactory translations of the French 'gigoter.'

23. This move is necessitated not only by the aim of providing a plausible account of the technicity of action (including its non-technical origins) from the earliest infanthood, but to formulate this account of action in a manner that allows for non-rational and not (necessarily) normative action in later life. For the significance of this idea, see Hans Joas and Wolgang Knöbl's assessment of Herder's contribution on expressive acts in Joas and Knöbl 2004, 77–79.

24. This striving corresponds with Aristotle's notion of *orexis* (commonly translated as 'desire'), but also with the temporal projections or "ek-stasis" in Heidegger.

25. See Marc Breviglieri's exploration of the "inner certainty of being able" that resides in the sensitive experience of the vital functions and that he argues makes the acquisition and exercise of capabilities possible, (in Breviglieri 2012).

26. The notion of "familiarity" is borrowed from Heidegger and is an essential component of the potential of opening something like a "world" in interaction with things; the notion "world" is derived from the same context, see especially Heidegger [1927] 1993, §§16 and 31.

27. See the classical studies of Leroi-Gourhan, 1943, and Gilles 1978, 121–176, as well as the more recent book of François Sigaut 2012. See also the religious uses of bodily skills in Pottier 1990.

28. That is, in contradistinction to the manner in which objects follow rules or laws. The specificity of rule-following in action is shared to a certain extent by certain animals.

29. This insight has been analysed perceptively by Robert Bresson 1988 in contrasting the natural agency of actors for film with played agency of actors in theatre. The beginning of this discussion draws from an earlier study (see Wolff 2010, and also the valuable exposition on rule following in Taylor 1999, following Wittgenstein and Bourdieu). The elaboration in the present article differs from my previous presentations, in that my insistence on the social constitution of learning processes of skill is exaggerated in the earlier work. In the current formulation, the particularity of individual learning processes should be articulated more clearly, without however neglecting the social dimension of learning.

30. The complex relation between capability and incapability in the finitude of human agency has been examined in Wolff 2013. This relation of mutual implication of "capabilisation" and constraint is at the core of Foucault's notion of "discipline," see Foucault 1975, 161.

31. The term 'fitting' is chosen to render the notion of "action qui *convient*" as developed by Thévenot 2006.

32. Provided that I immediately express my doubts that the interpretatively strong version of this notion that I advocate (coupled with the factors of defect and talent in acquisition of

skill—see section III) will tend to make my notion of "sense for the game" unable to support the weight of a theory of social reproduction such as that of Bourdieu.

33. Cf. Levinas [1961] 1998, 180–182 on the essential groping (*tâtonnement*) nature of all action and as condition of technics.

34. One could subscribe at least to the more ethnomethodological parts of the work of Latour (and colleagues) in support of the latter half of this claim. See Callon and Latour 1981, Latour and Strum 1996, and Latour 1996, where the framing of human action by technical dispositives is developed by contrasting it to an "ethnography" of primates. Proper engagement with Latour's more recent work unfortunately exceeds the limitations of this article.

35. My concepts of primary and secondary technicity of action are not to be confused with Feenberg's primary and secondary instrumentalization—see Feenberg 1999, 202–207 and 2002, 175–178.

36. Space constraints do not allow me to develop the concept of routines in detail here, but it should be sufficiently clear from my references that my preceding analyses could be taken as the genealogy of what Giddens calls 'routinization' and that he defines as "The habitual, taken-for-granted character of the vast bulk of the activities of day-to-day social life; the prevalence of familiar styles and forms of conduct, both supporting and supported by a sense of ontological security" Giddens 1984, 376.

37. Pragmatism is, in fact, characterised by Joas 1992, 197 as "a theory of situated creativity." In the discussion that follows I assume the compatibility of Joas's pragmatism with the relevant aspects of the phenomenological and hermeneutic traditions.

38. Here Joas is quite close to the discussion of routine in Giddens 1984, chapter 2.

39. This conclusion is not entirely foreign to that expressed by Berger and Luckmann 1966, 71: "by providing a stable background in which human activity may proceed with a minimum of decision-making most of the time, it frees energy for such decisions as may be necessary on certain occasions. In other words, the background of habitualized activity opens up a foreground for deliberation and innovation." However, whereas these authors emphasise the passivity of habit, I insist that bodily skills (and their larger complexes, routines) play an active role in enabling action and participating in the judgement inherent in action. It should be clear that my exposition above is compatible with that of thinkers such as Richard Sennett 2008, in as far as we limit our view to his rehabilitation of the value of apprenticeship and craftsmanship. However, I claim that my exposition reaches deeper phenomenologically, which would allow for a more ambivalent description of craftsmanship and a broader socio-theoretical ambition.

40. This could also be argued by Heideggerian means, by noting his stance on the frustration of action (see the excellent commentary of Bernet 1994), and by using as analogy the derivation of language (*Sprache*) from discourse (*Rede*), see Heidegger [1927] 1993, 157–158 and 1976, 153–160.

41. This approach to the technicity of action does not aim at defining human technicity in contradistinction to animal technicity (or absence of technicity in animals). In fact, the manner in which primary technicity is presented here could possibly be used to describe essential aspects of the action of big mammals (at least), where it seems to me absurd to reduce their behavior to simple stimulus-response mechanisms. Although the question of animal technicity falls outside of the scope of this article, it can at least be provisionally indicated that the dialectics through which the bodily skills are bound with technical means and the symbolic order (see discussion below) are responsible for the considerable difference of degree of complexity and performance between the technicity of humans and that of other animals.

42. See section II.C for the importance of and specific re-interpretation of Aristotle's *hexis meta logou*.

43. This lesson from Heidegger can, however, be embraced without sharing the immediate connection with teleology that Heidegger makes in his phenomenology of "as," see Heidegger [1927] 1993, 148–149. Although for entirely different concerns than my present ones, Levinas already questioned the inevitability of this primary teleological stamp on one's relation to things—see his phenomenology of dwelling and pleasure (*jouissance*) in Part 2 of Levinas [1961] 1998.

44. See Ricœur's judicious qualification of this kind of undertaking: "I'm well aware that a reading of *Being and Time* in a purely anthropological sense runs the risk of completely missing the meaning of the entire work inasmuch as its ontological aim may be misconceived. *Dasein* is the 'place' where the being that we are is constituted through its capacity of posing the question of Being or the meaning of Being. To isolate the philosophical anthropology of *Being and Time*, therefore, is to overlook this major signification of the central existential category of the work. Yet in *Being and Time*, the question of Being is opened up precisely by an analysis that must first have some consistency as a philosophical anthropology, if it is to achieve the ontological breakthrough that is expected of it" Ricœur [1983] 1990b, 60–61.

45. For the sake of the coherence of the current argument, I need to briefly recall the most relevant parts of a hermeneutics of technical action developed elsewhere. However, it should be noted that in both these earlier texts, I still worked with a typology of technical action, which I have since abandoned. My first attempt (Wolff 2006) was based on an analogy with Ricœur's general textual hermeneutics; in the second attempt, which I follow here, the hermeneutic spiral of Ricœur's narrative theory served as analogy for the development of a hermeneutics of technical action (Wolff 2012).

46. I am fully aware of the different human-technology-world relations presented by Don Ihde, for example, in Ihde 1990, 72–115. Although Ihde uses a much narrower notion of "hermeneutics" in that he uses the term to refer to people's use of text-like instruments, such as measuring devices, his work and the idea of multi-stability complement the ideas I present here. I intend to pursue this potentially fruitful complementarity in another study.

47. For the demonstration and detail on the two illustrations that follow see Wolff 2012, especially the conclusion.

48. Aristotle speaks, in the domain of virtue, of the fact that an agent may well consciously decide to acquire a certain virtuous disposition, and is in this sense responsible for the kind of ethical agent that he or she is. However, the small gradual additions to an already formed disposition happen without the agent's knowledge (*hekasta dé hé prosthésis ou gnorimos*—NE 1115a1). Although I am not fully convinced either of the masterly control that the agent initially has over the course of acquisition adopted, nor about the complete ignorance regarding the small developments, Aristotle may well have put his finger on the manner in which medical interventions (*prothesis* in a very general sense) may add something to technical agency, although in a manner outside of the circuit of acquisition of skill through training.

49. See section IV.C above. It is here that the incorporation of Ihde's human—technology—world relations and his reflections on multi-stability would be very valuable.

50. An excellent discussion of the systemic nature of technics on a range of different scales of size is provided by Ropohl 1999.

51. The analysis of the associative aspect of agency is a particularly difficult task when working in the phenomenological and hermeneutic tradition. Heidegger's notion of co-existence (*Mitsein*) and the corresponding idea of a shared horizon of meaning through action (to which

the notion "*Mitwelt*," co-world, refers) remain a quite underdeveloped part of his thought—see Heidegger [1927] 1993, §§25–27. Likewise, Merleau-Ponty's notion of intercoproreity (*intercorporéité*) is not developed in detail for an action theory either (Merleau-Ponty 1960, 282 and 1964, 183). In his last book, Ricœur 2004 clearly indicates the place of collective agency in his hermeneutics of the capable human (*l'homme capable*) and makes valuable suggestions to understanding its nature. However, even in this book, the issue of collective agency is not well integrated into the broader theory and remains in need of development, Ricœur 2004, 215–232. This is a theme that is in urgent need of elaboration elsewhere.

52. Supposing for the purposes of my argument that this is valid.

53. This is important, because, just as my initial re-reading of Aristotle is motivated by a specific moment in the reception of his work (namely the early Heidegger's general hermeneutics), so my redeployment of the normative moment of the *Nicomachean Ethics* stands in the sign of another moment of the reception of his work (in particular Ricœur's "little ethics" in *Oneself as another*). My own Ricœurian redeployment of Aristotle is, as the reader will quickly notice, as critical of Ricœur's own unfortunate negligence of the technical aspect of the capable human being (*l'homme capable*) as it is of Heidegger's distorted view of technical action.

54. It is worth bearing in mind the external conditions (Aristotle, for instance, refers to friendship, material supplies and justice) as the "deontological" or context-independent moment in Aristotle's ethics.

55. So as to avoid practising an ethic of principles (*Gesinnungsethik*) that remains foreign to the demands of reality. This problem was presented by Weber [1919] 1999, 435–450. See also Schluchter's excellent commentary from 1971 and my developments on this theme in Wolff 2011, 175–266.

56. It would be possible to demonstrate that the justification and judgment of the technical aspect of action is subject to the same pluralism of values (or "common goods") and thus of the orders of justification to which action in general is subject. Boltanski and Thévenot 1991 have identified six such orders (inspiration [art and religion], family, public opinion, citizenship, the market and industry) which, in my view, each in its own way binds the human technical ability into a project and a frame of justification, evaluation, condemnation and compromise (depending on the case).

57. That these opposites can meet has been demonstrated convincingly in Horkheimer's critique of instrumental reason, as seen in Rohbeck 1993, 122–141.

58. The thrust of my argument—in continuation with the discussion of Aristotle in section II of this study—is, however, to avoid entrusting the question regarding the competence that would enable one each time to find the mean between the two vices/flaws to an action typology dependent on *techné* and *phronésis*, since such an approach would not do justice to either of these *aspects* of agency.

59. See Ricœur 1990a, study 9, and my study on Ricœur and responsibility in Wolff 2011, chapter 9.

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