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New Technologies and the "Heuristics of Fear": The Meaning and Prehistory of an Emotion in Jonas, Heidegger and Hegel*

I. INTRODUCTION: THE "HEURISTICS OF FEAR" AS
A METHODICAL FEELING FOR TECHNOLOGY ASSESSMENT

In the present age, a constant evaluation of technology cannot be put off. Thus, in view of the ever-increasing dominance of technology within the biosphere of our planet, one already speaks of a distinct "technosphere" (cf. Zalasiewicz et al. 2017). Not only is the development of new technologies accelerating at an ever faster pace, as the term "Great Acceleration" suggests (cf. Steffen et al. 2015), but the boundaries between the natural and the artificial are becoming increasingly blurred. This has led to the assumption of a new geological epoch, the "Anthropocene" (cf. Crutzen 2000). It is not least against this background that technology assessment has developed a variety of methods in recent decades to prevent the dangerous excesses of technological development at an early stage (cf. Grunwald 2002). However, since it is ultimately a matter of dealing with the ignorance of future consequences, no matter how precise and complex the methods of forecasting may be, there is still a gap that by definition cannot be filled by discursive knowledge. From the very beginning of technology assessment, emotional knowledge has always been used alongside rational, mathematically and statistically determinable forms of knowledge.

The best known approach is surely Jonas' "heuristics of fear" (cf. von Sass 2016). Admittedly, this principle proposed by Jonas has often been dismissed as too far-reaching and even as a form of conservatism which, for the sake of preserving the existing, tries to exclude every conceivable risk (cf. Grunwald 2002. 214; Schmidt 2013. 146). However, this principle can by no means be dismissed as obsolete, since the increasing technical possibilities make such a radical precautionary principle seem more important than ever before (cf. Böhler 2008).

Moreover, the implications of this Jonasian "heuristics of fear" have rarely been fully explored, and these become first and foremost visible when one considers the precursors of this feeling in Hegel and especially Heidegger. In both "fore-runners" this feeling is neither exclusively nor primarily a characteristic of a negative-pessimistic world behaviour. On the contrary, both the idealist Hegel and the hermeneut Heidegger understand fear or anxiety as guaranteeing the possibility of liquefying the given, which should ensure openness for an actual future or even a new level of consciousness.

The historical interest in tracing the prehistory of the Jonasian concept of a "heuristics of fear" in Hegel and Heidegger, which will be pursued in the following, is thus also accompanied by a systematic concern: namely, to explore the significance of a theory of feelings for technology assessment. It is the thesis advocated here that the "affective element" (Jonas 1979. 165) in (technological) ethics emphasized by the "heuristics of fear" can only be adequately understood against this historical background. The "sense of responsibility" *(Verantwortungsgefühl)* (ibid.) articulated in this fear proves to be such a sense, which opens up a horizon of possibilities for responsibility and is not intended to negate possibilities due to an allegedly exaggerated sense of caution.

In the following, it is firstly necessary to deal with the concept and function of a "heuristics of fear" in Jonas' work *The Imperative of Responsibility* from 1979 (chap. 2). Afterwards, we will discuss the concept of *Angst* in Jonas' teacher Martin Heidegger. This clearly forms the model for Jonas' concept of fear, although Jonas, as the preference of the concept of fear *(Furcht)* over that of anxiety *(Angst)* already indicates in a purely external sense, is striving to distinguish himself from his teacher in decisive points (chap. 3). A decisive demarcation is that Jonas, in contrast to Heidegger, is concerned with a form of "selfless fear" (Jonas 1979. 392; cf. Jonas 1984. 162). Although religious connotations conveyed through Kierkegaard also play a role here, this alteration in Jonas' work indicates his proximity to a thinker, namely Hegel, from whom, because he is a precursor of Marxism and Bloch, Jonas tends to distance himself. Thus, in the chapter of his *Phenomenology of the Spirit* entitled "Lordship and Bondage" *(Herrschaft und Knechtschaft),* Hegel also speaks of the feeling of fear in the case of a technical-craft process, a feeling that negates one's own self in favor of a higher level of consciousness (chap. 4). Even if, in contrast to his reception of Heidegger, it cannot be clearly proven whether Hegel's text also served as a model for Jonas, its parallelism allows the implications of Jonas' conception of a "heuristics of fear" to be interpreted even more clearly and comprehensively, as we will show in a concluding chapter (chap. 5).

II. JONAS' "HEURISTICS OF FEAR" AS PRINCIPLE AND METHOD
OF HIS FUTURE ETHICS

At the center of Hans Jonas' *Search of an Ethics for the Technological Age (Versuch einer Ethik für die technologische Zivilisation)* – the subtitle of his 1979 book *The Imperative of Responsibility (Prinzip Verantwortung)* – is the feeling of fear, which in its negativity is attributed a fundamental methodological significance for the new ethics promised by the book. The foreword to the 1984 English edition of the book refers to this central position of the "heuristics of fear" by introducing the term immediately after that of responsibility as a correlate of the newly gained human power to act (cf. Jonas 1984. x). The significance of Jonas' "heuristics of fear" for his ethical "search" is shown not least of all in the opposition to Ernst Bloch's *Principle of Hope (Prinzip Hoffnung)*, published in 1954, whose utopian approach Jonas seeks to refute in its entirety (cf. esp. Jonas 1984. 194–201; Jonas 1979. 348–387).

Unlike Arthur Schopenhauer, for example, who places the feeling of compassion *(Mitleid)* at the center of his ethics, Jonas is not pessimistic (cf. Jonas 1984. 49; Jonas 1979. 101). In view of the fact that "the promise *(Verheißung)* of modern technology has turned into a threat *(in Drohung umgeschlagen ist)*, or it has become inextricably linked with it", as the initial thesis of his book states (Jonas 1979. 7),[1] he is interested in naming a "compass" *(Kompaß)* by which "first of all the ethical principles become discoverable *(entdeckbar)*" (ibid.). Only the "anticipated danger itself" *(vorausgedachte Gefahr selber)* and thus a "heuristics of fear" can provide this yardstick (Jonas 1979. 7f.). This upgrading of the "heuristics of fear" to the yardstick and principle of his ethics corresponds to the significance of the object of Jonasian "future ethics", which does not only concern the "human fate" (*Menschenlos*) and its "physical survival", but the "human image" *(Menschenbild)* and the "integrity of [his] essence" itself (Jonas 1979. 8).

This already shows that Jonas, with his new ethics, is not only concerned with a technical-ethical extension of the existing ethics in the area of technical risk assessment, but rather sees the new technical possibilities and the "changed [...] *nature of human action*" associated with them as calling into question the

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[1] Jonas becomes clearer and more concrete in the preface to the English edition: "Not counting the insanity of a sudden, suicidal atomic holocaust, which sane fear can avoid with relative ease, it is the slow, long-term, cumulative – the peaceful and constructive use of worldwide technological power, a use in which all of us collaborate as captive beneficiaries through rising production, consumption, and sheer population growth – that poses threats much harder to counter. The net total of these threats is the overtaxing of nature, environmental and (perhaps) human as well. Thresholds may be reached in one direction or another, points of no return, where processes initiated by us will run away from us on their own momentum – and toward disaster." (Jonas 1984. ix.) Here Jonas already anticipates the later formulated theory of the so-called "tipping points", from which there is no turning back once they have been reached. Cf. Lenton et al. 2019.

foundations of traditional ethics themselves: Neither "the human condition, determined by the nature of man and the nature of things, was given once for all", nor is "the human good" still "readily determinable", and above all "the range of human action and therefore responsibility" is not "narrowly circumscribed" any more (Jonas 1984. 1; Jonas 1979. 15). It is precisely this liquefaction and dissolution of the boundaries of the object of ethics that, in Jonas' view, forces us to ask the question of ethical "Principles and Methods" anew in the second chapter of *The Imperative of Responsibility*.

According to Jonas, it is in particular Kant's Categorical Imperative which is no longer sufficient for ethical reflection on the spatial and, above all, temporal delimitation of the radius of human-technical action. This imperative is directed towards a present that excludes the future (like the past), and according to this imperative there is "no self-contradiction in the thought that humanity would once come to an end"; for the purely logical "rule of self-consistency", which characterizes Kant's Categorical Imperative, is thus fulfilled, since in Kant's view unborn generations do not fall under the commandment of the self-purpose of currently responsible subjects (Jonas 1984. 11; Jonas 1979. 35). In this respect, Jonas sees the necessity of integrating a time horizon that can ultimately only be justified metaphysically into the Categorical Imperative, which, like Kant, he reformulates as follows in a fourfold variant:

> "Act so that the effects of your action are compatible with the permanence of genuine human life"; or expressed negatively: "Act so that the effects of your action are nor destructive of the future possibility of such life"; or simply: "Do not compromise the conditions for an indefinite continuation of humanity on earth"; or, again turned positive: "In your present choices, include the future wholeness of Man among the objects of your will." (Jonas 1984. 11; Jonas 1979. 36.)

In contrast to Kant's position, however, the possibility of these four imperative formulations cannot simply be derived from that of freedom as autonomy of the will (cf. Kant, AA 4, 446–455). Thus Jonas assigns to the "heuristics of fear" not only the task of naming the means of action required by the new ethics, but also the task of providing the metaphysical basis for the new imperative in its four variants. Even though Jonas refers again and again to the theological motive of reverence *(Ehrfurcht)*, he does not want this foundation to be supported by reference to theological assumptions (cf. Jonas 1979. 8; 392f. Cf. also Huber 2018).

The "heuristics of fear" as "knowledge of the real and the probable in the realm of facts" is first introduced as a mediating sphere "between the ideal knowledge of ethical principles and the practical knowledge of political application" (Jonas 1984. 26; Jonas 1979. 62). The "heuristics of fear" is intended to mediate between the abstract knowledge of principles and their concrete application. At the same time, however, Jonas stresses that fear "is, rather, *heuristical-*

ly already needed within that doctrine [of the ethical principles] itself" (Jonas 1984. 26; Jonas 1979. 63). Analogous to the concept of *Angst* for Heidegger, as we will show in a moment, fear also reaches into the area of fundamental questions for Jonas, because it is precisely through the negative or consciously absent that a positive can be asserted. The possibility of the non-existence of something, according to the basic insight shared by Heidegger and Jonas, draws attention to the very existence or essence of something that in its self-evident presence is usually not conspicuous or remains unthematic. If we apply this to the possible dangers posed by technical progress, this means that it is precisely in imagining the destructive potential that could accompany this progress that we become aware of what is essential and worth preserving: "As long as the danger is unknown, we do not know what to preserve and why" (Jonas 1984. 27; Jonas 1979. 63). Since what is to be preserved is usually taken for granted, it first becomes noticeable when it no longer exists.

However, since the dangerous potential of technology is to be prevented, it is necessary to imagine this dreaded non-existence of something that needs to be preserved. And so the "'First Duty' of an Ethics of the Future" is just the "anticipatory conjuring up of this imagination" (Jonas 1984. 27; Jonas 1979. 64). In this context, "a casuistry of the imagination" is to be applied (Jonas 1984. 30; Jonas 1979. 67), which is not based on already known cases, but rather on those imagined in science fiction literature, for example. However, since this idea of a danger that could affect future generations has no potential for identification and therefore does not in itself cause fear, the second duty is the "bringing ourselves to this emotional readiness, developing an attitude open to the stirrings of fear in the face of merely conjectural and distant forecasts concerning man's destiny" (Jonas 1984. 28; Jonas 1979. 65). Jonas thus demands a form of fear that is not at all self-evident, or is even paradoxical. For it is not a matter of "fear or anxiety for oneself" *(Furcht oder Angst um sich selbst)*, but rather of "selfless fear" (Jonas 1979. 392; cf. Jonas 1984. 162), since this is directed toward a future humanity, but not toward one's own presently living person. Only in this way can man do justice to his historical responsibility, "the flourishing of man in unconcerned humanity" *(das Gedeihen des Menschen in unverkümmerter Menschlichkeit)* (Jonas 1979. 393).

At first, it might seem as if Jonas is arguing here in an essentialist manner with regard to likeness to God established once and for all as the essence of the human being. Thus, at least in the original German edition, Jonas speaks conclusively of a "reverence *(Ehrfurcht)* for what man was and is, out of a shuddering retreat *(Zurückschaudern)* at what he might become and which stares at us as this possibility from the imagined future *(als diese Möglichkeit aus der vorgedachten Zukunft anstarrt)*" (Jonas 1979. 393). That, however, a static-essentialist conception of man is not what Jonas is looking for is already shown by the fact that he deleted this theologically tinged final section in the English edition presented five

years later and only speaks of preserving the "integrity of his [man's] essence, which implies that of his natural environment" (Jonas 1984. 202). The fact that technology in modernity essentially defines human action and thus humanity, means for Jonas that with modern technology and its dangers, humanity is also under debate. Nevertheless, the "heuristics of fear" should not be accompanied by a conservative insistence on a supposedly timeless nature of human beings. Jonas already contradicts this insofar as he seeks to enrich Kant's present-fixed Categorical Imperative with a temporal component towards a future. It is precisely this fear that is intended to ensure this temporal reference of his ethics, which is oriented towards the preservation of humanity.

Jonas merely hints at how both can be thought of together. This only becomes fully understandable when one considers the background of this conception, namely the *Angst* conception of his teacher Martin Heidegger in *Being and Time*.[2] Even if Jonas at the same time resolutely dissociates himself from Heidegger's conception, especially from the self-fixation of Heidegger's *Dasein* (cf. esp. Jonas 1984. 88; Jonas 1979. 167), the principle-theoretical revaluation of fear in Jonas unmistakably points back to Heidegger's analysis of *Angst*, as we will now show.

III. *ANGST* AS A REVELATION OF THE POSSIBILITY HORIZON OF *DASEIN*

Heidegger's analysis of *Angst* in *Being and Time (Sein und Zeit)* from 1927 is much discussed and has had a broad impact that can hardly be underestimated (cf. Figal 2000. 192–209; Steinmann 2010. 103–110). In the following, we will therefore only interpret Heidegger's concept of *Angst* to the extent that this is necessary to understand the Jonasian approach in its connection to and, at the same time, its demarcation from Heidegger.

Heidegger addresses the phenomenon of *Angst* in *Being and Time* when he asks about the "structural whole of the everydayness of Da-sein in its totality" (Heidegger 1996. 170; Heidegger 1977. 241). In terms of content, Heidegger determines this wholeness of human *Dasein* through the structure of care *(Sorge)*. But this must first be shown phenomenologically or made tangible through a phenomenon, "in which Da-sein brings itself before itself", in such a way „that in it Da-sein becomes accessible to itself, so to speak, in a *simplified* way" (Heidegger 1996. 170; Heidegger 1977. 242). According to Heidegger, this phenomenon is *Angst* as a fundamental kind of attunement *(Grundbefindlichkeit),* which always perceives *Dasein* explicitly or implicitly in its finiteness. In order to un-

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[2] Jonas studied with Heidegger during his time in Marburg, as evidenced by the Schelling Seminar that Jonas attended in 1927–1928, which also dealt with the concept of "*Angst*" (cf. Heidegger 2010. 291, 311, 314 and 344).

derstand what the feeling of *Angst* is supposed to capture phenomenally here, it is worthwhile first of all to briefly visualize the structure of *Angst*, before we can ask how this structure becomes present in a feeling or attunement.

Heidegger understands care as the being of human *Dasein*. This "lies 'before' every factical 'attitude' and 'position' of Da-sein, that is, it is always already *in* them as an existential *a priori*" (Heidegger 1996. 180; Heidegger 1977. 257). Therefore, care should not be equated with special acts or drives like wanting and desires *(Wünschen)* or urge *(Drang)* and predilection *(Hang)*. In these everyday behaviors, the underlying care structure is no longer present in its entirety, or only in a modified way (cf. Höfele 2019. 299–304). In its entirety, the structure of care is characterized by three essential moments that, according to Heidegger, describe the being of *Dasein* ontologically: In recourse to the stoic tradition of *cura sui*, Heidegger defines *Dasein* as a being that is concerned with itself. In this way, however, *Dasein* is always already free and open "*for* its ownmost potentiality-for-being *(für das eigenste Seinkönnen)*", which it has to grasp and concretize; as such, a "*being-ahead-of-itself (Sich-vorweg-sein)*" characterizes *Dasein* in general, which already hints at the *future orientation* of *Dasein* that lies in ability *(Können)* (Heidegger 1996. 179; Heidegger 1977. 254 f.). But the "existing is always factical", as Heidegger adds with regard to the second moment of the care structure (Heidegger 1996. 179; Heidegger 1977. 255). *Dasein* is always already "thrown" *(geworfen)* into a world that is given to it as already *having been (gewesen)*. Nevertheless, *Dasein* does not find itself here as an isolated subject placed in the world, but the "thrown potentiality-for-being-in-the-world *(geworfenes In-der-Welt-sein-können)* […] is always already also absorbed in the world taken care of" (Heidegger 1996. 179; Heidegger 1977. 255). It is always already in the *presence* of being encountered, which it deals with every day.

In its tripartite nature, care refers to *"Gewesenheit"* (past), present and future – thus to the three dimensions of temporality *(Zeitlichkeit)*, which constitute and guarantee the *"primordial unity"* of care (Heidegger 1996. 301; Heidegger 1977. 433). It is only with the development of the three structural moments of care that Heidegger can understand these moments as a "being-ahead-of-oneself-already-in (the world) as being-together-with (innerworldly beings encountered) *(Sich-vorweg-schon-sein-in-(der-Welt-) als Sein-bei (innerweltlich begegnendem Seienden)*". That is to say, they form a uniform and fundamental structure, which is to be distinguished from all purely ontic phenomena "as worry or carefreeness" *(Besorgnis, bzw. Sorglosigkeit)*, insofar as it is the basis for them (Heidegger 1996. 180; Heidegger 1977. 256).

Angst has to show this threefold structure of care in a phenomenal way. It has to facilitate the experience that *Dasein* as being-in-the-world *(In-der-Welt-sein)* is always already open for the realization of its own *future* possibilities on the ground of its *factual* existence in a *present*. But since care is not an everyday concrete behavior, but always already implicitly characterizes *Dasein*, Heidegger

feels methodically compelled to assert the care structure and the being-in-the-world of *Dasein ex negativo*. Already in the analysis of the handiness *(Zuhanden-heit)* of inner-worldly existing stuff in § 16, Heidegger remarks that its essence can be discovered precisely through its unusability and unavailability. For it is only through this that its otherwise always unthematic handiness comes to light. In its unusability, handiness "does not just disappear, but bids farewell, so to speak, in the conspicuousness of what is unusable. Handiness shows itself once again, and precisely in doing so the worldly character of what is at hand also shows itself, too." (Heidegger 1996. 69; Heidegger 1977. 100.) Analogously, *Angst* is also supposed to illustrate *Dasein* as being-in-the-world, just as being-in-the-world gets lost and becomes uncanny for the *Dasein* in the world, in that it just does not feel at home: "In *Angst* one has an '*uncanny*' feeling. […] But uncanniness *(Unheimlichkeit)* means at the same time not-being-at-home" (Heidegger 1996. 176; Heidegger 1977. 250) But this feeling of not being at home not only leads, according to Heidegger, to an isolation of *Dasein*. At the same time, it reveals to *Dasein* its authentic being, which it has implicitly always been in being-in-the-world: namely "*being toward* its ownmost potentiality of being, that is, *being free for* the freedom of choosing and grasping itself *(Freisein für die Freiheit des Sich-selbst-wählens und -ergreifens)*"; *Angst* shows *Dasein* „the authenticity of its being as possibility which it always already is" (Heidegger 1996. 176; Heidegger 1977. 249 f.).

According to Heidegger, *Angst* makes it obvious that the open character and freedom of *Dasein* is something that must be wrested from the openness of the future of *Dasein*. Only when this openness is ensured, can freedom happen to *Dasein*, thus enabling *Dasein* to essentially comprehend itself in its open character (cf. Steinmann 2010. 103–110). This is precisely the point that Jonas makes when he sees modern technology and its dangers as calling into question not only the "human fate" *(Menschenlos)* but also the "human image" *(Menschenbild)*. Jonas' concern to preserve that which man is refers precisely to this horizon of possibility of man, which is stretched out in the temporality of *Dasein*, as the revelation of Jonas' connection to Heidegger makes even clearer.[3] In Jonas' eyes, the danger of man's technical actions in the present consists precisely in robbing future generations of this horizon of possibility, or at least restricting it, and thus substantially curtailing their humanity.

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[3] As Heidegger's later philosophy of technology shows, Heidegger also sees in technology a danger for the human image, namely that it is "only taken for continuance itself *(selber nur noch als Bestand genommen)*" (Heidegger 2000. 28). In *Being and Time*, Heidegger has already indicated that the structure of care can be related to the technical action of man, at least indirectly, by referring to Goethe's *Faust II* (Heidegger 1996. 405 n. 5 / Heidegger 1977. 262 n. 1), where in the fifth act the "technician" Faust is haunted by the personified Care *(Sorge)* against the background of his ruthless land reclamation project (Goethe, *Faust II*, vv. 11382 ff.).

That Jonas, however, does not adopt Heidegger's *Angst* analysis unchanged, is already shown by the fact that instead of *Angst* he speaks almost exclusively of fear *(Furcht),* which according to Heidegger is ontologically subordinate to the former. Despite his commitment to Heidegger's approach, Jonas has two points of criticism with regard to Heidegger.

(1) Particularly with regard to the function of his "heuristics of fear", namely to act as a mediating instrument between ethical knowledge of principles and their political application, Jonas cannot go along with the Heideggerian determination of the object of *Angst.* According to Heidegger, the fundamental attunement of *Angst* is characterized by the fact that it cannot precisely name what *Angst* is about: "The fact that what is threatening is *nowhere* characterizes what *Angst* is about" (Heidegger 1996. 174; Heidegger 1977. 248). This does not mean, however, that *Angst* is afraid of a mere chimera and is therefore unfounded. "But 'nowhere' does not mean nothing; rather, region in general lies therein, and disclosedness *(Erschlossenheit)* of the world in general for essentially spatial being-in *(In-Sein)*" (Heidegger 1996. 174; Heidegger 1977. 248). According to Heidegger, the indeterminacy of *Angst* makes it possible to bring the whole of the world into view:

> The utter insignificance which makes itself known in the nothing and nowhere does not signify the absence of world, but means that innerworldly beings in themselves are so completely unimportant that, on the basis of this *insignificance* of what is innerworldly, the world is all that obtrudes itself in its worldliness (Heidegger 1996. 175; Heidegger 1977. 248).

Since no specific inner-worldly being is the focus of *Angst,* only the whole, namely the worldliness of the world, can come into view. This is precisely the difference to fear *(Furcht),* which Heidegger therefore subordinates to *Angst* ontologically. Fear always has a concrete what-about *(Wovor),* as Heidegger previously explained in § 30: "That before *which* we are afraid *(Wovor der Furcht),* the 'fearsome,' is always something encountered within the world, either with the kind of being of something at hand *(Zuhandenen)* or something objectively present *(Vorhandenen)* or *Mitda-sein*" (Heidegger 1996. 131 f.; Heidegger 1977. 186; cf. also Figal 2000. 195; Steinmann 2010. 107). Since technical means are also to be subsumed under what is at hand *(Zuhandenes),* this moment of fear is understandably more interesting for Jonas's technical-ethical approach than the indeterminacy of the object of *Angst.* In its application-relatedness, Jonasian ethics can connect to this moment of fear, especially since Heidegger refers to the rational, clarifying moment in which fear exists: "And then fear, in being afraid, can 'clarify' what is fearsome by explicitly looking at it" (Heidegger 1996. 132; Heidegger 1977. 187). At the same time, however, Jonas does not want to renounce the principle-theoretical significance of *Angst* and its openness to the

possibility character of *Dasein*, which is why he does not exclusively insist on the notion of fear *(Furcht)* in *The Imperative of Responsibility* (cf. Jonas 1979. 392).

(2) Nevertheless, Jonas insists that he means "in no way fear or anxiety for oneself *(Furcht oder Angst um sich selbst)*" (Jonas 1979. 392), which in a second point distinguishes him from Heidegger. For, according to Heidegger, both that for which *(worum)* fear is afraid and that for which *Angst* is afraid are *Dasein* itself as being-in-the-world (cf. Heidegger 1996. 132, 175f.; Heidegger 1977. 188, 249): "*Angst* individuates Da-sein to its ownmost being-in-the-world which, as understanding, projects itself essentially upon possibilities" (cf. Heidegger 1996. 176; Heidegger 1977. 188, 249). In this way Heidegger seeks to secure the very authenticity *(Eigentlichkeit)* of *Dasein*, which he endeavors to delimit from the falling prey *(Verfallenheit)* to the collective, individuality-free They *(Man)*.

Jonas, however, is concerned precisely with delimiting "the self-committing freedom of the self", and in this he sees himself precisely in contrast to "Heidegger's 'resoluteness,' […] where the worldly issue is not by itself endowed with a claim on us but receives its significance from the choice of our passionate concern." (Jonas 1984. 88; Jonas 1979. 167.) In this respect, he is also aiming precisely at the feeling of a "selfless fear" (Jonas 1979. 392; cf. Jonas 1984. 162), which is unthinkable for Heidegger. But Jonas wants to ensure with it the inclusion of future generations of mankind in that for which fear is afraid. True humanity or the ethically responsible conception of man is not guaranteed for him if man as an individual reflects on himself, but only if he includes the future other in this self-reflection.

With this motive, however, that true humanity or self-consciousness can only be achieved through the mediation of another, Jonas approaches another philosopher, namely G. W. F. Hegel, to the same extent that he distances himself from Heidegger. This is all the more astonishing because in *The Imperative of Resonsibility* Jonas seeks to distance himself from Hegel's eschatological philosophy of history, which was continued by Marx and the Marxism that Jonas criticizes in the person of Ernst Bloch (cf. Jonas 1984. 127; Jonas 1979. 228). Without Hegel being named in this respect, Jonas seems to go back to one of the central roots of Marxist theory (cf. e.g. Kojève 1947; Althusser 1976) in order to make it fruitful for his ethical approach in an implicit follow-up, namely to the chapter "Independence and dependence of self-consciousness: lordship and bondage" from the Hegelian *Phenomenology of Spirit* of 1807 (Hegel 2018. 76–82; Hegel 1980. 109–116). For Hegel, too, the feeling of fear is central in the struggle between lord and bondsman, which he also links to the motif of selflessness in a similar way to Jonas.

IV. THE FEAR OF THE ENSLAVED MANUFACTURER AS A CONDITION
FOR A NEW LEVEL OF CONSCIOUSNESS

The chapter "Lordship and Bondage" leads consciousness towards self-con-
sciousness. But the level of self-consciousness is only reached through the mu-
tual recognition of two self-consciousnesses, as Hegel states in the tradition
of the Fichtean theory of recognition (cf. Honneth 1992. 11–106): "There is a
self-consciousness for a self-consciousness. Only so is it in fact self-consciousness; for
only in this way does the unity of itself in its otherness come to be for it" (Hegel
2018. 76; Hegel 1980. 108). Alexandre Kojève saw the decisive difference be-
tween Hegel's and Heidegger's conception of true self-consciousness or authen-
tic *Dasein* in the fact that, according to Heidegger, this only occurs in isolation,
whereas according to Hegel it is only possible intersubjectively. In particular,
this difference between the two thinkers becomes apparent in the role of the
feeling of fear in the struggle for recognition in Hegel's work, which in the case
of Hegel does not spring from a passive contemplation of being-to-death as in
Heidegger's work, but from the active negation of the other.[4]

In order to understand the role of this feeling of fear in the Hegelian concep-
tion of the struggle for recognition and the selflessness it involves, it is necessary
to trace at least the decisive steps in this much-interpreted movement for rec-
ognition (cf. e.g. Gadamer 1987; Siep 2014. 90–95; Stekeler 2014. 663–719). In
contrast to the preceding concepts of recognition, especially those of Fichte, but
also Schelling (cf. Höfele 2019. 22 f., 37–44, 71), Hegel describes an asymmetry
between the two self-consciousnesses (as lord and bondsman) in the movement
of recognition. On the other hand, he gives it a historical-existential meaning
by speaking of a struggle that could then be reinterpreted as the history of class
struggle, especially in the later Marxism of the 20th century.

Hegel begins the chapter still completely in the sense of the movement of
recognition established by Fichte: "Self-consciousness is *in* and *for itself*, when,
and by the fact that, it is in and for itself for another self-consciousness; that is, it
is only as something recognized" (Hegel 2018. 76; Hegel 1980. 109). But, as for
self-consciousness there is another self-consciousness through which it looks at
itself, it has on the one hand lost itself in this other, and at the same time has sus-
pended the other, in so far as it regards this other only as a mirror of itself. Thus
this double suspension of the two self-consciousnesses must be followed by "an

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[4] Cf. Kojève 1993. 39: "Seulement, à l'encontre de Heidegger, Hegel affirme que ce n'est
pas l'angoisse de la contemplation passive de l'approche de sa fin biologique, mais unique-
ment l'angoisse dans et par la lutte pour la mort, c'est-à-dire dans et par la *négation*-active de
l'être donné comme un Ce-qui-est-comme-lui-sans-être-lui (bref : d'un autre homme), d'un
être qui peut ainsi le nier activement lui-même, que c'est seulement la mort revelée dans et
par cette lutte négatrice qui a la valeur humaine ou – plus exactement – humanisante que lui
attribute Heidegger." Cf. to the fear in Hegel also Gretic 2002.

ambiguous return into *itself*", whereby both self-consciousnesses are given back to themselves (Hegel 2018. 77; Hegel 1980. 109).

But this ideal or pure movement of recognition, which is to be carried out by both self-consciousnesses in the indicated way, cannot take place in perfect parallelism according to Hegel, and thus "the process will present the side of the *inequality* of the two, or the bifurcation of the middle term into the extremes which, as extremes, are opposed to one another, one being only recognized, the other only recognizing" (Hegel 2018. 77; Hegel 1980. 110). The intention of suspending the respective other's self-consciousness is existentially understood as "a life-and-death combat" (Hegel 2018. 78; Hegel 1980. 111). The goal of the fight must not be death as a complete abstraction of one of the two self-consciousnesses, which would make self-recognition in the other impossible, as in the case of desire consuming the object. The struggle must therefore lead to an "abstract negation, not the negation of consciousness, which *sublates* in such a way as to *preserve* and *maintain* what is sublated, and thereby survives its being sublated" (Hegel 2018. 79; Hegel 1980. 112).

The result of that struggle must therefore lie in the establishment of two gradually different self-consciousnesses. The one self-consciousness must be able to be completely for itself as master and winner of the struggle, while the inferior self-consciousness as bondsman is committed to one being-for-another, namely for the Lord: "one is the independent consciousness for which the essence is Being-for-itself, the other is the dependent consciousness for which the essence is life or Being for another; the former is the *lord*, the latter is the *bondsman*" (Hegel 2018. 79; Hegel 1980. 112).

The Lord can thus enjoy the object of his desire mediated by the bondsman who works it. The bondsman, on the other hand, must deal with the indissoluble materiality of the object, which his master may therefore perceive and consume as a pure object of pleasure. The bondsman, however, "cannot through his negating have done with it to the point of annihilation, or he only *works on* it" (Hegel 2018. 79; Hegel 1980. 113). But here, a dialectical movement asserts itself simultaneously. For the Lord looks upon his own otherness in the servant as the unessential consciousness: „The *truth* of the independent consciousness is accordingly the *servile consciousness*" (Hegel 2018. 80; Hegel 1980. 114). The bondsman, by contrast, finds in the Lord his object as his own other, while at the same time, he possesses an independent being that goes back to himself in the indissoluble materiality on which he imprints his own form: "the working consciousness arrives at the intuition of independent Being *as of its own self*" (Hegel 2018. 81; Hegel 1980. 115). In this respect, it is precisely the servile self-consciousness that, according to Hegel, achieves a "new shape of self-consciousness" (Hegel 2018. 82; Hegel 1980. 116).

But the bondsman achieves this new form of self-consciousness through three moments, of which one essential moment is fear:

[1] In the lord, the Being-for-itself is *an other* to it, or only *for it*; [2] in fear *(Furcht)*, the Being-for-itself is *within itself*; [3] in its cultivating, the Being-for-itself becomes for it as *its own* Being-for-itself, and it arrives at the consciousness that it itself is in and for itself" (Hegel 2018. 81; Hegel 1980. 115; trans modified).

(1) In the Lord, who in the struggle has risen to independent self-consciousness, the bondsman is confronted with his being-for-himself in the form of another. Paradoxically, this independence could only be revealed to him in that he humiliated himself, placing himself in the position of a dependent self-consciousness and acting selflessly. But this moment, as such, would only result in the self-loss of servile self-consciousness mentioned at the beginning. (2) Therefore, the fear of the second moment is essential, as it makes the bondsman's being-for-himself experienceable in himself. As Hegel remarks emphatically before, this is not a momentary fear, but a fear that seizes the whole essence:[5]

In this [fear of death] it has been internally dissolved, has trembled through and through within itself, and everything fixed has quaked in it. But this pure universal movement, the absolute liquidization of all subsistence, is the simple essence of self-consciousness, absolute negativity, *pure Being-for-itself*, which is thus *within* this consciousness. (Hegel 2018. 80; Hegel 1980. 114.)

Only here with fear is the central determination of self-consciousness achieved, namely, that it is absolute negativity, i.e. a structure, which, like Heidegger's open character of *Dasein*, has nothing static about it, but is pure motion. Only in this liquefaction of consciousness, which no longer knows any substantial peculiarity, is it possible for it to take on a higher level or a new form. In this respect, one can speak here with Jonas of a form of "selfless fear", since this fear lets the servile self-consciousness become selfless in relation to the Lord on the one hand, and, on the other hand, it opens the bondsman to future forms of consciousness that are still to be attained. Even if it is unclear whether Jonas had this chapter of Hegelian phenomenology in mind, this motif shows a striking parallel to Jonas' "heuristics of fear". Although Hegel does not explicitly have future generations in mind, Hegel's concept of self-consciousness encompasses a plurality of subjects, namely "*I* that is *We*, and *We* that is *I*" (Hegel 2018. 76; Hegel 1980. 108), and not just a particularity as in the case of Heidegger's *Dasein*.

(3) This parallel to Jonas becomes all the more apparent when one considers the third moment of servant self-consciousness, according to which it is precisely in forming and cultivating (technical-craft) that the bondsman becomes aware

[5] Hegel uses the terms "fear" and "anxiety" in exactly the opposite sense, as later Heidegger did: fear applies to the whole being, while anxiety concerns only the individual and is related to this or that moment (cf. Hegel 2018. 80 f.; Hegel 1980. 114 f.).

of his own being-for-himself. Artificial or technical objects are in this respect already classified by Hegel as something that shapes one's own self-image and thus contributes decisively to the "human image" *(Menschenbild),* to quote Jonas. Admittedly, Jonas is by no means striving for a developmental sequence at levels of consciousness like Hegel, and he is more concerned with preserving the essential moments of the "human image" for future generations as well. However, he shares with Hegel the assumption that fear makes a decisive contribution to the self-assurance of human consciousness and that it cannot make this contribution in isolation, but only in the inclusion of a We.

V. CONCLUDING CONSIDERATIONS ON THE HOLISTIC CHARACTER OF JONAS' PRECAUTIONARY PRINCIPLE

The dangers that can emanate from new technologies not only affect life and the integrity of humans and the environment. As early as 1979, Jonas saw that technology ethics and technology assessment must take into account not only "human fate" *(Menschenlos)* and its "physical survival" but also the question of whether the "human image" *(Menschenbild)* and the "integrity of [his] essence" are affected by new technologies (Jonas 1979. 8). In a way that already seems to anticipate the discussion points of the Anthropocene debate, Hannah Arendt, another student of Heidegger, also made similar observation. In her book *The Human Condition*, published in 1958, she remarks with regard to modern technology: "The natural processes on which it [the world of machines] feeds increasingly relate it to the biological process itself, so that the apparatuses we once handled freely begin to look as though they were »shells belonging to the human body as the shell belongs to the body of a turtle«" (Arendt 1998. 153; Arendt 1981. 139).[6] Humans seem thereby, as she supplements in the German edition published two years later in 1960, "no longer to belong to the genus of mammals, but begin to transform themselves into a kind of shellfish" (*beginne sich in eine Art Schaltier zu verwandeln;* Arendt 1981. 139).

Against the background of this insight, Jonas, by means of his "heuristics of fear", thus sought to achieve more than is envisaged by the precautionary principle formulated in § 15 of the *Report of the United Nations Conference on Environment and Development*. According to the report, the "lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation" (United Nations, 1993, p. 3). It is true that the "heuristics of fear" also has the task of assessing the risk of technical developments and, based on this, of focusing on application-oriented measures. This is probably one of the main reasons why Jonas, despite his obvious connection to

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[6] Here Arendt quotes Werner Heisenberg's *Das Naturbild der heutigen Physik* from 1955.

Heidegger's analysis of anxiety, speaks of a "heuristics of *fear (Furcht)*" and not of *"Angst"*. For fear always goes back to a concrete cause or a certain object, to which it is necessary to react with concrete measures. But with Heidegger, Jonas also has in mind the broader horizon of the orientation of that negative feeling. Fear is intended to bring into view *ex negativo* precisely that which constitutes being human. For technology always has the tendency to inscribe itself like a "shell" into the human being and his life-world and thus to have repercussions on the human being (cf. Ihde 1979; Verbeek 2005). The appropriateness of this tendency must therefore be decided even in view of the lack of knowledge about concrete technical developments.

As could be shown in referring to the concepts serving as precursor to the Jonasian "heuristics of fear", it is by no means a matter of conservatively preserving a static image of humankind. Rather, it is about the preservation of a possibility horizon of *Dasein*. However, Jonas does not only mean the open character of one's own *Dasein* in the sense of Heidegger. Similar to Hegel's concept of fear in "Lordship and Bondage", Jonas is concerned with a form of "selfless fear" that involves a collective We, and that is also worried about future generations and their possibilities. Especially against the background that this idea has not yet been sufficiently considered in ethical technology assessment, Jonas' approach can still be regarded as up-to-date and relevant in this respect.

In doing so, we could even go beyond Jonas to ask to what extent such a "heuristics of fear" can help to consider the impairment of the essence of nature and the environment beyond the reflection on the endangerment of the human being.[7] In view of the interrelationship between humankind, technology and nature, thinking in the Anthropocene is, after all, required to go beyond an anthropocentric point of view, insofar as the latter alone takes into account future generations and the human environment (Höfele 2020). A "heuristics of fear" or *"Angst"* could also be used for a biocentric expansion and could function as a "heuristics for the Anthropocene", insofar as fear is an emotion that is not only inherent in humans but also in animals (Soentgen 2018) and thus also allows for reflection on their essential endangerment in the Anthropocene.

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[7] Although Hans Jonas dealt extensively with the philosophy of nature in *The Phenomenon of Life: Toward a Philosophical Biology*, nature is only insufficiently considered from an anthropocentric perspective in *The Imperative of Responsibility* (cf. Jonas 1984. 186 ff.; Jonas 1979. 327 ff.).

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