



Studies

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Domination and Liberation of Nature

Two Stages of Emancipation

Abstract

The paper addresses the scope of the human relationship to nature. This scope encompasses a twofold emancipation. The first emancipation is the emancipation from nature that enables the domination of nature by science and technology. The second emancipation is the emancipation from this first emancipation, stemming from the insight that we have to conceive of nature, and respect nature accordingly, as another self that displays itself. I argue that it is precisely the step towards such second emancipation that lies at the core of the revolution of our consciousness of nature that currently seems to be unfolding. Yet the urgent question arises as to how such a “liberation of nature” (Hegel) can be understood sustainably without falling behind the achievements of Kantian philosophy, into a dogmatic ontology or even naturalism. The article delineates a systematic answer to this question by addressing some crucial points in Kant and Hegel.

Keywords

philosophy of nature, philosophy of technology, Immanuel Kant, Georg Wilhelm Friedrich Hegel

It seems that we stand amid a revolution of our consciousness of nature.¹ There are various approaches advocating efforts to save the biosphere from lasting destruction, protect endangered species, reflect upon animal welfare, or speaking more generally, to restrain the drive to use natural beings as means for our arbitrary purposes. However, where exactly can such a revolutionary new conception of nature be found? At first, we have to discern two sources for the topicality of ecological considerations and efforts: One is the concern for the ecological conditions for humankind’s self-preservation on this plan-

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I am indebted to Werner Schmitt and Spyridon Koutroufinis for valuable comments.

et. The depth of this concern is undoubtedly new, but it does not involve a revolution within our consciousness of nature. The other source, in contrast, would be a theoretical standpoint in terms of *θεωρία*: it is not self-interest but rather a new interest in nature. This interest draws not only on the concept of the purposiveness of natural beings – which is presupposed as soon as I successfully subject a natural being to my ends – but also, and more closely, on the concept of *inner* purposiveness.² Immediately connected to this is the idea that the “nature” of a being involves normative implications for our conduct. Increasing demand for recognition of natural (living) beings for their own sake, as ends in themselves, in fact as selves – and not as mere mechanical, physical or chemical objects – in their intrinsic goodness³ is (re-)emerging.

To some extent, this appears to be a revival of an ontological conception of “nature” that originated with Plato and Aristotle and that also gave rise to the tradition of natural law up to Kant. The reason for this new “selfless” interest in nature seems to be an increasing need to formulate an appropriate solution to an increased alienation from nature. Two well-known phenomena may illustrate this alienation. First, there is an ongoing fragmentation of scientific knowledge of nature that makes it increasingly difficult to exchange scientific knowledge within specific branches of natural sciences, despite the necessarily unwavering premise of all scientific research that there is only one single nature that is the corresponding object of scientific experience (in terms of Kant). Second, our encounter with nature is increasingly mediated and even completely substituted by machines. As a consequence, the way we perceive our world is increasingly framed and dominated by a schematic intuition that, like a scanner, submits all given “content” to a functional structure according to which the content is understood in terms of whether it is a suitable means to generate social “recognition”. This leads to a shift from the “participant’s perspective” to an external observer’s perspective of one’s own life.

In both cases, the alienation stems from what Hegel calls the “standpoint of reflection”, i.e. a rigid opposition between subject and object within consciousness in the sense that the subject imagines itself as “autonomous” in terms of being an isolated, *detached* power in relation to external objectivity. *Overcoming this standpoint of reflection seems to be the underlying motif that drives most approaches toward a new consciousness of nature*, especially insofar as they draw on the concept of inner purposiveness which, as we can learn from Kant’s Third Critique, is the key concept leading thought beyond the standpoint of reflection. The concept of inner purposiveness serves in many contemporary approaches as justification for normative claims, for instance in bioethics with advocates of “biocentrism” and “ecocentrism” as well as in movements like “deep ecology”, in opposition to a “shallow” recognition of nature as a mere means for human purposes, which they see at work in standard ecology.

Nevertheless, there are at least two serious philosophical problems that need to be taken into account.

(1) There is a twofold question:

- a) How can normative claims be substantiated through ecology as a branch of (natural) science (let alone utilising ‘holistic’ approaches like deep ecology)? Even if we admit that inner purposiveness would be a possible object of science, it is not at all clear on what grounds we are entitled to build normative claims of this kind on a set of descriptive scientific sentences.

b) The premise of these normative claims lacks justification. One has to take seriously that the *causa finalis* can never be a legitimate object of any natural science.⁴ This is because inner purposiveness cannot be understood in terms of unambiguous and contradiction-free cause and effect relationships. Inner purposiveness is at odds with the objective order of time constituted by the understanding by means of the category of cause-effect and the form of intuition (in terms of Kant). For in the living being as *ἐντελέχεια* what emerges later with regard to time, the fulfilled purpose, is at the same time the driving cause of the movement or change, whereas in mechanical causality one “thing” or “state of affairs” located in the past has to be identified as the cause, while another, different “thing” or “state of affairs” has to be identified as the effect.⁵ In contrast, in inner purposiveness, cause and effect are to be interpreted as *moments* (in Hegel’s sense) of self-mediation or self-actualisation. *Thus, life’s logic demands a logic capable of conceiving the logical form itself not as a rigid tool used by an external understanding but as a form of self-mediation – as the self.* However, this is not the case in formal logic. Since every (exact) science is, at its core, applied formal logic, we have first to revolutionise the concept of logical form to comprehend and justify the logic of inner purposiveness. What we can already state is the negative result, that formal logic cannot be applied legitimately

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For the concept of inner purposiveness as opposed to relative or finite purposiveness cf. Immanuel Kant, *Critique of Judgement*, translated by John H. Bernard, Macmillan, London 1914, § 63, pp. 268–271, and Georg Wilhelm Friedrich Hegel, *Science of Logic*, translated by Arnold V. Miller, Allen & Unwin, London 1969, the chapters “Teleology” (pp. 735–744) and “Life” (pp. 761–774).

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It is common to speak of inherent “value” instead of “goodness”. This is misleading because the worth or value of something is a positing of reflection that expresses the preserved possibility of satisfying a need. The proper placement of these concepts is the market. They denote something inherently relative and conditional, whereas the goodness of something is precisely that which is inherently independent of the evaluation of an external reflection. Cf. Georg Wilhelm Friedrich Hegel, *Outlines of the Philosophy of Right*, translated by Thomas Malcolm Knox, Oxford University Press, Oxford 2008, § 63, p. 75.

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Since it is ultimately inevitable for the understanding of an organism to engage with the principle of inner purposiveness, we find “neo-teleological” approaches in recent philosophy of science. Cf. Thomas L. Short, “Darwin’s concept of final cause: neither new nor trivial”, *Biology and Philosophy* 17 (2002) 3, pp. 323–340, doi: <https://doi.org/10.1023/a:1020173708395>;

Christopher Southgate, Andrew Robinson, “Interpretation and the Origin of Life”, *Zygon* 45 (2010) 2, pp. 345–360; Andrew Robinson, “Chance and the Emergence of Purpose. A Peircean Perspective”, *Philosophy, Theology and the Sciences* 2 (2015) 2, pp. 194–215, doi: <https://doi.org/10.1628/219597715x14369486568455>; Terrence William Deacon, *Incomplete Nature: How Mind Emerged from Matter*, Norton, New York 2013. We find here attempts to translate inner purposiveness into a description of complex causal relations in such a way that “final causality” can serve as a proper scientific explanatory tool.

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Scientists engaging themselves with “non-linear” relations between cause and effect in the Theory of Dynamical Systems or Theory of Self-Organisation would argue that a clear distinction between cause and effect cannot be made any more within their mathematical models. But this is not to say that the distinction between cause and effect is superfluous. Rather, it shows that mathematical models operate with a more subtle differentiation between cause and effect if these models should serve as a tool to represent and predict the behaviour of a “self-organising system”. All forms of modelling are ultimately, as Kant has demonstrated, propelled by the “drive” of reason to establish unambiguous determination within the phenomenal world.

to inner purposiveness in order to gain objective knowledge. This has been (indirectly) demonstrated by Kant in his Third Critique. Kant's famous dictum, that a simple blade of grass is inexplicable by means of natural science⁶ is of great systematic import. The individual living being cannot be explained by means of the explanatory tools of science. However, this must not be seen as a deficiency that should or could, at some point, be overcome. Natural science *necessarily* abstracts from the individual because of its method. Its concern is not the individual as such but the "supersensible world" of natural laws and forces, according to which the individual has to be regarded as mere appearance.⁷ This means that science cannot provide the means to overcome the standpoint of reflection. On the contrary, science is itself an expression of this standpoint. Accordingly, the goodness of a being is not a category of science. If an ecologist addresses inner purposiveness in nature, one should be aware that he no longer speaks as a scientist but engages in the field of philosophy.

(2) At this point, the next and more profound difficulty emerges: how can the idea of inner purposiveness be systematically justified? The trouble with the majority of the approaches of philosophy is that they fail to recognise the *logical dimension* of this problem with the result that – while trying to overcome the standpoint of reflection – most philosophical approaches resort to phenomenological descriptions or simply the demand for empathy.⁸ Ultimately, this cannot compensate for the lack of systematic justification. Instead, it is an attempt immediately to bridge the gap that reflection posits. Overcoming the standpoint of reflection is not a matter of invoking feelings, but a matter of fundamental philosophy, i.e., of logic.

Hans Jonas' philosophy is an instructive example of the problem of a philosophical justification of thinking natural beings as ends in themselves. Despite his important contributions to a critical assessment of (bio-)technology, there is a substantial systematic flaw. After we have reached the critical standpoint of Kant's transcendental philosophy, we cannot simply raise normative claims regarding human action from the presupposition that human conduct has to acknowledge a natural being as an *existing end in itself*. Inner purposiveness can, after we have reached Kant's standpoint, only be understood as an *As if*. The standpoint of reflection cannot be transcended by merely *asserting* that inner purposiveness would be a possible object of (even scientific) experience. Only by the means of reflection on the logical presuppositions of Kant's critiques can we overcome this standpoint.

As long as there is a lack of a proper philosophical justification, all efforts to foster a new consciousness of nature will arrive at mere worldviews, which can at best operate with rhetorical power. Thus, the severe systematic problem is how to overcome the standpoint of reflection without falling behind the reflection that has been achieved by the critical Kant and becoming trapped in unsustainable pre-critical approaches or even in naturalism. Only through logic (in terms of Hegel's logic) is that the truly *human* relation to nature is appropriately justified, by recognising the limits of thought as governed by the presuppositions of formal logic. This is the achievement of Hegel's logic, departing from Kant's transcendental logic. For this reason, the main claim of this paper will be that in order to succeed in the attempt to justify a new consciousness of nature adequately, the systematic problems and achievements of Kant and Hegel have to be taken into account. This article delineates how

this can be achieved by addressing two stages of emancipation that frame the horizon of the human understanding of nature and the relevance of Kant and Hegel to the comprehension of this horizon.

1. On Consciousness and the Relation to Nature

After Kant, and even more so after Hegel, it would be naive to address nature *in intentione recta* without at the same time considering consciousness and freedom. This is why we start with some introductory remarks on the concept of consciousness – concerning its interrelatedness with the concept of nature in the broadest possible sense.

The human being is the only being known to us that enquires about its relation to nature. This is rooted in the very concept of consciousness. Consciousness is a self-relationship *knowing* itself as such. Consciousness is actual as the relation between a subject, another subject and the object. What does this mean? Consciousness does not immediately know itself as such. Rather, consciousness knows what it relates to – the other. It is only via this other, the non-identical, that consciousness knows itself as well. Consciousness is always consciousness of something, but only by referring to this other can consciousness relate to itself. Consciousness is always a mediated and mediating identity – mediated through that which is not itself. I am I as the unity of the movement of positing and receiving, a movement which, as Herder and Humboldt have pointed out, is only possible through language. In other words: human consciousness never achieves its identity in *immediate* relation to itself.⁹ In addition to this, consciousness also implies the relation of the subject to the other I, the partner. I think and say something in relation to myself and the partner with whom I share the experience made. Consciousness is the simultaneity of the relation subject-subject and the relation subject-object. It is vital to understand that the relata are not fixed givens to which the relation is externally attached, but rather that the relata have their determinacy only in virtue of their relationality. Therefore, consciousness is always this movement: to refer to another and to refer to oneself in this relation. This is not a process that can be dissolved into unambiguous, formal-logically correct linear relationships. Rather, consciousness is the existing contradiction and, at the same time, the movement of its solution. Hegel developed this idea in the *Phenomenology of the Spirit* and the third part of his *Science of Logic*.

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I. Kant, *Critique of Judgement*, § 75, p. 309. This *principal* limit applies despite all the progress that has been made in the mastery of nature. Spyridon Koutroufinis has shown that the models of current mainstream biosciences rest upon the logic of a Turing machine and, for this reason, fail to capture the “logic of life”. Cf. Spiridon Koutroufinis, “Organism, Machine, Process. Towards a Process Ontology for Organismic Dynamics”, *Organisms* 1 (2017) 1, pp. 23–44, esp. p. 31ff.

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Cf. Georg Wilhelm Friedrich Hegel, *Phenomenology of Spirit*, translated by Arnold V. Miller, Oxford University Press, Oxford

1977, chapter “Force and the Understanding: Appearance and the Supersensible World” (pp. 79–103).

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Arne Naess stresses the necessity to “identify” with nature or natural beings invoking certain feelings in terms of a non-scientific, *individual* experience of our kinship with natural beings *as* individuals.

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There is also no *immediate* self-relation in nature. The organism, for example, can only preserve itself by assimilating other beings.

Against this background, we can understand that the human being's relation to nature is in a certain sense already entailed by the very concept of consciousness. However, by saying I to myself, I distinguish myself from my inner and outer nature. As a self-conscious being, the human being is the *negation* of nature. The name for this negation is freedom. Freedom means first of all an *emancipation* from nature. This means that the human being at first stands in the distance of reflection. In contrast to the animal, the human being sets themselves in relation to their world, to nature and history. The human being *is* not just nature, instead, they *have* nature, they *have* a world. Having nature means to know nature, to interpret it. However, this is only the first and abstract aspect of freedom. According to Hegel, concrete freedom means to *be with oneself in the other*. The logic of freedom coincides with the movement of consciousness mentioned before.

Bearing this in mind, we can say that it is not sufficient to define the human being as an agent.¹⁰ The human being acts and in doing so, they also reflect or interpret their action. In action, I have an awareness of my self-determination simultaneously.¹¹ It follows that every interpretation of nature reflects a self-interpretation of freedom and vice versa. Therefore, the consideration of nature always has a historical dimension – history in the sense of the history of the experiences that consciousness has undergone in relation to its object. Yet through all possible stages of the relationship to nature, the unity of relationships persists: the appearing aspects of nature always refer to a stage of consciousness to which these manifestations correspond and vice versa. Every concept of nature points back to a certain self-interpretation. Once we grasp this, we will not resort to the false belief that there can only be *one* rational relation to nature: the sciences.

Nevertheless, even if we recognise a plurality of relations to nature, there is still an underlying difference: on the one hand, there is, at first, a relationship to nature in which we are blind to the fact that within the range of the self-interpretations of freedom there is built in a plurality of concepts of nature. I refer to this standpoint as that of the *first emancipation*. It is the standpoint of the “abstract understanding” (*abstrakter Verstand*), the standpoint of reflection, of the natural sciences, of technical knowledge and practice, of all technical-practical conduct. However, another standpoint can be achieved,¹² by which the human being knows and acknowledges that their self-relationship is inseparable from their relationship to that which is other – to nature and other human beings – and acts accordingly. I shall refer to this standpoint as the *second emancipation*. One could also call it the standpoint of reason (*Vernunft*) finding itself in its other, which is, according to Hegel, spirit (*Geist*). The second emancipation manifests itself no longer as *self-assertion* of freedom *against* nature, but, rather, as *the emancipation from the standpoint of the first emancipation*. It is all about the emancipation of nature within consciousness, or in other words a “liberation of nature”.¹³ This liberation unfolds in contemplation and consciousness of nature in terms of *θεωρία*. We find this expressed in philosophy but also in art and religion (as we shall see later). Since every relation to the world reflects itself in a self-relation, we have to keep in mind that this liberation is at the same time a self-liberation. We free ourselves – our thought, even our intuition – from subjecting ourselves to the commands of “instrumental reasoning”.

In his introductory remarks to the philosophy of nature, Hegel referred to this difference regarding nature as a difference between the “finite-teleological

point of view” and the “truly teleological point of view”.¹⁴ I will now show that both are necessary and enjoy their respective rights and thus provide an integrative view of what can be called the most fundamental opposition within our consciousness of nature. In doing so, we see how the underlying motif of many contemporary approaches, recognition of nature as the other self or a self of its own, can be properly justified.

2. The First Emancipation: The Technical-Practical Relation to Nature

This first emancipation is the standpoint of reflection, the standpoint of the “abstract understanding” (Hegel) which coincides largely with the beginning of thought. The understanding fixes determinations and separates them in order to establish unambiguous objective determination. Hence we are fixing nature here in its sheer otherness in a certain way. This is because the standpoint of the first emancipation strives to establish and maintain an *immediate* self-relationship toward the other, toward nature. Consciousness here is subject to the deception that it would be, or could become, an independent power detached from its other. However, in its action consciousness simultaneously refutes this belief, for consciousness interprets itself this way only to utilise the other – nature – for its purposes. Let us now take a closer look at the presuppositions and consequences of this standpoint.

The Signature of the Understanding

How does understanding proceed? Two basic aspects are crucial:

(1) *A separation of thought and intuition*: The first emancipation in relation to nature depends on the emancipation of thought. Thought or reflection interprets itself as an abstract identity, which is strictly separated (χωρισμός) from the world of sensory perception. Nature that displays itself in perception (αἴσθησις) is reduced to mere delusion, whereas the true being will be grasped by means of the abstract understanding alone. This is the case precisely because in perceptible nature κίνησις (movement, transformation) *seems* to exist. However, the understanding demands that only that which is identical with itself, i.e., that which can be conceived of without contradiction, may be

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We find this e.g. in Arnold Gehlen’s anthropology.

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Cf. G. W. F. Hegel, *Outlines of the Philosophy of Right*, § 7.

¹²

To avoid a possible misunderstanding, I shall stress that the above-mentioned “standpoints” are not arbitrary in terms of perspectivism. Instead, they express the distinct logical status of thought and the unity of thought and being in terms of Hegel’s *Science of Logic*. The first emancipation stands on the ground of the “logic of essence”, whereas the second emancipation expresses the Hegelian concept of the concept. This applies to the distinction

between “understanding” and “reason” as well. They are not mere psychological faculties, but logical dimensions of thought. Cf. the beginning of the chapter on the syllogism in Hegel’s *Science of Logic*, pp. 664–665.

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Georg Wilhelm Friedrich Hegel, *Philosophy of Nature*, translated by Michael Petry, London – New York 1970, vol. 1 (= *Encyclopaedia of the Philosophical Sciences in Basic Outline*, Part II, § 246, Addition), p. 197.

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G. W. F. Hegel, *Philosophy of Nature* (= *Encyclopaedia of the Philosophical Sciences in Basic Outline*, Part II, § 245), p. 196.

regarded as true being. Κίνησις, development, the living – all this cannot be conceived without thinking together opposite sides.

Historically speaking, the emergence of the determining understanding in Parmenides was a fundamental change regarding the interpretation of the world that has been prevalent in Homer and Hesiod's myth. The myth developed what Humboldt later describes as the "sympathetic worldview", the experience of the deepest affinity with the other (*innigste Verwandtschaft im Fremden*). This means an experience of nature in divine forms, uncontrollably destructive but also helpful to humans.

(2) The understanding *objectifies thought itself*, namely as a means of establishing unambiguous objective identity. This is what formal logic is all about. Formal logic is reflection being *external* to itself as reflection since reflection has forgotten itself in its other (Hegel's *entäußerte Reflexion*). Reflection presupposes a given material which it processes in terms of "sortals" or "rigid designators". This aspect of the understanding is important for our subject, since formal logic and its highest principle, the law of non-contradiction,¹⁵ is the hidden motor of the technical-practical conduct, of all exact sciences.

What do we see here? We have *two sides of an alienation*. First, thought is alienated from an actuality that presents itself to all the senses. Such a thing that is intelligible *and* sensuous or ideal *and* real at the same time (cf. οὐσία αἰσθητή in Aristotle, even any word in human speech), amounts to sheer nonsense for the standpoint of formal logic.

Second, thought is alienated from itself as thinking *actu*. It interprets itself as a rule-governed procedure subject to fixed principles (the formal-logical demands of consistency). Thinking subjects itself to rigid principles that serve as guiding principles (e.g. principles of formal logic, regarding action: values, money). These positings tend to dominate human thought and conduct. This is a form of alienation since reflection posits identity, difference, etc., and has forgotten itself in these positings.¹⁶ This twofold alienation – alienation with regard to nature and with regard to thought itself – shapes this first stage.

Freedom as the End, Nature as the Means

What about the interpretation of freedom on this basis? Immediately linked to the emergence of reflection is freedom in its most abstract moment: freedom as "absolute abstraction",¹⁷ as absolute separation from everything that is other to this pure form of knowing self-relation. Freedom interprets itself as the *negation* of nature¹⁸ – negation in terms of opposing itself to nature – within the very act of saying "I". Herein lies the "infinite difference"¹⁹ between the human being and natural beings. This difference initially allows for the human being's technical-practical relationship to nature. It is at this point, where the "finite-teleological point of view"²⁰ emerges. Only man can utilise nature to serve his purposes.

Freedom regards itself as the one and only purpose, whereas nature is recognised only as external means. In doing so, nature is presupposed as a given world of objects subject to our purposes. At this stage, nature appears simply as the barrier to action, a barrier that needs to be pushed further and further away.

The question arises, what external purposiveness means. As Hegel puts it, "nature does not contain the absolute final purpose in itself".²¹ It means that nature is understood as a sheer means to ends *external* to the natural being it-

self. *The only end acknowledged here is a human being themselves, imagined as an isolated, autonomous agent in opposition to nature.* Here we claim, as Hegel says, our *right* against nature because it is in a human being that nature has come to consciousness of itself. The fact that this right is for the same reason connected to certain obligations toward nature will only be acknowledged in the second emancipation.

This is to say that this relation to nature does have its place (this will become clearer with Kant). It is justified by the need for self-preservation in terms of survival, the immediate *suum esse conservare*. This underpinning motive of the first emancipation shows that although the standpoint of reflection leads to an abstract opposition to nature, our action toward nature at first simply serves the needs of given drives in the pursuit of self-preservation. This is why Hegel points to desire as an important category to understand the drive of this “finite-teleological” standpoint (Enc § 245). This seems to be paradoxical since, from the standpoint of the first emancipation, the I imagines itself as an absolute (in terms of detached) power over nature. The I is governed by desire at this stage.

Another aspect shows that the *homo faber* is not simply detached from nature either. We cannot immediately exercise power over nature. This is an old dream of humankind: being able to exercise power over nature without being forced to engage with nature directly. This is what magic is all about. This dream has actually been realised insofar as we have successfully outsourced our direct engagement with nature to the artificial hands of our machines to a large extent. Nevertheless, we can only submit nature to ourselves by means of nature. The term τέχνη denotes also “cunning” or “trick”, like μηχανή. This means that we are able to utilise the power of nature against nature itself for our purposes.²² Today, this cunning is empowered by the sciences. The scientifically mediated cunning is methodically expanded for the exploitation of

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Some branches of modern formal logic deny that. For instance, Dialetheism assumes that the soundest justification of this principle is to be found in Aristotle. Formal logic excludes the insights transcendental philosophy (Kant, Fichte) and dialectical logic have gained regarding the justification of consistency’s demands.

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This becomes explicit in modern formal logic insofar the mediation of thought and being is understood as a function. Drawing an inference is understood as a mechanical operation with signs, as an automatable deduction procedure that can be applied to any content like a multi-tool. This is the fundament of mathematics, the logical basis of computers and an essential fundament of modern science.

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G. W. F. Hegel, *Outlines of the Philosophy of Right*, § 5.

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Logically speaking, this negation is understood as an infinite judgment. This means that the subject has nothing whatsoever in

common with nature in the sense that it does not fall under the class of things of nature.

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Cf. G. W. F. Hegel, *Aesthetics. Lectures on fine Arts*, vol. 1, translated by Thomas Malcolm Knox, Oxford University Press, Oxford 1975, p. 80.

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G. W. F. Hegel, *Encyclopaedia of the Philosophical Sciences*, Part II, § 245.

21

Ibid.

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It is noteworthy that the expression τέχνη cannot be adequately rendered in English by a single word. While τέχνη (also the German *Technik*) means primarily the power or ability to produce something (according to Aristotle, τέχνη is understood as a *dianoetical* excellence), the term *technology* denotes rather the *result* of exercising this ability, the product, the artificial thing, the *apparatus*. We will render τέχνη as *technical knowledge and practice*.

nature within us and outside us. We are currently expanding these possibilities in an unpredictable way by means of biotechnologies.

The Transformation of Nature into a Transparent World of Objects

What is conceptually required by this understanding of nature? We can only master nature by means of technical knowledge and practice, which means: only if nature is *not* being conceived of as another self but constructed as a *transparent and homogenous world of objects*. This is a huge shift in the concept of nature and the experience of nature. The individual experience of nature (individual natural beings) is skipped in order to achieve generally comprehensible rules. The multifaceted experience is transformed into an unambiguous experience of something as something objectively determinate. There are no individual spaces and times in the sense of the Monad in Leibniz, but only continuity of phenomena extending through space and time, represented in mathematical formulas. Thus, nature corresponds to the objectivity of the one scientific experience Kant refers to in the *Critique of Pure Reason*. This shift required a completely new approach. This has been coined as the step from the inquiry into substance as actuality to a representation of nature in terms of a functional manifold of phenomena.²³ The underlying shift within consciousness has been elucidated in Hegel's *Phenomenology of Spirit* as the step from "perception" to "force and understanding". "Nature" is nothing that we can perceive any longer. Now, the proper objects are natural law and force. All aspects of sensible intelligibility, the selfhood in nature – in terms of the unity of *causa formalis*, *causa efficiens* and *causa finalis* (Aristotle) – must be excluded. Instead, the focus lies on the *causa materialis* and *causa efficiens* in terms of mechanism and chemism. It is through this shift that nature can be transformed into consistent mathematical models. Yet, science is not merely applied mathematics, but *applied formal logic*.²⁴ The comprehension of nature takes place here in the medium of unambiguous, contradiction-free propositions in relation to spatio-temporal phenomena representable as functions of natural law. Such propositions are only attainable if we understand nature as mechanism and chemism. This approach allows us to determine and to predict an objects' behaviour, which enables us to dominate the natural being. Gaining insight, for example, into the chemical structure of a "substance" – which is represented in the periodic table of elements and not in perception – allows us to determine and predict its behaviour.

However, we must not overlook the fact that nature in the relevant sense here, which is the natural law or the force, is not an *actual essence* (εἶδος, species) any more, but a *posited supersensible world*. Accordingly, the concept of the essence in contemporary science denotes *the totality of describable determinacy which can be gained employing "rigid designators" within the framework of modelled systems of phenomena* ("possible worlds").²⁵ The essence of an electron, for example, is understood as the totality of its possible behaviours in all possible worlds. Accordingly, the laws of nature are *valid hypotheses* as long as they form the basis of successful experiments. Ultimately, natural laws are directives for the usage of nature.²⁶

Therefore, if we deal with science, we have to keep in mind that our engagement with nature is here by no means a theoretical one in terms of θεωρία. Today's science has become *theoretical technology*.²⁷ The "will to power" (Nietzsche) propels such an approach to nature. This will to power is not

interested in recognising the actuality of the individual natural being as such, as is, for example, Aristotle's *Physics*. It is simply forbidden in this view to regard a natural being as a self in its own that displays itself.²⁸ Instead, nature here is nothing but the space in which the determining understanding can preserve itself, preserve its abstract identity. There is neither a place for the otherness of nature nor nature as a self within this framework.

The Pinnacle of the First Emancipation

Nevertheless, there is a further step to be taken: the transformation of nature into designable “possible worlds” of entities is intrinsically linked to the transformation of these objects into *goods* that represent a *value* that can be measured in terms of money and thus can function within the economic system. This is particularly the case with the biosciences. Their tendency towards bio-industry is inherent. Thus, nature mutates into a huge potential warehouse. It becomes the sum total of “resources” that have a value within a specific market. If, for example, an animal is genetically manipulated in such a way that the organism can function as a living stock of spare organs, then this animal acquires this character of a good and thus gains a monetary value that is incommensurable with the value of an ordinary individual of its kind.

We have to understand that it is an integral part of the domination of nature that we ultimately transform all things, objects and services into goods. What happens here is that the dominance of formal logic over thought ultimately manifests itself as the dominance of money over the relations of human be-

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Cf. Ernst Cassirer, *Substance and function; and, Einstein's theory of relativity*, translated by William Curtis Swabey, Marie Collins Swabey, Dover Publications, Mineola 2003.

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The success of contemporary Theoretical Biology and Systems Biology is powered by the use of mathematics and formal logic. Spyridon A. Koutroufinis elucidates the shortcomings of these approaches when we seek a proper understanding of an organism in: *Organismus als Prozess. Begründung einer neuen Biophilosophie*, Verlag Karl Alber, Freiburg – München 2019.

25

Cf. Saul Kripke, *Naming and Necessity*, Harvard University Press 1982; Hilary Putnam, *The Meaning of “Meaning”*, University of Minnesota Press, Minneapolis 1975.

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The hierarchisation of the laws of nature aims at a comprehensive translation of nature into a scientifically explainable world, in the sense of “all unifying theory”, which promises the possibility of total domination.

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Contemporary biology, for example, has become theoretical biotechnology. Studying a science today means learning ways of

designing possible worlds in both thought experiments (in computer simulations) and in real experiments (with machines).

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Cf. Thomas Sören Hoffmann, “Gezeigt versus sich zeigende Natur: Eine Skizze im Blick auf das Verhältnis von Labor und Natur”, *Philosophia naturalis* 43 (2006) 1, pp. 142–167, doi: <https://doi.org/10.3196/003180206780324619>. This holds even concerning the references to “self” and “selfhood” in the above mentioned “neo-teleologism” in which understanding a “self” as the self-sustaining form of dynamical system is the theoretical reflection based on a complex form of efficient causality. For the absence of an actual self in what is described as “self-organisation” cf. Spyridon A. Koutroufinis, *Selbstorganisation ohne Selbst: Irrtümer gegenwärtiger evolutionärer Systemtheorien*, Pharos Verlag, Berlin 1996. In contrast to “neo-teleologism”, biologists such as Adolf Portmann and Jacob von Uexküll captured the concept of an organism as manifestation of a proper self when they addressed living beings as *Gestalten* and *Erscheinungen*.

ings to one another and nature. This is the very pinnacle of this first emancipation because it involves the maximum possible distance and the ultimate alienation from nature. Whereas the “mythical” relationship to nature (Homer, Hesiod) was still shaped by gratitude and reverence for a nature that could be experienced as a divine power which is ultimately beyond our control, such a perspective has been replaced by the criterion of profitability today. This alienated and alienating form of interaction between human beings and between human beings and nature is known as capitalism.²⁹ In capitalism the actual needs – also concerning nature – only serve as a means to increase capital. Labour and goods – including nature as a “resource” – are used to generate money as capital. Here, the problem arises in the sense that what serves to maximise profit appears to be automatically justified and hardly seems to require any further evaluation. We must not underestimate the power of this perspective. This has become a major problem today, e.g. when we are dealing with issues regarding emerging technologies.

If we want to understand the logic of the first emancipation, we have to engage with Kant first. Our next question is: what are the logical conditions of the possibility of this transformation of nature into a world of objects? Kant was the first to raise this question. Let me highlight some important results – because we can go beyond this standpoint not by simply jumping to more desirable or seemingly concrete approaches. There is no way to a higher standpoint and a philosophy of nature other than through Kant.

3. The Enlightenment of the First Emancipation: Kant

Kant has the reputation of being the king of the enlightenment. This is justified from a systematic point of view because in the *Critique of Pure Reason* we find reflection on the preconditions of the technical-practical relationship to nature as a world of objects.³⁰ This reflection clarifies that the relationship to nature in the natural sciences is not a theoretical one. However, we can only understand this enlightenment if we correctly understand Kant’s basic question as a logical question. We have to read Kant as if he was a logician, as Bruno Liebrucks – a hardly noted, but all the more important philosopher of language and interpreter of Kant and Hegel – showed in detail.³¹

Until Kant, philosophy was – with few exceptions like the late Plato – dogmatic in the sense that one basic premise was neither made explicit nor called into question: namely, how the claim that thinking that fulfils the demands of consistency laid out in formal logic, especially the law of non-contradiction, automatically reaches things in themselves can legitimately claim to be factual. In other words, it was assumed that formal logic automatically guarantees the correspondence between thought and being.³² This unquestioned belief characterises the immediacy of the standpoint of reflection.³³ Kant was the first to realise that this basic premise is ungrounded. This insight led him to a revolutionary way of thinking in his *Critique of Pure Reason*. Kant refined the old question of the correspondence of thought and being by asking: how is this correspondence possible at all? More precisely: what are the conditions of the possibility of scientific experience? Or: what are the conditions of possibility *a priori* of science as applied formal logic? In answering this question, Kant developed the conditions that must be met if we want to interact with nature within the framework of science, which is nothing but the framework of applied formal logic.

Behind all this is the attempt to establish objective validity for formal logic. The *Critique of Pure Reason* demonstrates the relevance of formal logic for the cognition of objects. Transcendental logic *justifies and limits the realm in which formal logic has its legitimate application*. This is the *first logical self-reflection of logical form*. Thus, Kant does not develop an “epistemology”; instead, the determinations of the *Critique of Pure Reason* are to be understood as a system of necessary positings (*Setzungen*), telling us how we are to conceive the logical form, intuition, concept and knowledge, if thought – obeying the demands of consistency of formal logic – is to be able to claim objective validity legitimately. This is the standpoint of reflection, making itself explicit.

This self-reflection of logical form necessitates a revolutionary understanding of the logical form, which is crucial for a justification of life and the living being as a self-mediating unity. As opposed to formal logic, the logical form can no longer be conceived of as a mere tool, as an external form for a given content, but has to be conceived as a *forming* form which constitutes a certain objective content. Furthermore, transcendental logic makes explicit a presupposed logical form that has hitherto been forgotten in formal logic. It is the form of thought itself, the form “I think”. There is only one single logical form, namely the uniting of the manifold of intuitional and conceptual representations under the unity of the transcendental apperception, the pure form of self-consciousness. What we call objectivity – “nature” or “world” as the object of the one scientific (not individual) experience – is nothing but the realm in which the logical I can preserve itself. This is nature as a lawful system of appearances, not the φύσις of Aristotle any more, rather a “world” as a modelled reality, very much in the sense of hypothetical realism. This knowledge we attain must not be related to something like nature *in itself* – i.e. to that what Aristotle described as the οὐσία αἰσθητή, the φύσει ὄν, the *actuality* and *individuality* of a natural being. Instead, this cognition can only refer to nature understood as a system of appearances. It is a knowledge of the functioning of nature. The object as a phenomenon must not possess any determinateness *in itself*. The entirety of its determinateness must owe itself to the understanding (in terms of the *Critique of Pure Reason*). Otherwise, we would never be sure about what might show up in the next moment – we would be unable to make predictions which raise the claim to universal validity and necessity. Thus, Kant has indirectly demonstrated that the relevance of formal logic for cognition is limited to nature as a system of appearances.

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In capitalism, labour no longer serves to earn money spent on goods that are necessary as a means to the end of satisfying needs. Rather, money itself becomes the end. Here the human being alienates himself from his naturalness in the sense of working for his (natural) needs.

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According to Hegel, the core category of enlightenment is the transformation of all “being-in-and-for-themselves” of things into their “being-for-another” in terms of the concept of utility. Cf. G. W. F. Hegel, *Phenomenology of Spirit*, p. 343.

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Cf. Bruno Liebrucks, *Sprache und Bewußtsein*, vol. 4, *Die erste Revolution der Denkungsart. Kant: Kritik der reinen Vernunft*, Peter Lang Verlag, Frankfurt am Main 1968.

32

This equally applies to formal logical systems that do not accept the law of non-contradiction.

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The current prevalence of this belief in the field of analytical philosophy and formal-logical ontologies is a sufficient proof for the lasting topicality of Kant’s critical philosophy.

The “Transcendental Analytic” unveils formal logic as a necessary tool for reification, whereas the “Transcendental Dialectic” shows that any attempt to gain (metaphysical) knowledge of totality – i.e. in this context “a world” – by means of formal logic alone is doomed to succumb to unresolved contradictions. This implies the crucial insight that totality cannot be reified. Yet, what is left for totality – logically speaking: for the form of syllogism as the form of reason – within this logical framework? It is reduced to a positing of reflection that guides reasoning (“ideas of reason”) in order to ensure the determinateness of objective judgements and thereby guarantee the establishment of (scientific) experience in its coherent and consistent unity. It is often overlooked that what Kant uncovers here for the first time is the fact that *our technical-practical conduct is based on a necessary illusion* (transcendental illusion), to mistake totality with the sum total of thoroughgoing determined objects. In fact, totality is posited merely as an ought, a heuristic principle for scientific research that guides the understanding in its *establishment* of objective determinacy.

The guiding assumption which Kant does not call into question is that the relevance of formal logic for cognition has to be secured. This presupposes that the field of knowledge only extends as far as unambiguous, contradiction-free propositions regarding objects can be attained. Accordingly, only that aspect of nature which succumbs to this demand can be recognised. This is the main positive result of transcendental logic in our context: *The objective validity of formal logic can only be secured if we understand “nature” to denote a model that establishes a functional relation between natural laws and appearances.*

It is also along the lines of the first *Critique* that we learn to understand the first emancipation’s legitimacy. Formal logic is a necessary tool to establish and organise technical-practical conduct. In applying the demands of consistency and subjecting our thought to these demands, we establish knowledge for the sake of (technical-practical) orientation and action.³⁴ This knowledge functions like a coordinate system – e.g. in terms of taxonomies of the world. It provides the framework within which the risk of an individual encounter between human beings and human beings and nature does not amount to foolhardiness. For it would be foolhardy to think that we could survive such encounters unprepared and unprotected. To protect ourselves from immediate exposure to nature, any other self, it is imperative to posit unambiguous and rigid determinations (determine something as something) that serve as guiding points.³⁵ Just as the northern star in its stagnant character can serve as a means for navigation in allowing someone to keep the direction that leads directly to the destination, the formal-logical demands of consistency function as a guide for technical-practical and scientific thought. However, Kant also indicates the price we have to pay for establishing this kind of knowledge. What is the price of this kind of knowledge?

The Price of the Knowledge of Domination

We find the answer to this question in the way we have to conceive of intuition and its relation to the concept. The famous doctrine reads:

“Thoughts without intuitions are empty, intuitions without concepts are blind.”³⁶

It is common among interpreters to suggest that, here, Kant argues for a rehabilitation of sensuality against the hubris of the understanding.³⁷ But this misses the point. Kant indeed refutes the belief of former metaphysics that

the understanding, being emancipated from intuition, could guarantee knowledge, so that the construction of contradiction-free models amounts to cognition. The categories of the understanding, taken to have their meaning *independently* of their usage concerning spatio-temporal intuition inevitably lead to contradictions even if otherwise formally correct thought is given. Therefore, categories alone cannot guarantee knowledge. The categories of the understanding need to be related to a given material of intuition to avoid contradictory propositions. Having said that, one must not forget that this intuition does not at all mean an individual intuition, rather a specific modification of the intuition, which is designed to secure scientific experience. This requires a mode of intuition that does not contribute any meaning to knowledge, but only functions as a support of the facticity of the understanding categories.³⁸ The intuition functions as a pillar for the concept, but it must not by itself contribute anything to the objective determination. Intuition may only provide a schematised, positivised material for the activity of the understanding, which is “synthesis” as the lawful uniting of the manifold. This guarantees that what we determine that reality can be placed under the categories as something governed by rules. With Kant, we learn why scientists and technicians must refer to a *logically blind intuition* if the conductor in the background, i.e. formal logic, is to maintain leadership. There must be no such thing as a manifestation of nature or an individual experience and appropriation of nature.

The most important result of Kant’s reflection in our context is that formal logic guarantees knowledge qua science if and only if the forms of thought and intuition are regarded as *subjective* forms – as positings of reflection. It is precisely this subjectivity that makes scientific objectivity possible, namely objectivity as the thoroughgoing, unambiguous determination and consistency of a state of affairs. *Under the command of the principle of non-contradiction, knowledge must not include anything of nature as it may be in itself.* This is not an ontological statement about thought. The restriction of knowledge to the objects of appearance is the price that must be paid if formal logic is not to lose its claim to objective validity. The knowledge of domination demands a high price: the abandonment of the claim to knowledge of actuality. This is

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One should refrain from resorting to the prevalent dichotomy between instrumental knowledge (*Verfügungswissen*) and orientational knowledge (*Orientierungswissen*) in order to highlight the distinctive feature of philosophy since providing orientational knowledge is not a sufficient criterion to distinguish philosophy from the sciences that serve the technical-practical conduct.

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According to Liebrucks, this is crucial for the understanding of both the legitimacy and the limits of formal logic and its application: “Das Geheimnis der formalen Logik besteht in dem *Widerspruch*, daß der Beweger nur als unbewegter Beweger bewegt.” [“The secret of formal logic lies in the *contradiction* that the mover only moves as an unmoved mover.”] – Bruno Liebrucks, *Sprache und Bewußtsein*, vol. 6/2, Peter Lang Verlag, Frankfurt am Main 1974, p. 65.

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Immanuel Kant, *Critique of Pure Reason*, translated by Paul Guyer, Allen W. Wood, Cambridge University Press 1998, A 51, pp. 193–194.

37

Höffe interprets transcendental aesthetics as a “move against the discrimination of sensuality”, refuting “the arrogance of the concept”, a phrase first coined by Hans Blumenberg. Cf. Otfried Höffe, *Kants Kritik der reinen Vernunft. Die Grundlegung der modernen Philosophie*, Beck, Munich 2004, pp. 81–83.

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Space and time have to be regarded as *ordering* forms: the form of juxtaposition and the form of succession.

why *existence* is nothing but a *modality* of a judgement within the framework of transcendental logic.³⁹ Kant is very instructive because he shows that *blindness to nature is the condition for being able to master it*.

The Alienation from Nature in Right and Morality

Kant saw that this form of theoretical knowledge – which is essentially technical-practical reason – must not absolutise itself, but should only play a subordinate role within the architectonics of reason. It must not become an *absolute practice*. Instead, it has to be subordinated to moral self-determination. In other words: finite teleology has to be subordinated to the end in itself in terms of the good. This is why Kant points to the *primacy of practical reason* already in the first *Critique*. In the *Critique of Practical Reason* we learn that freedom as genuine autonomy is not attainable if we submit ourselves to the imperative of technical knowledge and practice, saying: *You ought to, because you can*. According to Kant, this leads to utmost heteronomy, for technical knowledge and practice is always propelled by given desires, which tend to be endlessly multiplied and refined by reflection. This imperative of technical knowledge and practice must be subordinated to the moral imperative: *You can, because you ought to*. Human action is autonomous only if it recognises the good as purpose in itself.

Having said that, the issue of how a truly free relationship between the human being and nature is achievable remains unsolved based on Kant's practical philosophy. The "difference of reflection" (Hegel) manifests itself as a strict *dichotomy between the subject and nature as a mere object or means*. This dichotomy holds for both the spheres of right and of morality as the difference between persons and things. All non-human natural beings are necessarily regarded as mere things – necessarily, because, as Hegel will show in his "Philosophy of Right", the spheres of right and morality are only the abstract, initial stages of freedom actualising itself.

(1) (Abstract) Right is all about freedom positing itself in opposition to the whole of non-human nature as a world of things. Freedom can and must appropriate things in order to manifest itself within it. Freedom here is only object-orientated, seeking itself in its objects. Natural beings *qua* things constitute the sphere of external freedom. While it is already apparent here that nature as a thing is presupposed as not merely external, rather as a *necessary means for the self-relationship of freedom in terms of right*, however, this standpoint – because of its abstract object-orientatedness – does not yet come to recognise that the person is not a person without his relation to its other, the thing. Thus Kant is right to define the person as self-relation that knows itself, as the one who acts and is alone accountable, whereas the thing – thereby the whole of non-human nature – is defined in strict opposition to this. The thing is that which is *not* a self, but pure *externality*, a physical thing (*res corporalis*), which is *not* free, does *not* act and *cannot* be held accountable, therefore has neither rights nor duties.⁴⁰ This expresses the standpoint of reflection. Therefore, Kant's rigid definitions of person and thing, which are often criticised in bioethics, are true and valid.

(2) The same applies to morality, under the premise of an inverted self-interpretation of freedom. As a moral subject, freedom no longer seeks itself in things or exteriority, but in the very form of self-determination, in the inner, the attitude (*Gesinnung*). Morality expresses an opposite oneness: an

abstract subject-orientation. Moral duties aim at the self-preservation of the subject as good, i.e. rational will. They are direct or indirect obligations concerning our self-perfection as moral beings. Morality, too, is characterised not only by an alienation from the “outer” but also from the “inner”⁴¹ nature.

- a) Kant’s moral philosophy accentuates the opposition between reason and inner nature in terms of inclination. Everything belongs to the natural side of the finite rational being, which shows itself first as inclination or drive and stands in strict opposition to the will’s rational motivation. This is because Kant can neither integrate the concept of ἐντελέχεια as a principle of life based on his premises, nor can he refer to something like a “natural will”⁴² understood as *immediacy* of freedom. Correspondingly, we find a subjectivistic understanding of εὐδαιμονία in Kant, which falls short of the conceptual achievements of Aristotle. Thus, nature and freedom necessarily fall apart for this standpoint of reflection⁴³ – but at the same time, Kant acknowledges the necessity of overcoming the contradiction. This is the main problem of the standpoint of reflection. *Nature and freedom stand in opposition, and the mediation of both sides is stated as an infinite task.* Consider Kant’s peculiar concept of the highest good as a proportioned unity of virtue (demands of freedom) and happiness (demands of nature) as well as the theory of postulates based on it. It is, therefore, the case that the standpoint of reflection ultimately fails to establish an affirmative relation to nature, to recognise its *inherent* rationality. The flip side to this is that morality cannot find itself as *second nature* in terms of life-forms that manifest positive freedom (autonomy). Morality itself is regarded as an infinite task. Additionally, we cannot determine whether we have ever performed a real moral act, that is, whether we have acted solely for the sake of duty, i.e. out of reverence for the law, as reflection instantly finds possible motives of self-love in the aftermath of the act. The moral subject is *external to itself*. The standpoint of reflection in morality is eventually fathomless.
- b) Since morality is all about the subject’s self-preservation as the good will (regardless of the above-mentioned opacity of the moral self), a duty toward non-human beings can solely be understood as an indirect duty serving moral perfection. Hence, addressing (direct) duties

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I. Kant, *Critique of Pure Reason*, B 106.

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Cf. Immanuel Kant, *The Metaphysics of Morals*, in: Immanuel Kant, *Practical Philosophy*, translated by Mary Gregor, Cambridge University Press 1999, p. 378 (AB 22–23).

41

We render these terms in inverted commas since the “inner” (in terms of drives, inclinations etc.) is at the same time the outer (an object) for the pure form of self-consciousness.

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For the concept of “natural will” cf. G. W. F. Hegel, *Outlines of the Philosophy of Right*, § 11.

43

Only the perspective on religion enables an appreciation of nature within the framework of the Kantian standpoint that seems to overcome the rigid opposition of freedom and nature (without resorting to the mere “as if” in terms of reflective judgement). Human being’s “naturalness” is explicitly acknowledged as a *disposition (Anlage)* for the (moral) good. Cf. Immanuel Kant, *Die Religion innerhalb der Grenzen der bloßen Vernunft*, in: Immanuel Kant, *Werkausgabe*, vol. VIII, Wilhelm Weischedel (ed.), Frankfurt am Main 1977, p. 672 (B 15) and p. 694 (B 49). Nature, understood as *disposition* for the good, is not external to the end, rather it corresponds to the end.

toward non-human beings rests upon an amphiboly.⁴⁴ What seems to be a duty *toward* animals can, in fact, (at best) claim to be an indirect duty *with regard* to animals.⁴⁵ There is no way to ground *respect* for natural beings as such. Even an “aesthetic” appreciation of nature’s beauty is morally relevant and grounded only insofar as it familiarises us with the adequate stance toward the good in terms of autonomy, namely to love (or will) something just for itself, without the intent of gaining benefit from it.⁴⁶ We are, according to Kant, morally obliged to sympathise with natural beings.⁴⁷ But the animals Kant mentions do not deserve sympathy or gratitude *for their own sake*, rather for the sake of having been *in service* for our purposes.⁴⁸ We see that even though we can already derive from Kant respect for a natural being as a facilitator for freedom, this respect remains mere external reflection with regard to the natural being itself. The standpoint of morality expressed by Kant does not overcome the standpoint of the first emancipation.

Thus, we have to consider the following: on the one hand, the difference between a person or moral subject and thing is constitutive for the spheres of right and morality. Therefore, it is imperative to adhere strictly to this differentiation and keep at bay sophistry that attempts to gradualise or confuse it (in the claim for granting *legal* rights to natural beings or demanding direct *moral* duties toward natural beings). On the other hand, we cannot halt at the presuppositions of this standpoint since they stand at odds with actual freedom, the being with oneself in its other. Neither right nor morality (in terms of both Kant and Hegel) allow recognition of nature for its intrinsic rationality, and accordingly, as other self.

Kant’s attempts to discover the mediation between the realms of nature and freedom in the third critique necessarily leads – this is a further crucial systematic insight we owe to Kant – to the concept of ἐντελέχεια, inner purposiveness. What is here already in sight is indeed the overcoming of the standpoint of reflection by the thought that reason is not a mere *positing* of reflection but displays itself in nature, that inner rationality of nature *qua* organism is the prerequisite of freedom and action. However, due to Kant’s endorsement of formal logic and the form of judgement, he holds that inner purposiveness can only be articulated in the mode of the *reflective* power of judgement: in the aesthetic and the teleologically reflective judgement. Yet that which transcends the standpoint of reflection is again regarded as mere positing of reflection – this is the unsolved contradiction in the third *Critique*. We are only allowed to reflect upon the living being in terms of an *as if* (biology and ecology should take these results seriously).

Still, we find some arguments in Kant that lead to the insight that nature is not merely an external means, but a *necessary* means of freedom with regard to the human body. A necessary means is not external to the end any more, which leads to the thought of the mediated nature of means and end, which is at the core of inner purposiveness. The body is understood as an integral part of the moral agent, not external to the person as the bearer of dignity, which expresses itself as a prohibition of any undue self-instrumentalisation. Additionally, we also find a “theoretical” approach in the “Opus postumum”, where Kant elaborates the significance of the human body as a presupposition of scientific experience. Nevertheless, the systematic core problem remains within the framework of transcendental reflection, that a “logic of embodiment of reason” is not attainable since the logical I is not yet conceived as

particularising itself, as self-moving and self-mediating form, but as the supreme *subject of judgement*.

What follows if we do not overcome this standpoint?

(1) From the point of view of the first emancipation, it is difficult to argue for restraint and limitation on the colonisation and exploitation of nature, even if (Kantian) morality is taken into account. *Recognition as an end in itself only applies to the will, but not to nature*. Nature has the character of a mere means for morality. This perspective on nature based on the primacy of the practical will becomes clearer in Fichte, who consequently holds that “our world is the material of our duty made sensible”.⁴⁹ From Hegel’s point of view, this is a finite-teleological approach to nature: nature understood as an external means of self-preservation of the standpoint of morality.⁵⁰

Since morality alone cannot ground the necessity of a restraint on our actions directed towards nature and our time is shaped by the standpoint of reflection, it is little wonder that we face the issue of an *absolutisation of technical practice* today. Within this framework, things seem to be much more straightforward than they are according to Kant’s doctrine of postulates. Technical knowledge and practice are widely regarded as *the* means which provide all we need in order to satisfy our desires and to optimise our happiness. What Kant conceived of as an infinite task of mediation in the concept of the highest good, now appears to be transformed into a “postulate of happiness through technology”. Thus, we have to face the issue of the absolutisation of the technical-practical conduct.

There is a systematic link between absolute technical practice and moral evil. In his account of morality, Hegel shows that morality’s supreme principle, conscience, is at the same time the principle of evil. Moral autonomy loses itself in a *presumptuous autonomy* in the sense of an arbitrary determination of what is to be regarded as good and evil. This presumptuous autonomy is the link between the position of an absolute practice within the theoretical relationship to the world and moral evil. The I is evil if it withdraws itself from the actual “ethical” life-forms, considers itself to be *emancipated from everything* and practices this delusion as well. Of course, the first emancipa-

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I. Kant, *The Metaphysics of Morals*, “Doctrine of Virtue”, § 16.

45

Ibid., § 17.

46

Ibid.

47

Ibid., § 34.

48

Ibid., § 17.

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Johann Gottlieb Fichte, “Über den Grund unseres Glaubens an eine göttliche Weltregierung”, in: Johann Gottlieb Fichte, *Gesamtausgabe der Bayerischen Akademie der Wissenschaften*, vol. 5, Reinhard Lauth, Hans

Gliwitzky (eds.), Stuttgart – Bad Cannstatt 1977, p. 353. However, this is not the sole meaning of “nature” in Fichte. To the extent that the late Fichte overcomes his early standpoint, he developed a richer concept of nature. Cf. Wolfgang Janke, *Vom Bilde des Absoluten: Grundzüge der Phänomenologie Fichtes*, De Gruyter, Berlin – New York 1993, p. 401ff.

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Cf. the role of nature in Fichte’s early “Foundations of Natural Right” (1796) and Hegel’s criticism in “The Difference between Fichte’s and Schelling’s System of Philosophy”, in: Georg Wilhelm Friedrich Hegel, *Jenaeer Schriften 1801-1807*, Suhrkamp Verlag, Frankfurt am Main 1986, pp. 72–93.

tion stage is not evil; only its absolutisation has to be regarded as evil. It is the expression of the impertinence of power that is only presumptuous power for it has lost sight of the fact that its power is facilitated by nature. What are the consequences of such an absolutisation?

(2) Solely focusing on the enlargement of our ability to secure the *regnum hominis* (F. Bacon) means an abstract recognition of nature. The relationship to nature is not yet truly free in the sense of being with oneself in the other. Natural science only recognises what brings benefits and thus an increase in power. In experiments, science forces nature to respond. In this way of dealing with nature, we sit, as it were, on her back but we forget that nature then has turned her very back on us. Her countenance remains invisible to us. Today, children grow up in a world in which machines almost entirely mediate our contact with nature.⁵¹ There is no real otherness – therefore, there is the real danger of losing oneself within this sphere of mediated objects, like Narcissus drowned in his mirrored picture.

(3) Since this standpoint essentially abstracts from all inner purposiveness of nature, there can be no *inherent normativity* of a natural being, which would have to be considered in human action – which includes the human body as well. The phrase *contra naturam* becomes meaningless. This necessarily gives rise to a *practised Cartesianism* regarding the separation of the natural, biological and the mental side. Nature and the natural side of the human being are deprived of any significance in and for itself. The human body is degraded to a sheer material or horizon for arbitrary positings of (self-)identity.⁵² According to that, the biological gender is understood as nothing but reflecting contingent (social) constructions. In addition to this, the human body becomes the mere object of its technical colonisation in science.⁵³ This already indicates that our conduct ultimately always falls back upon us.

(4) The utility calculation predominates even when it comes to ecological arguments. For example, let us protect biodiversity, as many species as possible, because it may be the case that unexplored species will later prove to be tremendously useful. So the restraint on the exploitation of nature is due to a mere utility calculation, which is precisely what “deep ecology” criticises as the shallowness of standard ecology. However, it is important to understand that this conceptual shallowness, the mere instrumental view of nature, is nothing but the consequent expression of the first emancipation.

(5) *Once the first emancipation shapes our understanding of nature, we cannot justify a principal difference between a technical product and an object of nature.* The reason for this is that the products of τέχνη are nothing but realisations of modelled nature *qua* world. It is only based on the second emancipation that an understanding of nature becomes accessible, from which the Aristotelian distinction between φύσει ὄν and the product of τέχνη becomes again meaningful. Kant’s insights into the irreducibility of the organic are the first step towards tackling this issue.

(6) Directly linked to this is the question as to *what can the reference to “species” or “species-membership” mean at all*, once we have reached the standpoint of the exact sciences, the first emancipation. Expressed in more general terms, there is the unsolved problem of the “ontological” status of taxonomies, classifications and divisions into species and genera and linked to this their possible normative implications. The natural sciences cannot rely on the Platonic or Aristotelian concept of εἶδος, the presupposition of the unity of a logical and at the same time ontological meaning of εἶδος, by which the

διαίρεσις could claim to derive a ὀρισμός, i.e. a definition that is not a mere linguistic entity (a *flatus vocis*, as nominalism has claimed) but makes explicit the very essence of the thing in itself (this is also the premise of the theory of natural goodness and the pre-Kantian theory of natural law). If we would ask: what are species in themselves, this would amount to inquiring into things in themselves. This is forbidden if we want to secure the objective validity of formal logical reasoning. It necessarily remains a mystery for the standpoint of the first emancipation or formal logic why and in what sense specific taxonomies (as opposed to others) can legitimately claim objective validity, i.e. can serve as useful tools for our orientational knowledge.⁵⁴

The possibility of capturing properties and the functionality of taxonomies is taken for granted in formal logic. Fichte states that formal logic presupposes a “favour of nature”⁵⁵ which allows for the positing of conceptual identity in things. Having adopted the standpoint of transcendental logic, we certainly know that “nature”, purely in terms of the natural sciences, cannot do someone a favour. According to Kant, the use of concepts like species, with regard to living individuals, can at best be built on reflective judgement – but even if they “work” within determining judgements within science, there is no way of claiming a *fundamentum in re* for concepts like “species”. They are mere *positings* of the understanding: the understanding objectifies properties and posits an underlying identity for those properties – and relates that to an identical substance which functions as the bearer of these properties. Thus, the question remains: what justifies and guarantees the unity of thought (in terms of establishing classifications) and being? Moreover, what is left for the abstract understanding is ultimately the nominalistic and technical understanding of the terms used for classification of a presupposed manifold of individuals. They function as “rigid designators”,⁵⁶ i.e., tools that serve to identify and operate with certain “objects” within the world of appearances.

It is crucial to keep this in mind in order to clarify bioethical discussions of animal welfare, chimaeras, cyborgs, etc., where the concept of species is quite often used to ground normative claims, as within the pre-Kantian tradition of natural law. What happens here is an undue conflation of the ontologically relevant concept of species and the purely technical and nominalistic concept

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This manifests itself in the popular culture also as peculiar enthusiasm for magic and superpowers. The basic idea of magic is that we gain mastery over nature and the other, but no longer through the troublesome confrontation with nature and the other themselves, but through a simple *verbal* command. Meanwhile, we can build machines that respond to verbal commands.

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This is related to the currently prevalent ethos of non-commitment. Some people are constantly on the lookout for their “own identity”, with the “search” in terms of avoiding committing oneself becoming the genuine content of this consciousness of freedom.

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Cf. the emergence of post- and transhumanist views.

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This is an aspect of the old problem of the possibility of μέθεξις and διαίρεσις, which has been considered since Plato.

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Johann Gottlieb Fichte, *Transscendentale Logik II*, in: Johan Gottlieb Fichte, *Gesamtausgabe der Bayerischen Akademie der Wissenschaften. Reihe II: Nachgelassene Schriften 1812-1813*, vol. 14, Frommann-Holzboog, Stuttgart – Bad Cannstatt 2006, p. 200.

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Cf. Judith K. Crane, “On the Metaphysics of Species”, *Philosophy of Science* 71 (2004) 2, pp. 156–173, doi: <https://doi.org/10.1086/383009>.

of species in terms of (natural) science. *The concept of species in terms of science cannot ground any normative claims or frameworks whatsoever because they are nothing but technical-practical tools to orientate within the system of appearances.* This conflation – or confusion – is only the expression of the above mentioned unsolved systematic problem.

(7) This standpoint is blind to the *objective reactions* caused by our actions. If we see nature as a mere object of domination, we will overlook that domination always has a corresponding effect on the ruler. Already Francis Bacon stressed that we only master nature by obeying it (*natura parendo vincitur*). Nowadays, nature's reactions to our exploitation become visible and perceptible. The answer nature is giving us today is the so-called *uprising of objects* against the human being. We are not only drowning in the trash, which falls back on us via the food chain, but we are also at risk of drowning in the objects we produce in that their operation forces us into *their* service. All this belongs to nature's answer to our conduct. This *reflexivity of our conduct* must not be ignored, otherwise, we will be overwhelmed by our actions' repercussions. Once we acknowledge this, our relationship with nature can revolutionise itself.

4. The Second Emancipation: The Liberation of Nature

Quite a few philosophers, especially in the 20th century, stressed the need for a revolution in our relationship with nature. One of them was Hans Jonas, who realised that nature could not take responsibility for itself, instead, this would be the duty of the human being. However, philosophically decisive is how such a claim can be justified. Such a justification can only consist in demonstrating that this revolution in the relationship with nature, which is at issue, is a matter of necessary progress in the reflection and justification of the preconditions of the first emancipation. Necessary in the sense that we fail to actualise concrete freedom where we do not proceed to this position. This can be understood with reference to Hegel. From Hegel's perspective, this revolution in consciousness is about nothing less than elevating ourselves to the concept's logical status. It is the standpoint of *θεωρία* in terms of Aristotle. This requires a further logical revolution after Kant.

The shortest way of describing this revolution would be to say that it consists of insight into the finiteness of the logical form of judgement (regardless of whether the form of judgement is understood in terms of the subject-predicate structure or the function-argument structure). This, in turn, presupposes a logic that goes a step beyond transcendental logic by thinking the categories and forms in themselves and thereby unfolding and criticising them. *As long as logic fixates the form of judgment (and not the form of inference) as the form of mediation, everything that is a self-relationship, the mediation of oneself in the other* (be it life or freedom) – nothing else is inner purposiveness – *must be ultimately regarded as irrational, a-logical.* This applies equally to formal logic and transcendental logic. Dialectical logic alone establishes the systematic legitimacy and necessity of inner purposiveness.

How Can We Speak about Freedom with Regard to Nature, after Kant?

Speaking about a "liberation of nature" presupposes that freedom is recognised as something *imminent* in nature. Still, one could argue that speaking

about freedom in nature would involve an *equivocation*. Why is that? It is because we can refer to freedom in relation to natural beings, more closely organisms, but then the term “freedom” denotes something fundamentally different than speaking about human freedom. To denote a living being as free can only mean the absence of external constraint, the unhindered actualisation of the individual’s essence (εἶδος as δευτέρα οὐσία in terms of Aristotle’s ontology), like the “free” oak trees in Hölderlin’s famous poem. This form of freedom could be called “ontological freedom”. Freedom is conceived here as the realisation of essence or more concretely: being a self-related or self-affirming existence or, simply – a (natural) self.

However, such an understanding of freedom cannot be grounded within Kant’s systematic framework. Therefore, it must appear as an equivocation. Within the framework of Kant’s philosophy and transcendental logic and its basic premise, the will to secure the objective validity of formal logic, speaking about freedom with regard to nature would presuppose that freedom could be a possible object of theoretical judgements. Freedom is not a possible object of spatio-temporal experience. Kant thereby indirectly demonstrated the illegitimacy of using formal logic as a tool to gain propositional knowledge concerning freedom.⁵⁷ This is a lasting insight that has to be taken seriously. In addition to this, Kant’s concept of freedom would not allow for that for the following reasons:

- a) Kant introduced a new understanding of freedom, namely as self-determination according to practical reason (autonomy). He rightly emphasises that this must not be confused with the concept of “ontological freedom” in terms of the realisation of a (given) self, for this would only lead to the heteronomy of the will.⁵⁸ Indeed, the difference between human freedom and nature must not be overlooked or treated as a matter of gradual differences.
- b) We have to be aware that Kant’s logical framework imposes a limitation upon the concept of freedom which does not allow us to speak of freedom with regard to nature. We see this clearly in the most fundamental aspect of freedom in Kant’s philosophy, freedom as “cosmological freedom” in the first *Critique*, which is the ability to initiate a causal chain in the world.⁵⁹ Departing from Kant’s presuppositions, “cosmological freedom” can surely not be understood as freedom of a natural

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Taking into account of what Kant demonstrated in the third antinomy would be of great importance for the understanding of the aporias in contemporary debates about whether or not there “is” freedom of will and, if it is the case, how to bring this in line with the worldview of science.

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We have to keep such a misunderstanding at bay, for it could tempt us to think that a non-human natural being could be subject of “natural rights”. The most fundamental rights cannot be derived from a given “nature” or essence of a being, but can only be derived from freedom or reason, as Kant, Fichte and Hegel have demonstrated. The alternative would be

a backslide into an ontology, which always has trouble explaining why only human beings should be understood as subjects of rights. Cf. for example Jonathan Crowe, “Explaining Natural Rights: Ontological Freedom and the Foundations of Political Discourse”, *New York University Journal of Law and Liberty* 4 (2009) 1, pp. 70–111.

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Cf. Christian Krijnen, “Kant’s Conception of Cosmological Freedom and its Metaphysical Legacy”, in: Christian Krijnen (ed.), *Metaphysics of Freedom? Kant’s Concept of Cosmological Freedom in Historical and Systematic Perspective*, Brill, Leiden – Boston 2018, pp. 173–187.

being as a thing in itself, although the term might indicate that. Instead, the conception of cosmological freedom arises out of a purely logical consideration of the category of causality by which at the same time the mere possibility of freedom in terms of practical reason (which will only be a subject of discussion in the second *Critique*) can be secured. This shows that Kant conceives of freedom ultimately in terms of causation, as a relation of cause and effect. From Hegel's point of view, Kant's conception still belongs to the "logic of essence" and not yet to the "logic of the concept", which unfolds the logic of freedom. The logic of being a self and thus "ontological freedom" cannot be understood by means of the category of causality.

Hence there is a twofold impossibility when it comes to speaking of freedom with regard to nature in Kant's philosophy: one stemming from Kant's concept of nature, the other from his concept of freedom.

Now let us turn to Hegel. The problem of the freedom of nature is, systematically speaking, not just a question of natural philosophy, but first and foremost a question of logic. *The necessary revolution within our consciousness of nature presupposes an overarching understanding of both nature and the human being grounded in the concept of the logical form as a living, self-developing form.* This lies at the core of Hegel's system.

(1) It is only due to the achievements of the third part of Hegel's logic that speaking of freedom with regard to nature is possible, indeed even required, without falling behind Kant's achievements.⁶⁰ Unlike Kant, Hegel understood the logical form of the concept as *self-relation that mediates itself in its other* – and this is at the same time the logical form of freedom. Freedom as self-relation (or self-determination) contradicts the formal-logical law which demands the mere *avoidance* of the contradiction. But what Kant could not admit is that freedom or the logical self is the *existing contradiction*, yet at the same time the movement or process of its solution. This process in its outline is: the concept of the concept proves to be the logical form of subjectivity that gives rise to objectivity (as a worldview), and, what is crucial in our context, proves to be the actual unity of subjectivity and objectivity (Hegel's "Idea"). This covers *both* the *logic of life* or the living individual and the logic of *self-conscious (human) life* (the idea of cognition, idea of the good), that ultimately grasps itself (absolute idea, method). So the (Hegelian) concept is not an "idea" *in mente*, a mere positing of reflection, but *is actual as a self*. Its process ultimately aims at the consciousness or knowledge of itself *as* a concept, which transcends the logic of life. Nevertheless, any organism is a self insofar the organism is the process of subjectivity governing its objectivity or the mediation of itself in its other (e.g. in metabolism and reproduction). Therefore, it is legitimate to speak of freedom and selfhood with regard to living beings insofar we have to differentiate between the concept being a living self and the concept being a *self-consciously* living self, or between being-in-itself (*Ansichsein*) and being-in-and-for-itself (*Anundfürsichsein*). Thus, Hegel's logic allows us to think imminent freedom (or subjectivity) in nature without confusing the principal difference between human freedom and nature.

(2) With regard to the philosophy of nature, we have to discern two related aspects when speaking about "free nature":

- a) Freedom of nature is at first to be understood *negatively* as the disruption of logical continuity (in terms of the "broken middle")⁶¹ and thus the externality of the "idea".⁶² In this sense, Hegel maintains that it is

the *absolute freedom* of the idea to release itself into nature,⁶³ consisting of a particularisation of the totality of reason (idea) that first amounts to complete dissipation of the logos. The otherness of nature is rooted in this particularisation qua externalisation of the “Idea”. Those who strive to obscure this difference are advocates of an abstract identity that does not permit for the real otherness of nature.

- b) Freedom of nature, however, has a positive side as well. The “logic” of the unfolding of the stages of nature beginning from the mechanism up to the organism consists precisely in the *gradual overcoming of this externality*, namely by *establishing ever richer and more concrete forms of self-relationships*. A natural being can be understood as free in terms of an existence relating to itself or affirming itself. In the organism nature reaches the being for oneself *in itself* (*ansichseiendes Fürsichsein*). Thus, this aspect brings in the second emphasis on the concept of nature: while the first aspect grounds nature as *other* self, the second aspect justifies speaking about nature as *other self*.

Freedom Finding Itself in Nature

Against this systematic background, I will now consider the presuppositions of the first emancipation. We will see that the first emancipation is based on preconditions that can only be justified from the “standpoint” of the second emancipation.

We have seen that in the first emancipation freedom and nature stand in opposition to each other. Freedom means to be *not* nature. There is no being with oneself in the other. Yet at the same time, this very being with oneself in the other is presupposed by this standpoint. This is because using nature as a means for our arbitrary ends inherently presupposes that nature as means is not entirely external to the end. If this were the case, if nature as a means were entirely external for freedom as the end, then we could never have taken possession of the body in the first place, let alone carve a primitive tool. If the contradiction was irreconcilable, if nature and freedom were not *already mediated*, we would not survive biologically. Freedom would be impossible.

To solve this issue, it is necessary to understand the logical presuppositions of action. Hegel has shown in his logic that the standpoint of finite purposiveness – which is the standpoint of technical-practical action – presupposes inner purposiveness. Speaking very briefly, this means that every action, however simple, has to be conceived of as a way of actually solving the contradiction between nature and freedom. How is this possible? This is possible

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For a profound account of the approaches in the history of philosophy that allow for thinking free nature, cf. Thomas Sören Hoffmann, *Philosophische Physiologie: eine Systematik des Begriffs der Natur im Spiegel der Geschichte der Philosophie*, Frommann-Holzboog, Stuttgart – Bad Cannstatt 2003, Part III, p. 237ff.

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Cf. Jan van der Meulen, *Hegel. Die gebrochene Mitte*, dissertation, Hamburg F. Meiner, Hamburg 1958.

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For a concise description of the relation of logic to nature cf. Thomas Sören Hoffmann, *Georg Wilhelm Friedrich Hegel – A Propaedeutic*, Brill, Leiden 2015, p. 301ff.

63

G. W. F. Hegel, *Encyclopaedia of the Philosophical Sciences*, Part I, § 244.

because this contradiction between finite and inner purposiveness (or of *causa efficiens* and *causa finalis*), which characterises the standpoint of teleology or technical knowledge and practice, is already solved in the logic of life, in the organism.

This is to say that if freedom is to be possible and actual, then we cannot halt at the abstract opposition between nature and freedom in the sense of the first emancipation. *Freedom must be able to find itself in nature – in nature as another self.* If action means to realise the intelligible – a goal – in nature, then this presupposes that nature can be conceived in such a way that it is *intelligible in itself*, i.e. that nature is not merely existence under natural laws (Kant), but that it is the *presence of the intelligible or the goal.*

What applies to action holds true even more fundamentally for the constitution of consciousness. The human being never *immediately* constitutes a self-relation, without detour, but can always do so only through his objects, thus *through nature* and the other person. If therefore, freedom is the negation of nature, then this negation must not merely be presented as the exclusion of another, but the negation must be thought of as the mediation that encompasses the opposed determinations. That is the most crucial point. In other words, nature is not simply external to freedom. On the contrary, at every stage of the development of freedom, we see an intimate intertwining with nature.

Hegel's *Philosophy of Spirit* demonstrates this in all its stages.⁶⁴ The development of the subjective spirit from self-feeling over intuition, representation and proper thinking to the practical self-relationship shows in every step what is meant by Hegel when he says that the I posits itself as I – but the I has its identity with itself “at the same time it *is* this identity only so far as it is a return out of nature” (“zugleich nur als Zurückkommen aus der Natur”).⁶⁵ This “at the same time it is this identity only so far as it is a return out of nature” is the key insight in the logic of the I leading beyond the standpoint of reflection. It can only be achieved based on Hegel's logic of the concept.

Early Fichte – perhaps the most elaborate representative of the philosophy of reflection – reconstructed the logic of the I at first with the opposition of two “Thathandlungen” (the I posits itself absolutely and in doing so, the I posits its other, the non-I). The task of the theoretical and practical dimensions of the I was successively to resolve this contradiction – a task which, however, remained an ought in Fichte's philosophy. Hegel's *Philosophy of Spirit* shows, in contrast, that consciousness as (Hegelian) concept finds itself in nature as its objectivity (which is not the Kantian objectivity any longer) and *only in this returning from nature it attains concrete (individual) identity in itself.* Nature helps in the formation of our actual and individual identity.

This is also demonstrated throughout the philosophy of the objective spirit, of freedom realising itself. Without the help of nature, freedom as “right” in terms of Hegel – i.e. the self-affirmation of freedom – would be pointless. Think of the involvement and acknowledgement of nature in the sphere of abstract law (property) and in more concrete forms in moral life (*Sittlichkeit*): in family, the system of needs, and the state. However, the premise of such a philosophy of spirit is, apart from dialectical logic, a philosophy of nature, which – in contrast to natural science – aims to develop that nature is the slow process of becoming conscious of itself in the human being. What is the true teleology in the contemplation of nature Hegel speaks of?

The “True Teleological View” and its Consequences

Hegel characterises this perspective on nature as “the true teleological view, which is the highest – thus consists of nature as free in its peculiar liveliness”.⁶⁶ Such an approach to nature is no longer focused on domination. It is a concept of nature centred around the thought of inner purposiveness⁶⁷ – which is what science must exclude for the sake of “exactness” and domination. What is this inner and moving goal of nature?

Hegel’s answer to this is that it is the “Idea”, the totality of reason. However, the very concept of nature is the Idea in its “complete external objectivity” (“vollkommene(n) äußerliche(n) Objektivität”).⁶⁸ The Idea manifests itself as power over this externality, gradually recollecting itself from its externality in space and time in the manifestation of ever richer forms of self-relation (*Fürsichsein*). Thus, nature – to emphasise this all-important aspect again – reaches the point of being for oneself *in itself* (*ansichseiendes Fürsichsein*), but this does not eliminate the difference between nature and the I or freedom. Hence it is only in the human consciousness that the Idea acquires consciousness of itself. This is the true teleological view.

What is the other self of nature? It is the Idea, manifesting and showing itself – where? At any point where self-relations establish and show themselves, beginning with the movement of the physical object up to the organism and its drives. It is here that we encounter reason, but existing in a lasting otherness, in spatio-temporal externality. *And it is by means of this rationality of nature that nature can serve as a/the facilitator of freedom in the first place. With this insight, the presuppositions of the technical-practical conduct are justified.*

Such an account of nature is not a mere doctrine of the usage of nature, instead, it conceives of nature as an expression and representation of *actual* (self-)relations, as a living context to which we belong – and the violation of which affects us likewise. Such a Philosophy of Nature can recognise, for example, the rationality of the natural drives in the living being – and this is the precondition of proper recognition of its sublation in human love, for example.

This perspective on nature stands on the logical ground of the Hegelian concept: understanding nature not merely as an external means but as a necessary means, that is, as being inseparable from the very end itself. This is the

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For the presence of nature within the human world cf. Th. S. Hoffmann, *Philosophische Physiologie*, Part IV, p. 475ff. For a comparison between Hegel’s theory of natural development with the development of consciousness cf. Alison Stone, *Petrified Intelligence. Nature in Hegel’s Philosophy*, SUNY Press, Albany 2004.

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Georg Wilhelm Friedrich Hegel, *Philosophy of Mind*, translated from the *Encyclopedia of Philosophical Sciences* by William Wallace, Clarendon Press, Oxford 1971, § 381, p. 6.

66

G. W. F. Hegel, *Encyclopaedia of the Philosophical Sciences in Basic Outline*, Part II, § 245.

67

For Hegel’s integration of Kant’s account on the principle of inner purposiveness cf. Daniel O. Dahlstrom, “Hegel’s Appropriation of Kant’s Account of Teleology in Nature”, in: Stephen Houlgate (ed.), *Hegel and the Philosophy of Nature*, SUNY Press, New York 1998, pp. 167–188.

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G. W. F. Hegel, *Encyclopaedia of the Philosophical Sciences in Basic Outline*, Part III, § 381.

concrete view of nature. *Freedom is the negation of nature, which has its existence only by means of nature.* Concrete freedom can only manifest itself through its other, through nature. In doing so, concrete freedom as free life not only presupposes the contradiction between nature and freedom – it has to be understood as the solution of this contradiction. Having reached this level, freedom not only claims its *right* to subject nature to practical purposes; the flip side of this right is the *duty* to appreciate in nature itself the *externality of the concept* – and to act accordingly.

What follows for our conduct if we take seriously that nature is the externality of the concept?

(1) If we are aware that it is an abstraction to imagine ourselves in possession of an immediately autonomous self-relationship while the other, nature, was imagined as an external means for our self-preservation, our encounter with nature will not be solely framed by a technical-practical interest, but based on a *theoretical* one and thereby *free* from desire directed toward domination and consumption – at least for some moments. In these (rare) moments, we are not designing a thoroughgoing determinate phenomenon as an object (in terms of Kant) any longer. In these moments, nature does not appear as a sum-total of objects, a collection of inorganic matter, organisms, etc., but with a *face*, which means as a sensuous being that is at the same time intelligible. It allows for an *individual experience of natural beings*. They gain presence not only as instances of a lawful system of appearances but as real individuals. This experience includes two moments: On the one hand, it is an experience of harmony or congruence. On the other hand, the otherness is entailed in this experience. The latter means that this self – being a permanent self-determination process – bears features of lasting indeterminacy. There will always be an enigmatic residue that cannot be resolved into a series of objectifying judgements. The freedom from desire enables openness to this indeterminacy, and only through this openness encounters with nature as a self in its own right are possible.

(2) This experience of congruence and at the same time otherness invites us to respond – not in the form of action, but through ways of life in which nature is implicitly respected and through linguistic forms in which this respect⁶⁹ of nature's right to its own existence is made explicit. This right is neither a right in terms of (abstract) right, nor is this recognition a duty in terms of morality. Rather, it belongs to the consciousness of freedom that Hegel calls "Sittlichkeit" ("ethical life") and ultimately to the "sphere of religion" (which is, according to Hegel, the sphere of "absolute spirit" including art, religion and philosophy). I respect nature as the source of my natural existence. This respect is not, as in Kant's philosophy, merely mediated by the self-respect of a rational or moral being. *Every stage of actual freedom – every life-form in terms of "Sittlichkeit" – relies on this respect. In the sphere of absolute spirit this respect toward nature becomes explicit.* This is necessary because this experience needs to be remembered and interpreted, which happens in art,⁷⁰ religion and philosophy. So we have to consider the much sought-for new consciousness of nature is already actual – and has always been, at least up to the age of the industrial revolution(s). The following examples may illustrate this.

- a) Art: consider the depiction of natural beings in (pre-modern) still lives. They do not simply show inanimate *objects*. Instead, they present a certain relation of subject and object, how certain natural beings are con-

ceived at a stage of consciousness that shows due respect for the sacrifice of their *individual* lives while serving the ends of the human being, either to survive physically (vegetables, fruit, animals) or to embellish our life (flowers). However, art goes even further. It can present a consciousness that shows respect for nature's right to existence of its own. A stunning example of this is Albrecht Dürer's *The Large Piece of Turf* (1503). The grass seems to be literally at the bottom of the *scala nature*. We tread on it, leave it on the wayside without taking further notice or rip it out, as a result of the subsumption under the abstract universal "weed", indicating a lack of functionality. However, in beholding such a painting, we can evoke the consciousness that even a patch of grass shows an abundance of individual life that merits being regarded for its own sake. Art expresses and "captures" what (natural) science overrides: the individual as such. Dürer's painting answers the mentioned quest for the "Newton of a blade of grass".

- b) Religion: the figurative language of religion does not express a pre-rational perspective. On the contrary, this language expresses a non-reductive perspective, the standpoint of totality. Religion does not regard nature as an object but understands nature as being related to God's absolute. As manifestation or creation of God, we always encounter in nature what religion calls "the holy", especially in life and living beings. For a religious consciousness, nature can therefore never be merely a means or material.

This consciousness of being a self within a totality essentially includes the idea of sacrifice and devotion. In the religious sacrifice, we return part of what we have received from nature. It expresses the awareness that we have not obtained the goods and the wealth that we squeeze out of nature by our efforts alone, but always with nature's help, which allows this to happen. In sacrifice, however, not only gratitude and respect are expressed (e.g. in "Thanksgiving"), but also the awareness that the use and exploitation of nature demand "atonement". The systematic reason for this is that the technical-practical view on nature inevitably entails the loss of the context of totality within consciousness, alienation from nature. Sacrifice, therefore, has also the meaning of overcoming this alienation.

We also find an explicit awareness of the difference of both stages of emancipation, e.g. in Judaism and the Christian religion. Crucial is here the difference between a human being regarded as master *and* as a steward of creation. Christendom introduced a new attitude toward nature. Paul explicitly proclaims the liberation of the whole of the creation.⁷¹

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The term *recognition* seems to be inappropriate in this context insofar it presupposes a reciprocity in the constitution of self-consciousness which is at odds with the concept of nature as an *other* self. The otherness involves exactly a lack of reciprocity.

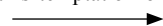
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This is the meaning of Adorno's dictum: "What nature strives for in vain, artworks fulfill: They open their eyes." – Theodor Wieselgrund Adorno, *Aesthetic Theory*, translated by

Robert Hullot-Kentor, Continuum, London – New York 1997, p. 66.

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Romans 8:20. This liberation mediates itself as the consciousness of a deep kinship with all creatures of nature (cf. the "Cantic of the Sun" by Francis of Assisi) and, accordingly, as the demand for a restraint with regard to our transformation of nature into a world of useful objects. In "The Life of Jesus" (1795), the young Hegel explains this temptation of



(3) This respect manifests itself as a restraint with regard to our technical-practical conduct. This is the end of the unbridled exploitation of nature. I act here in the consciousness of the premise that even where I force nature to serve my ends, respect for nature's selfhood is never completely disregarded. This restraint lies in our responsibility for nature (the crucial category in Hans Jonas). The responsibility is based on the fact that nature opens its eyes in the human being.

These are the most important normative implications for our conduct if we acknowledge nature as a self of its own. It is only based on Hegel's philosophy that we arrive at a concept of nature that surpasses the limits of the standpoint of reflection and thereby establishes a proper foundation for normative claims with regard to nature that can withstand the fire of Kant's criticism.

Max Gottschlich

Gospodarenje prirodom i oslobađanje prirode

Dva stadija emancipacije

Sažetak

Rad se bavi rasponom ljudskog odnosa prema prirodi. Taj raspon obuhvaća dvije emancipacije. Prva je emancipacija od prirode putem koje se omogućuje gospodarenje prirodom pomoću znanosti i tehnike. Druga emancipacija jest emancipacija od prve emancipacije, izvire iz uvida da o prirodi trebamo misliti i odgovarajuće je poštivati kao drugo sebstvo koje se ukazuje. Argumentiram da upravo takav iskorak prema takvoj drugoj emancipaciji leži u jezgri revolucije svjesnosti o prirodi za koju se čini da se upravo odvija. No urgentno se pitanje javlja o tome kako takvo »oslobođenje od prirode« (Hegel) može biti shvaćeno kao održivo, bez zaostajanja za postignućima kantovske filozofije i pada u dogmatsku ontologiju ili čak naturalizam. Rad uspostavlja sustavni odgovor na to pitanje baveći se nekim ključnim točkama u Kanta i Hegela.

Ključne riječi

filozofija prirode, filozofija tehnike, Immanuel Kant, Georg Wilhelm Friedrich Hegel

Jesus as follows: "But once, during an hour of solitary reflection (Luke 4; Matt. 4), it occurred to him that perhaps by studying nature he might, in league with higher spirits, actually seek to transform base matter into a more precious substance, into something more immediately useful to man, e.g. converting stones into bread. Or perhaps that he might establish his own independence of nature altogether while hurtling down from a high place. But as he reflected on the limits nature has placed on man's power over her, he rejected such notions, realising that it is beneath man's dignity to strive for this sort of power when he already has within himself a

sublime power transcending nature altogether, one whose cultivation and enhancement is his true life's calling." – Georg Wilhelm Friedrich Hegel, "The life of Jesus", in: Georg Wilhelm Friedrich Hegel, *Three essays, 1793-1795: The Tubingen Essay, Berne Fragments, The Life of Jesus*, translated by P. Fuss, J. Dobbins, University of Notre Dame Press, Notre Dame 1984, p. 106. The temptation would be to conceive of nature as mere means for human being's immediate self-preservation. This drive has to be relativised with regard to the human being's higher destiny, which is, according to the young Hegel, morality.

Max Gottschlich

Herrschaft über Natur und Befreiung der Natur

Zwei Stufen der Emanzipation

Zusammenfassung

Der Aufsatz handelt von der Spannweite des Naturverhältnisses des Menschen. Diese umfasst eine zweifache Emanzipation: die erste Emanzipation als die Emanzipation von der Natur; die uns die Herrschaft über diese in Gestalt der Wissenschaft und Technik ermöglicht. Die zweite Emanzipation ist die Emanzipation von dieser ersten Emanzipation. Diese entspringt der Einsicht, dass die Natur als ein anderes Selbst, das sich zeigt, zu denken und zu achten ist. Ich vertrete die These, dass es bei der gegenwärtigen Auseinandersetzung um unser Naturverhältnis im Kern um den Schritt zur zweiten Emanzipation geht. Dabei tritt aber das philosophische Problem auf, wie denn in haltbarer Weise von einer „Befreiung der Natur“ (Hegel) gesprochen werden kann, ohne hinter die Errungenschaften der Kantischen Philosophie in eine dogmatische Ontologie oder gar einen Naturalismus zurückzufallen? Der Aufsatz zeigt die Grundlinien der Antwort auf diese Frage mit Blick auf Kant und Hegel.

Schlüsselwörter

Naturphilosophie, Technikphilosophie, Immanuel Kant, Georg Wilhelm Friedrich Hegel

Max Gottschlich

Gouverner la nature et libérer la nature

Deux stades d'émancipation

Résumé

Ce travail traite de la dimension relationnelle de l'homme envers la nature. Cette dimension comprend deux émancipations. La première concerne l'émancipation humaine de la nature par laquelle il devient possible de gouverner la nature à l'aide de la science et de la technique. La seconde émancipation est l'émancipation de la première, et découle de l'idée qu'il est nécessaire de penser la nature et de la respecter de manière responsable tel un autre soi qui se présente à nous. J'estime précisément qu'une telle avancée se situe au cœur de la révolution de conscience de la nature, qui justement, semble se dérouler. La question urgente qui se pose est de savoir comment une telle « libération de la nature » (Hegel) peut être comprise comme viable, sans laisser derrière elle les acquis de la philosophie kantienne et sans tomber dans une ontologie dogmatique, voire dans le naturalisme. Ce travail présente une réponse systématique à la question en traitant de certains points clés chez Kant et Hegel.

Mots-clés

philosophie de la nature, philosophie de la technique, Emmanuel Kant, Georg Wilhelm Friedrich Hegel