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Analogy, technical reason, and living beings: the role of analogy in representing Kant's concept of naturzweck

Terra Polanco, M.C.

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Author: Terra Polanco M.C.
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Chapter 2: Kant's "Critique of the Teleological Power of Judgment"

Chapter 1 has presented an introductory overview of the *Critique of the Power of Judgment*, especially by emphasizing those aspects underlined by Kant in the Introduction of the work (aspects that are crucial for the understanding of the whole third *Critique*). Moreover, the previous chapter has briefly introduced the importance of the admission of the objective purposiveness of nature (*objektiven Zweckmäßigkeit der Natur*) for the construction of our teleological judgments. Our teleological judgments are based, according to Kant, on objective purposiveness; but they are not only based on objective purposiveness, but most precisely on objective-material and *internal* purposiveness (*innere Zweckmäßigkeit*). The only way in which we can legitimately justify the use of teleological judgments on nature is by means of objective internal purposiveness, which tells us something about the very *possibility* of some products of nature (KU, AA V, 360), at least in the way in which we judge (or reflect on) them. In chapter 1, I explained the very principle of the *Zweckmäßigkeit der Natur* and I also addressed the distinction between the subjective and objective purposiveness of nature. In this chapter, therefore, I will address in more detail what I have already sketched out in the section 1.3.4 of the Chapter 1, namely, Kant's "Critique of the Teleological Power of Judgment" as a whole.

That is to say, in this chapter I shall describe, explain and analyze Kant's "Critique of the Teleological Power of Judgment" and all those aspects that are necessary to reconstruct the main argument of this Section of the third *Critique*. As I have already said in the Introduction, this Chapter (together with the first one) is mainly an introduction to the chief topic of my dissertation, in order to introduce and systematize the main concepts that are at stake in the "Critique of the Teleological Power of Judgment", which are fundamental for understanding the argument of this dissertation as well as the following chapters.

In order to do so, this chapter is divided in six sections. The first one (2.1) is a brief explanation of why relative purposiveness does not justify, according to Kant, the use of teleological judgments about nature. This section is relevant for understanding the fact that not every purposive relation of natural things can be ascribed as teleological, because a mere relation of usefulness between natural things does not authorize us to

judge them as natural ends. The second section (2.2) is about the "mechanical inexplicability" of living organisms (seen as natural ends). According to Kant, the mechanical explanation of nature is insufficient for giving a proper account of organized being (*das organische Wesen*), because this kind of explanation reduces a natural whole to a mere aggregate of parts and their moving forces. Therefore, we need to appeal to another principle (a teleological one) in order to even start thinking something as *organized* and *self-organizing*, which are the main features that a living being seems to exhibit. Nevertheless, before describing and analyzing the concept of *Naturzweck*, it is necessary to briefly introduce the distinction between the concepts of end (*Zweck*), purposiveness (*Zweckmäßigkeit*), and natural end (*Naturzweck*), which will be done in the third section (2.3).

The fourth section (2.4) is devoted to defining and describing what an organized being (judged as *Naturzweck*) is. This section is basically a description and systematization of the main features and peculiarities of a *Naturzweck*, so this characterization will be crucial for the development of the argument of the following chapters. Nevertheless, this section will leave aside the analogies invoked by Kant when he describes the concept of *Naturzweck*, since they will be thoroughly addressed and systematized in the last two chapters. Accordingly, this fourth section will be a preliminary approach to the notion of natural end (*Naturzweck*) rather than a final account of it. The fifth section (2.5) is about the Antinomy of the Teleological Judgment, which is fundamental for understanding why the teleological maxim is unavoidable when our human and discursive understanding investigates nature. I will try to synthesize in a straightforward way this rather obscure passage of the "Critique of the Teleological Power of Judgment", in order to clarify the main aspects of Kant's argument. Finally, the last section (2.6) is devoted to the Methodology of the Teleological Judgment, which is the last part of Kant's third *Critique*. Even though the main topic of the Methodology does not play a major role to the very argument of this dissertation, this passage (or Appendix) is unavoidable when sketching out the Teleological Judgment as a whole. In short, this chapter will provide a general overview of Kant's "Critique of the Teleological Power of Judgment", of its main arguments and discussions, as well as its fundamental philosophical concepts and issues.

2.1. The relative-external purposiveness of nature does not suffice to justify teleological judgments

At the beginning of §63 of the third *Critique*, Kant asserts that experience itself "leads our power of judgment to the concept of an objective and material purposiveness [*objektiven und materialen Zweckmäßigkeit*], i.e., to the concept of an end of nature, only if there is a relation of the cause to the effect to be judged" (KU, AA V, 366). Accordingly, we must ask in which cases we encounter a thing that is judged through the concept of material-objective purposiveness, or in which cases a natural thing seems to fit the idea of objective-material purposiveness. As Kant explains in §62, in objective-formal purposiveness there is no relation of the cause to the effect (i.e., "subsuming the idea of the effect under the causality of its cause as the underlying condition of the possibility of the former", 367), so we cannot justify the use of teleological judgments in geometrical figures[48], even though these figures display an objective and intellectual purposiveness. Geometrical figures have certainly objective-formal purposiveness, but their purposiveness "does not make the concept of the object itself possible" (363). That is to say, geometrical figures have objective purposiveness, but it is merely formal, and not material. Now, the representation of the effect under the causality of its cause as the determining ground of the very possibility of the former can happen in two ways: "either if we regard the effect immediately as a product of art or if we regard it only as material for the art of other possible natural beings, thus if we regard it either as an end or as a means for the purposive use of other causes" (367). The latter purposiveness is called by Kant 'usefulness' (for human beings) as well as 'advantageousness' (for every other natural being); either way, both usefulness and advantageousness are relative-external purposiveness (*äußere Zweckmäßigkeit*). The effect regarded immediately as a product of art is, in turn, an absolute-internal purposiveness (*innere Zweckmäßigkeit*). According to Kant, only internal-material purposiveness can justify teleological judgments in nature, whilst external-material purposiveness does not meet the necessary requirements to legitimately justify such judgments. Let us see why.

[48] As Kant explains it: "The purposiveness here [geometrical figures] is evidently objective and intellectual, not, however, merely subjective and aesthetic. For it expresses the suitability of the figure for the generation of many shapes aimed at purposes, and is cognized through reason. But the purposiveness still does not make the concept of the object itself possible, i.e., it is not regarded as possible merely with respect to this use" (KU, AA V, 363). After stating this, Kant rejects that formal-objective purposiveness justifies any kind of teleological judgments.

Kant provides a number of examples of relative ends (*relativen Zwecke*) in nature: rivers that carry with them fertile soil for the growth of plants; the advantages of sandy soil for pine trees; the grass for cattle, sheep, horses, and any kind of herbivores; herbivores that serve as food to carnivorous animals, and so forth (367-68). It is quite clear that in these examples there is a means-ends relation based on the benefit between living organisms. Even though this kind of relative-purposive relation between natural products "gives hypothetical indications of natural ends" (369), it does not authorize an absolute teleological judgment[49]. We cannot authorize absolute teleological judgments by appealing to mere relations of benefit because this kind of relation suggests contingent purposiveness, that is, external purposiveness. As Kant explains:

> Hence the objective purposiveness which is grounded on advantageousness is not an objective purposiveness of the things in themselves, as if the sand in itself, as an effect of its cause, the sea, could not be comprehended without ascribing a purpose to the latter and without considering the effect, namely the sand, as a work of art. It is a merely relative purposiveness, contingent in the thing itself to which it is ascribed; and although in the examples we have given the species of grasses themselves are to be judged as organized products of nature, hence as rich in art, nevertheless in relation to the animals which they nourish they are to be regarded as mere raw materials (KU, AA V, 368).

The kind of objective purposiveness that is based on a mere relation of benefit does not justify teleological judgments, because the means-ends relation is merely contingent to the thing itself, and it is not immanent or internal to it. A merely contingent means-ends relation cannot ground teleological judgments of nature, since for justifying such judgments we need to appeal to an *absolute* purposive relation in the thing (that is to say, purposiveness must be internal and necessary to the natural product instead of external to it)[50]. Even though such natural things are organized beings and, as such, can be called natural ends (*Naturzwecke*), they are only relative ends when we regard them in terms of their mere relation of benefit. Accordingly, advantageousness or usefulness cannot authorize us to judge natural products as *Naturzwecke* properly speaking. To do so, we need to judge these natural products as if they had an *internal* purposiveness, as if they

[49] As Kreines clearly points out: "[Kant] provide[s] an argument to justify the claim that mere relations of benefit themselves fall short of grounds to judge nature in teleological terms, or to consider something to be a Naturzweck." (2005, 277 note).

[50] As Cassirer explains: "For even if we assumed that we had proved an individual phenomenon of nature or nature as a whole to be necessarily for the sake of another and teleologically constrained, what is our guarantee of the necessity of this other?" (1981, 339).

had a necessary purposiveness and not just a contingent one. In section 2.4, I will return to this point, since it is necessary to analyze, first, the limits of mechanical explanation of nature.

2.2. - Mechanical explanation of nature and its limits in the third *Critique*: a brief account

In order to justify introducing teleological judgments to the investigation into nature, Kant needs to show not only that we judge nature as if there were an objective-internal purposiveness (albeit as a regulative-subjective assumption), but also that the way in which we can *explain*[51] these products is insufficient for fully grasping the peculiarities that some natural products seem to exhibit. The only way in which we can explain nature and its products is, according to Kant, by means of *mechanical* explanations. However, this kind of explanation has its limitations regarding some natural products such as living beings. Accordingly, it is necessary to clarify, in the first place, what a mechanical explanation of nature is; and, in the second place, why this kind of explanation does not suffice for accounting living organisms.

In his early, pre-critical work *Universal Natural History and Theory of Heaven* (*Allgemeine Naturgeschichte und Theorie des Himmels*, 1755), Kant states that it would be more plausible to understand the arrangements and constitution of the whole universe than the creation of the simplest living organism—like a blade of grass or a caterpillar, to use Kant's instances—in merely mechanical terms.

> It seems to me that in a certain sense one could say here without being presumptuous: Give me matter and I will build a world out of it, that is, give me matter and I will show you how a world is to come into being out of it. Because if matter endowed with an essential attractive force is present, then it is not difficult to determine those causes that can have contributed to the arrangement of the world system, viewed on the large scale. [...] But can we claim such advantages about the most insignificant plant or insect? Are

[51] "To explain" something or "explanation" (*Erklärung*) are technical words for Kant, so we have to use them accordingly. For Kant, to explain something "means to derive from a principle, which one must therefore cognize distinctly and be able to provide" (KU, AA V, 412). As Kreines clearly puts it: "Explaining something must always involve some way of getting at why it is as it is, or why it happens as it does—some way of getting at the real underlying causes or determining factors" (2005, 272). For enlighten accounts of "explanation" in Kant, see Kreines (2005), and Van Den Berg (2014).

> we in a position to say: Give me matter and I will show you how a caterpillar can be created? Do we not get stuck at the first step due to ignorance about the true inner nature of the object and the complexity of the diversity contained in it? It should therefore not be thought strange if I dare to say that we will understand the formation of all the heavenly bodies, the cause of their motion, in short, the origin of the whole present constitution of the universe sooner than the creation of a single plant or caterpillar becomes clearly and completely known on mechanical grounds (*Allgemeine Naturgeschichte*, AA I, 230).

This quotation is somewhat curious, not just because in this work Kant was to some extent quite committed to the mechanistic explanation of the universe, but also because this passage is similar enough to the following words taken from the Antinomy of the Teleological Power of Judgment (at least regarding mechanical explanation of living organisms):

> For it is quite certain that we can never adequately come to know the organized beings and their internal possibility in accordance with merely mechanical principles of nature, let alone explain them; and indeed this is so certain that we can boldly say that it would be absurd for humans even to make such an attempt or to hope that there may yet arise a Newton who could make comprehensible even the generation of a blade of grass according to natural laws that no intention has ordered; rather, we must absolutely deny this insight to human beings (KU, AA V, 400).

Despite the notorious changes Kantian philosophy underwent in its transition to the Critical period, we can notice the fact that, with regard to the mechanistic explanation of organisms, this assertion remains the same in both periods. That is to say, Kant thinks (and actually asserts with certainty) that living organisms (even the simplest ones) are mechanically inexplicable, no matter how far mechanical explanation can be developed.

In the third *Critique*, the term "mechanism" appears in different names, senses and contexts[52], and Kant does not give us a clear and unified definition of what he understands by mechanical explanation. Nonetheless, we can understand this last in a

[52]The term "mechanism" or "mechanical" appears throughout the third *Critique* in different ways, for instance, as mechanical in opposition to the technique of nature; mechanism as opposed to organism; mechanism of matter, mechanism of nature, blind mechanism; mechanical laws, mechanical causes, etc. For an accurate account of the term "mechanism" throughout Kant's writings and the third Critique, see Ginsborg (2001).

broad (and provisory) sense, namely, as a non-teleological causality[53]. This latter sense, in addition to being broader, is closer to the main aim of the "Critique of the Teleological Power of Judgment"—in short, to address the question: how can we understand some kind of natural products, such as organic beings, when the mechanical-physical explanation of them seems to be insufficient to give a satisfactory answer about their arrangements and internal structure? How can we explain these natural products, when their form and internal constitution seem to be completely contingent with respect to mechanical laws of nature?

Throughout the "Critique of the Teleological Power of Judgment", Kant states that the explanation by efficient causes is the mechanical explanation of nature (KU, AA V, 390, 417). Nevertheless, equating the concept of mechanism with mere efficient causes does not differ from the concept of "mechanism of nature" as it is described in the first and second *Critiques*, that is, "mechanism of nature" as a synonym of natural causation.[54] Hannah Ginsborg states that this sense of mechanism is derived from the principle of causality just as it is defined in the Second Analogy of the first *Critique*: "Kant identifies the mechanism of nature with nature's conformity to the causal principle established in the Second Analogy" (Ginsborg 2001, 239). In the Second Analogy of Experience, Kant explains the principle of temporal sequence by the law of causality, which means the conformity of nature to the causal principle. The Second Analogy establishes that "[a]ll alterations occur in accordance with the law of the connection of cause and effect" (KrV B 232). For Kant, all alteration and succession of the appearances must be under the law of causality, since without this law the experience itself cannot be enabled. Kant goes even further when arguing that the objects of experience can only be possible according

[53] This classification not only has textual support within the third *Critique*, but also some commentators agree with it. See, for instance, Ginsborg (2001), Allison (2003), McLaughlin (1990, 2003), Lenoir (1983). Allison, for example, points out that the concept of mechanism in the Teleological Judgment "encompasses any mode of causality that operates non-purposively" (Allison 2003, 222) or, in other words, that does not operate teleologically.

[54] McLaughlin establishes an accurate account of the equation of natural causation with mechanism of nature: "[t]he term 'mechanism' plays no relevant role in the first edition of the *Critique of Pure Reason* (1781); it occurs occasionally but only in the sense of "machine" or 'system'. In the presentation of the antinomy of freedom, for instance, it is not used at all. The terms 'mechanism' and 'causality' are neither equated nor distinguished. Kant introduced the equation in later writings and used it systematically. In the new preface to the second edition of the *Critique of Pure Reason* (1787) Kant recapitulates the Third Antinomy as an opposition between freedom and the "mechanism of nature" (Bxxvii-xxx). And in the *Critique of Practical Reason* (1788) he almost always says "mechanism" when he means natural causality. Thus, it could be objected, if we want to see a development in Kant's thought during the 1780's, then this development is towards a systematic identification of mechanism and causality and not towards their differentiation" (McLaughlin 1990, 154-55).

to the law of causality, that is, it is only through the causal principle that an object can be constituted as an object properly speaking. Now, what does the principle of causality establish? This principle states that:

> [e]very apprehension of an occurrence is therefore a perception that follows another one. […] I also note that, if in the case of an appearance that contains a happening I call the preceding state of perception A and the following one B, then B can only follow A in apprehension, but the perception A cannot follow but only precede B (KrV A 192/ B 237).

Kant emphasizes that if there is an occurrence that follows another one, this latter occurrence necessarily precedes the former one, and this relation is established in accordance with a rule that provides necessity to the sequence of the appearances[55]. That is to say, the appearances in their succession are always determined by a precedent state, by a necessary rule of the understanding, which is called the law of causality. Only by this law is it possible to accomplish an experience of something that *happens*[56].

In the Analytic of the second *Critique*, Kant explicitly equates the terms causality and mechanism of nature: "all necessity of events in time according to the natural law of causality can also be called the mechanism of nature even though one does not mean by this that things that are subject to it must be actual material machines" (KpV, AA V, 97). The mechanism of nature is, therefore, the way in which the objects of experience are determined by the law of causality and gain thus objective validity[57]. All the objects of experience are determined by the mechanism of nature, that is, by the concatenation of

[55] "This rule for determining something with respect to its temporal sequence, however, is that in what precedes, the condition is to be encountered under which the occurrence always (i.e., necessarily) follows. Thus the principle of sufficient reason is the ground of possible experience, namely the objective cognition of appearances with regard their relation in the successive series of time" (KrV A 201/ B 246). In the *Groundwork of the metaphysics of morals*, Kant provides a clearer and more accurate definition of causality: "the concept of causality carries with it that of laws in accordance with which must be posited, through that which we call a cause, something else, namely its result" (GMS, AA IV, 446). Or as Kant explains in the §53 of *Prolegomena*: "In the realm of appearance every effect is an event, something that happens in time; so according to the universal law of nature it must be preceded by a cause, some state of which leads to the event according to a constant law" (*Prolegomena*, AA IV, 344).

[56] Nevertheless, it is impossible to determine a priori what cause is the one that determines an occurrence, since the causal law only provides a rule for possible experience, that is, for the *form* of any experience. As Allison points out: "it must be insisted that the Second Analogy supposedly provides us with a warrant to search for the cause of any event and, therefore, for the causal law under which it may be subsumed. But it does not determine what the cause is or guarantee that we shall be able to discover either it or the relevant causal law" (Allison 2004, 258).

[57] "[T]he principle of causality, and hence the mechanism of nature in determining causality, would be valid of all things in general as efficient causes" (KrV B XXVII).

efficient causes[58].

However, it is relevant to notice that the concept of mechanism in the third *Critique* is a special type of natural causality, but it is not the same. In addition to the *nexus effectivus* that the concept of mechanism of nature carries with it, there is another peculiarity of the term mechanism as it is developed in the third *Critique*, namely, the relation of the parts to whole[59]. This peculiarity or specification of the concept of mechanism throughout the third *Critique* has been pointed out especially by McLaughlin (1990) and he characterizes this peculiarity as a kind of explanation that reduces a material whole to its independent parts. As McLaughlin suggests:

> Mechanism has a determination that natural causality as such does not have. This *differentia specifica* is to be found in the special relation of parts to whole: in mechanism the parts determine the whole; the whole cannot determine the parts (McLaughlin 1990, 152).[60]

This line of interpretation is also followed by Allison (1991) and Guyer (2006), and consists in regarding mechanism (or mechanical explanation) to a material whole which is explained by the constitution and interaction of its independent parts, that is, the whole *is caused* by the parts. However, this line of interpretation is contrasted with the one given by Ginsborg (2001, 2004), who explicitly states that the concept of mechanism in the third *Critique* has nothing to do with a particular species or specification of the principle of causality. For Ginsborg, the concepts of mechanism and mechanical explanation in the "Critique of the Teleological Power of Judgment" is directly related to the attractive and repulsive forces of matter as it is described in Kant's *Metaphysical Foundations of Natural Science* (*Metaphysische Anfangsgründe der Naturwissenschaft,* 1786). As Ginsborg says about mechanical explanation: "we explain something mechanically when

[58] "Understanding belongs to all experience and its possibility, and the first thing that it does for this is not to make the representation of the objects distinct, but rather to make the representation of an object possible at all" (KrV A 199/B 244-45). The law of causality, as one of the concepts of the understanding, is a synthetic a priori principle that constitutes experience, as Kant states in the Prolegomena: "[a]ll synthetic a priori principles are simply principles of possible experience; they can never be applied to things in themselves, but only to appearances as objects of experience" (Prolegomena, AA IV, 313).

[59] It is important to highlight this peculiarity of the term mechanism in the third *Critique* with respect to the causality and mechanism of nature of the first two *Critiques*, because the former is, in the context of the Teleological Judgment, regulative for the reflective power of judgment, while the latter is constitutive for experience (in fact, without the concept of causality—or mechanism of nature—it is impossible to achieve any possible experience).

[60] Allison describes this feature of mechanism in a similar way: "Mechanism, in the main sense in which it is used here, refers to the explanation of wholes solely in terms of the causal interaction of their component parts" (Allison 2003, 221).

we explain its production as a result of the unaided powers of matter as such" (2004, 42). And as she concurrently says about mechanical inexplicability: "[t]o say that something is mechanically inexplicable is to deny that it can be explained in terms of the powers of the matter from which it comes to be" (2006, 462)[61].

Even though Ginsborg offers good arguments to link mechanism in the third *Critique* with the narrow concept of mechanism as the universal and necessary laws of matter and motion, I think that her interpretation is incomplete inasmuch as she leaves out the causal relation of the parts and the whole, which is crucial for understanding a material natural whole as such[62]. That is to say, I agree with her in that we have to pay attention to the moving forces of matter when interpreting "mechanism" in the context of the Teleological Judgment, since Kant is very explicit in this regard[63]. Nevertheless, he is also very explicit in stating that the *causal* relation of the parts with respect to the whole is the important point here.

For that reason, I follow Breitenbach (2006, 2008, and 2011) and Zuckert (2007) in their attempt to reconcile the interpretations of both McLaughlin and Ginsborg[64].

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[61] Steigerwald argues something similar to Ginsborg, in the sense of relating "mechanical explanation" with the narrow concept of "mechanism" of the *Metaphysical Foundations*. As Steigerwald states: "Kant's discussion does not make explicit is that he understood conceptions of mechanical causality utilized in scientific explanation as distinct from the concept of causality constitutive of experience and thus of nature as an object of all possible experience. The transcendental causal principle, derived from the category of causality as an a priori concept of the understanding, makes possible the determinative judgment of any objective temporal order of events. The mechanical causality is a further conceptual construction, such as Kant detailed in his 1786 *Metaphysical foundations of natural science*, which makes possible explanations of certain changes in material objects. Mechanical causality is thus a particular form of causality, and for Kant to deny that we can explain the organized and self-organizing features of organisms through mechanical causality is not to deny that the category of causality plays a role in our cognition of organisms" (Steigerwald 2006, 721).

[62]That is to say, Ginsborg omits a crucial point in Kant's argument, namely: the contrast between mechanical explanation as a kind of efficient causation and teleological principles. As Breitenbach points out: "If the mechanical laws of the *Critique of judgment* can be identified with empirical instantiations of the pure mechanical laws of the *Metaphysical foundations*, what is the relationship of these mechanical laws with the principle of causality? It seems that the contrast between mechanical explanations dealing with efficient causation and teleological considerations concerned with final causation is central to Kant's argument in the *Critique of judgment*. How is this to be understood if mechanism is not, as Ginsborg argues, a form of causality in the sense in which we commonly know it from Kant's writings?" (Breitenbach 2006, 704).

[63] See, for instance, KU AA 5: 408.

[64] For instance, Breitenbach says: "How do these approaches [McLaughlin and Ginsborg] to mechanism relate to one another? Can all three of them be taken as contributing to an understanding of mechanical laws and mechanical explanations in Kant's Critique of judgment or do the different accounts exclude each other? In the present section, I argue that we should understand Kant's mechanical laws in the light of all three approaches. I thus aim to give an account of Kant's conception of mechanism by reference to considerations of causality, material forces and the relationship of parts and wholes." (2006, 706). Nevertheless, for Breitenbach, even if we reconcile both readings, the result is incomplete, since we need, according to her, a third element, namely, mechanism as a particular species of empirical causal laws. "I would thus like to suggest that both Ginsborg's and McLaughlin's readings offer only a partial characterization of mechanism in the third Critique. If, on an alternative reading, parts of their approaches

Though Kant is somewhat ambiguous in offering a clear determination of what he is understanding by mechanical explanation in this context, I suggest that it is highly probable that the concept of mechanism in the Teleological Judgment is a combination of two components: on the one hand, "mechanism" as a specification of the transcendental law of natural causation, in which the parts are the efficient cause of the material whole; and, on the other hand, "mechanism" as the metaphysical laws of matter and motion, as it is described in the *Metaphysical Foundations of Natural Science*, but here applied to the empirical-particular phenomena. Therefore, mechanism—or mechanical explanation of living organisms—reduces the whole to the properties of the moving (mechanical) forces of the parts. That is to say, the parts and their properties can subsist without the whole, but the whole can only be formed through the combination of the parts. As Kant states: "if we consider a material whole, as far as its form is concerned, as a product of the parts and of their forces and their capacity to combine by themselves (including as parts other materials that they add to themselves), we represent a mechanical kind of generation" (KU, AA V, 408). A mechanical material whole is only possible through the combination and interactions of the parts, that is, this kind of material thing is a *product* or exists *because of* the parts. In other words, the parts are the efficient cause of the whole, in so far as the parts have to be previously given and interact between themselves in order to produce the whole. In fact, the only *possibility* to conceive a material whole by merely mechanical terms is through the aggregation of the given parts and their moving forces. The inverse relation (the whole as the cause of the possibility of the parts) is absolutely at odds with the concept of mechanism that is at stake in the *Critique of the Power of Judgment*. As Kant emphasizes:

> Now since it is entirely contrary to the nature of physical-mechanical causes that the whole should be the cause of the possibility of the causality of the parts, rather the latter must be given first in order for the possibility of a whole to be comprehended from it" (KU, AA 20: 236).

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are combined, we can understand mechanical laws more satisfactorily as referring to the causal processes of matter. Mechanical laws will thus turn out to be a particular species of empirical causal laws" (706). And Zuckert states: "Like Ginsborg, I take Kant's conception of mechanism to be crucially connected to his conception of matter and the universal, necessary laws (of physics) governing motion. As I shall argue in a moment, however, I take these laws to entail explanation of wholes by independent parts (as McLaughlin argues, and against which Ginsborg argues), and also, contra Ginsborg, believe that one must identify some such further meaning of mechanism (beyond the laws governing matter) to explain how Kant can conceive of ''mechanism'' as a regulative principle, for the laws of physics are constitutive principles of matter as such." (2007, 101-02 note).

Nevertheless, it is impossible to attain in this kind of mechanical explanation an understanding of the generation, internal structure and workings of some kind of natural products, such as organic beings. This insufficiency of mechanical explanation to fully explain organisms can be called "mechanical inexplicability" of organisms[65]. Broadly speaking, this insufficiency consists in conceiving the organism not as a whole as such, but rather as a mere aggregate of its independent or autonomous parts[66]. That is to say, a mechanical account conceives natural wholes as an aggregate of the interaction of its independent parts and their moving forces.

But a mere aggregate of independent parts is far from our conception of a whole such as an organism, in which the very idea of the whole seems to precede its components parts. The mechanical explanation of nature is incapable of providing an account of the peculiarity of organisms seen as natural ends, in which the causal relation of the whole to its parts seems to be not reducible to the efficient causes of the parts, but rather to a reciprocal and purposive causality. And it is in view of this insufficiency of the mechanical explanation that is necessary to use another kind of principle for reflecting on organisms, namely, a teleological one. As Fricke puts it: "[b]ut why then do humans judge such objects to be purposive? According to Kant, humans judge objects of this type to be purposive precisely because they appear accidental in the light of the laws of nature"

[65] For instance, Hannah Ginsborg states that it is because the mechanical inexplicability of organisms that Kant uses another kind of principle to reflect on them, namely, the concept of natural purpose. "The mechanical inexplicability of organisms poses a difficulty, not only for explaining the origin of organisms, but also for investigating their structure and workings. It is in view of this difficulty, I now want to claim, that Kant takes the concept of purpose to be required for biological investigation. Initial support for this claim can be found in several passages indicating that it is precisely in order to understand organic phenomena as lawlike or necessary—despite their contingency with respect to mechanical laws—that we must regard organisms as purposes." (Ginsborg 2001, 248). Guyer, on the other hand, states: "Kant's claim is that we cannot understand such organic processes on our ordinary, mechanical model of causation, where the character of a whole is determined entirely and only by the character of its parts, and that in these cases we must also see the character of the parts as dependent on the character of the whole" (Guyer 2006, 240). McLaughlin appeals to the same point: "Here we are dealing with things whose form cannot be explained according to mechanical laws; the 'contingency' of such things, i.e. their underdetermination by empirical laws of nature, compels us to assume an additional causality according to concepts" (McLaughlin 1990, 44). Zammito, on the other hand, indicates the same argument: "Kant insisted that mechanical accounts failed to make sense of organic form, and that consequently, at some point in the most mechanical explanation of organic life some originating and non-mechanical cause would need to be invoked" (Zammito 1992, 215). Quarfood (2006), Breitenbach (2006), Steigerwald (2006), among others, state the same argument. This dissertation, of course, will follow this line of interpretation.

[66] As Rachel Zuckert suggests: "For explanation in accord with the mechanical principle does not explain parts as dependent on the whole but vice versa, and thus does not –a fortiori- explain the special character of an organism, […] for this consists precisely in unity […] if one explains a whole mechanically, this whole will be understood as an "aggregate" (of independent parts), not as a unity of internally related parts, or a true whole" (Zuckert 2007, 103-04).

(Fricke 1990, 53)[67]. And as Kant puts it in a remarkable example:

> For if one adduces, e.g., the structure of a bird, the hollowness of its bones, the placement of its wings for movement and of its tail for steering, etc., one says that given the mere *nexus effectivus* in nature, without the help of a special kind of causality, namely that of ends (*nexus finalis*), this is all in the highest degree contingent: i.e., that nature, considered as a mere mechanism, could have formed itself in a thousand different ways without hitting precisely upon the unity in accordance with such a rule (KU, AA V, 360).

According to this quote, some natural forms and their internal arrangements (e.g., the peculiar constitution of a bird that invites us to judge its very form through the function of flying) appear to us in a way that is completely contingent with respect to natural laws (KU, AA V, 246), that is, with respect to causal-mechanical explanation. For that very reason, we need to appeal to another kind of principle in order to judge these kinds of natural products. And this principle is a teleological one, which conceives some natural products as if they were produced by the conception of final causality. Accordingly, we must proceed as far as possible with the principle of mechanism when investigating nature, since without this principle there can be no proper cognition of nature at all (387); but we need the teleological maxim, because without the latter we cannot even begin to grasp a natural thing as organized and self-organizing (which is the starting point to study a living organism).

2.3. - A preliminary distinction: *Zweck*, *Zweckmäßigkeit*, and *Zweckmäßigkeit ohne Zweck*

Before elucidating the reflective concept of *Naturzweck*, it is necessary first to connect this concept to others that play an important role within the third *Critique*, such as "end" (*Zweck*), "purposiveness" (*Zweckmäßigkeit*), and "purposiveness without an end" (*Zweckmäßigkeit ohne Zweck*). Such concepts are indispensable for the understanding of *Naturzweck* as a key term in the Teleological Judgment, since this reflective term is formed by the concepts of both *Zweck* and *Zweckmäßigkeit* (and *Zweckmäßigkeit ohne*

67 Steigerwald highlights this argument in a very similar way: "It is because organisms appear contingent with regard to the mechanisms of nature, or, more generally, because they cannot be determined through the concepts of nature developed by theoretical reason, that Kant introduced the concept of natural purpose" (2006, 724).

Zweck). In §10 ("On purposiveness in general"), Kant briefly defines these three key concepts in relation to purposiveness. Kant begins by defining the concept of "end" (*Zweck*) by "transcendental determinations", that is, by determinations that do not depend on empirical considerations, like the feeling of pleasure. This transcendental definition states that an end is "the object of a concept insofar as the latter is regarded as the cause of the former" (KU, AA V, 220). That is to say, a *Zweck* is an object whose cause is the very concept of the object, since the real ground of the possibility of the object is the concept. The key aspect of this transcendental definition of "end" is that the very representation of the effect is the determining ground of the cause of this object called end. As Kant adds: "Thus where not merely the cognition of an object but the object itself (its form or its existence) as an effect is thought of as possible only through a concept of the latter [effect]" (220). "Purposiveness", in turn, is defined by Kant as *forma finalis*, that is, as "the causality of a concept with regard to its object" (220). The crucial point for Kant here is stated a couple of lines later when he defines the concept of purposiveness (*Zweckmäßigkeit*), namely, the representation of a kind of purposiveness without the representation of a determinate end (*Zweckmäßigkeit ohne Zweck*). As Kant explains:

> An object or a state of mind or even an action, however, even if its possibility does not necessarily presuppose the representation of an end, *is called purposive merely because its possibility can only be explained and conceived by us insofar as we assume as its ground a causality in accordance with ends [Kausalität nach Zwecken], i.e., a will [einen Willen] that has arranged it so in accordance with the representation of a certain rule. Purposiveness can thus exist without an end*, insofar as we do not place the causes of this form in a will, but can still make the explanation of its possibility conceivable to ourselves only by deriving it from a will (V, 220, my emphasis).

According to this quote, we can judge some things as purposive without the representation of a determinate end—or rather, without placing the cause of this purposiveness in a will. That is to say, we can judge some products of nature as if they were purposive, but the representation of the cause of this purposiveness cannot be attributed to a will—i.e., to a causality that proceeds in accordance with ends. In other words, we judge some natural products *as if* (*als ob*) they were purposive and *as if* their very *possibility* (*Möglichkeit*) were derived from a will[68], but this kind of judging is only a product of our reflection,

[68] It can be even said that purposiveness without an end is thought *in analogy with* a purposiveness that the representation of its cause is determined by a will.

that is, of our reflective power of judgment. "Thus we can at least observe a purposiveness concerning form, even without basing it in an end (as the matter of the *nexus finalis*), and notice it in objects, although in no other way than by reflection" (220). For instance, our aesthetic judgments of taste are purposiveness of this sort—without an end—, as well as our teleological judgments of some natural products, such as organic beings. For Kant, we judge organic beings as if they were purposive, that is, by analogy with our causality in accordance with ends (i.e., a rational "will" in the broadest possible sense)[69]. Organic beings judged *as if* they were purposive are called by Kant *Naturzwecke*. Accordingly, the reflective concept of *Naturzweck* is a concept of the reflective power of judgment, and it is derived from the very peculiar principle of the reflective power of judgment: purposiveness of nature (*Zweckmäßigkeit der Natur).* In what follows, therefore, I shall explain in a provisionary way what *Naturzweck* is, and examine what judging organic beings as *Naturzwecke* consists in.

2.4. - The conception of organized being judged as *Naturzweck*: a preliminary account of its main features and peculiarities

In the passages that Kant devotes to elucidating what a natural end is (mainly in §64-§65), he offers a "provisional"—fundamental as well—definition of this kind of natural product: a natural end (*Naturzweck*) is cause and effect of itself (KU, AA V, 371). That is to say, some natural products exist as if they were not only possible by natural causation (by a descendent *nexus* of efficient causes), but also by the representation of final causes (or as a causal *nexus* that can be descendant as well as ascendant). I have to emphasize that the representation of final causes in the context of the "Critique of the Teleological Power of Judgment" is described by Kant as a mutual or reciprocal causality. That is to say, each part of an organism must be regarded as cause and effect of itself, because the whole forms the parts and the parts constitute their form and the whole in a mutual relation. But, in addition to this reciprocal-final causation that *Naturzwecke* seem to possess, there is another relevant feature that distinguishes *Naturzwecke* from a mere end (*Zweck*). This feature is the *internal* purposiveness in contradistinction to the *external* purposiveness that we can find, for example, in products of art, such as an artifact or a hexagon drawn in the

[69] I shall offer a detail analysis of this analogy in 5.2 and 5.3, and I shall show how it is better construed the term "causality in accordance with ends" with technical reason.

sand. Kant gives us an illustrative example of these latter products caused by a rational being:

> If someone were to perceive a geometrical figure, for instance a regular hexagon, drawn in the sand in an apparently uninhabited land, his reflection, working with a concept of it, would become aware of the unity of the principle of its generation by means of reason, even if only obscurely, and thus, in accordance with this, would not be able to judge as a ground of the possibility of such a shape the sand, the nearby sea, the wind, the footprints of any known animals, or any other non-rational cause, because the contingency of coinciding with such a concept, which is possible only in reason, would seem to him so infinitely great that it would be just as good as if there were no natural law of nature, consequently no cause in nature acting merely mechanically, and as if the concept of such an object could be regarded as a concept that can be given only by reason and only by reason compared with the object, thus as if only reason can contain the causality for such an effect, consequently that this object must be thoroughly regarded as an end, but not a natural end, i.e., as a product of art (*vestigium hominis video*) (KU, AA V, 370).

This quote is enlightening because it shows us how different it is to conceive something as a mere *end* (like a product of art of any sort) with respect to a *natural* end. The former, according to Kant, is only possible by means of a cause that is external to the product itself (in this particular example, its causality depends on a rational being outside of it, who designs by means of its reason the form of a hexagon over the sand), whereas the latter is cause and effect of itself, that is, it possesses an internal and reciprocal purposiveness. In other words, the cause that is responsible for the form and the very possibility of a *Naturzweck* is internal to it, and it does not depend on a rational cause outside of it[70]; and that is the very reason we judge these products as *natural* ends (because the end does not depend on reason) instead of a mere end[71].

Kant offers a celebrated example that can be useful for understanding how a natural product can be considered cause and effect of itself: the example of a tree and the three organic processes it carries out (just like every organic being), i.e. reproduction,

[70] Angelica Nuzzo explains the real challenge that a natural end represents for our theoretical knowledge: "The real theoretical challenge, however, is presented precisely by those natural products that can be neither explained by mechanical laws of nature nor traced back to human reason's technical causality. Since such an object cannot be explained mechanically, it is called *Zweck*; since it is not a product of art, it is '*Naturzweck*'. It is in this case that we meet the specific *objective internal* purposiveness of natural purposes" (2005, 334).

[71] The distinction between natural end and an end (such as a machine or artifact) will be carried out in detail in chapter 4 of this dissertation.

growth and regeneration. As Kant illustrates in the §64:

> [A] tree generates another tree in accordance with a known natural law. However, the tree that it generates is of the same species; and so it generates itself as far as the species is concerned, in which it, on one side as effect, on the other as cause, unceasingly produces itself, and likewise, often producing itself, continuously preserves itself, as species (KU, AA V, 371).

This first part of the example illustrates the organic process of reproduction as containing a reciprocal causation: a tree is the cause—produces—another tree but, at the same time, is the effect of the species of the tree, because it is a product of another individual of the same species. But the tree not only generates itself as species, but also as individual: "This sort of effect we call, of course, growth; but this is to be taken in such a way that it is entirely distinct from any other increase in magnitude in accordance with mechanical laws, and is to be regarded as equivalent, although under another name, with generation" (KU, AA V, 371). Accordingly, the second peculiar feature of organized beings is the organic process of growth, which is, according to Kant, completely different from any mechanical increase in magnitude: "This plant first prepares the matter that it adds to itself with a quality peculiar to its species, which could not be provided by the mechanism of nature outside of it, and develops itself further by means of material which, as far as its composition is concerned, is its own product" (371).[72] The tree grows because it has to prepare—transform, generate—the matter that then it adds to itself in order to achieve its own growth. In other words, the tree is the cause of its own nourishment, development and survival. And, finally, we have the third feature, which is the reciprocal relation of the parts and their relation to the preservation of the whole (that is, the process of regeneration): "one part of this creature also generates itself in such a way that the preservation of the one is reciprocally dependent on the preservation of the other" (371). This latter idea shows us how a natural end "is cause and effect of itself", because each part of the tree is dependent on the other in a mutual relation, each part of the tree is cause and effect of the whole, and the whole is cause and effect of the parts of the tree. As Kant puts it in his example: "the leaves are certainly products of the tree, yet they preserve it in turn, for repeated defoliation

72 Kant even adds that this capacity for growth and self-development is peculiar to such a high degree that it overcomes any product of art: "in the separation and new composition of this raw material there is to be found an originality of the capacity for separation and formation in this sort of natural being that remains infinitely remote from all art when it attempts to reconstitute such a product of the vegetable kingdom from the elements that it obtains by its decomposition or from the material that nature provides for its nourishment." (371)

would kill it, and its growth depends upon their effect on the stem" (372). That is to say, the parts of the tree (the leaves) are not only *caused by* the whole (the tree), but also, they are the *cause* of the maintenance and survival of the whole.

According to this latter idea, the reciprocal causality of *Naturzwecke* is indissociable to the notion of a whole. Kant asserts that for a natural product to also be able to be regarded as an *end*, it is necessary "that its parts (as far as their existence and their form are concerned) [be] possible only through their relation to the whole" (373). Nevertheless, as mentioned above, Kant makes a reservation regarding this latter idea: this definition of a whole as the cause of its parts is the description of an artifact (or any work of art, such as the production of a rational being that is outside of its product). Accordingly, there should be another peculiar feature of the parts/whole relation in order to conceive organisms as a natural end (*Naturzweck*) and not merely as an end (*Zweck*). This peculiar feature is, therefore, the idea of reciprocal causality by means of an internal end: each part is cause and effect of their form and, also, of the functioning and maintenance of the whole (373)[73]. In other words, natural ends involve the idea of a whole but, unlike a mere artifact (or some product of a rational being)[74], the idea of the whole does not configure and determine the parts in a unidirectional causal relation, but rather each part reciprocally causes and produces the other parts, and the concept of the whole determines the parts in a mutual and self-organizing relation[75]. As Kant explains:

[73] Steigerwald explains this mutual relation in very straightforward words: "in order for us to judge a body as a natural purpose not only is it necessary that we conceive the possibility of its parts as dependent for their existence and form on their relation to the whole, but also that all the parts through their own causality reciprocally produce one another as regards their form and combination and in this way produce a whole. Each part exists not only as a result of and for the sake of all the rest and the whole, but also reciprocally produces the other parts and the whole, so that the organism is thus 'both cause and effect of itself ' (ibid., p. 370)." (Steigerwald 2006, 717).

[74] The contrast between organized beings and artifacts will be analyzed in more details in chapter 4.

[75] Kant illustrates this by comparing a watch with an organized being (or the distinction between a machine and an organism). This example serves not only to understand organisms as having reciprocal causality, but also to understand the difference between the idea of an end as a product of a rational being (or a designer or artisan) and the peculiar causation that this kind of natural product seems to have according to the reflective power of judgment. I quote the entire passage of the example: "In a watch one part is the instrument for the motion of another, but one wheel is not the efficient cause for the production of the other: one part is certainly present for the sake of the other but not because of it. Hence the producing cause of the watch and its form is not contained in the nature (of this matter), but outside of it, in a being that can act in accordance with an idea of a whole that is possible through its causality. Thus one wheel in the watch does not produce the other, and even less does one watch produce another, using for that purpose other matter (organizing it); hence it also cannot by itself replace parts that have been taken from it, or make good defects in its original construction by the addition of other parts, or somehow repair itself when it has fallen into disorder: all of which, by contrast, we can expect from organized nature. – An organized being is thus not a mere machine, for that has only a motive power, while the organized being possesses in itself a formative power, and indeed one that it communicates to the matter, which does not have it (it organizes

> In such a product of nature each part *is conceived as if* it exists only through all the others, thus as if existing for the sake of the others and on account of the whole (*des Ganzen*), i.e., as an instrument (organ), which is, however, not sufficient (for it could also be an instrument of art, and thus represented as possible at all only as an end); rather it must be thought of as an organ that produces the other parts (consequently each produces the others reciprocally), [...] only then and on that account can such a product, as an *organized and self-organizing being [als organisiertes und sich selbst organisierendes Wesen]*, be called *a natural end* [*Naturzweck*] (KU, AA V, 373-74, my emphasis).

An organic being (*organisches Wesen*), considered as a natural end, cannot be merely judged as a whole that determines and combines its parts in accordance with a rational design, which is external to it, since this would be the case of a work of art or artifact. In a *Naturzweck*, by contrast, each part exists in a reciprocal relation to the others and to the whole; that is, each part is conceived for the sake of the other, since each part is cause and effect of the others. Each part of a natural end not only *exists through* the others (as an effect), but also is *cause* of the other parts, and in this mutual relation the whole can be conceived as an "organized and self-organizing being" ("*organisiertes und sich selbst organisierendes Wesen*").

For Kant, a living organism (judged as a *Naturzweck*) is, as mentioned above, an organized and self-organizing being (374), which means that it is not only an organized product which is arranged by the previous conception of a designed whole (like an artifact does), but rather it is a *self-organizing* being. That is to say, every part that forms the whole is conceived as a *product* as well as a *producer* of the others, each part (as well as the whole) organizes itself by means of an internal (not external) end[76]. In other words, an organic being has a *formative power*[77] (*bildende Kraft*, and not merely a mechanical power of motion [*bewende Kraft*], 374) which enables the reciprocal self-organization of the parts and the whole. Accordingly, it can be said that an organized being judged as a *Naturzweck* seems to possess an end-directed and self-organizing character.

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the latter): thus it has a self-propagating formative power, which cannot be explained through the capacity for movement alone (that is, mechanism)" (V, 374). In chapter 4 of this dissertation, I will return to this quotation in order to analyze it in more detail.

[76] As Zumbach accurately suggests, the notion of internal end is crucial to define what a natural end is: "Kant's conception of internal purposiveness reflects what he considers to be the content of the judgment that something is a living organism" (Zumbach 1984, 19)

[77] For an interesting account of the concept of "formative power" in Kant's philosophy, see Ina Goy, "Kant on Formative Power" (2012).

In sum, these are the peculiar features that living organisms seem to possess and which leads us to judging them in accordance with teleological considerations (that is, in accordance with the reflective concept of *Naturzweck*). As Kant says:

> Organized beings are thus the only ones in nature which, even if considered in themselves and without a relation to other things, must nevertheless be thought of as possible only as its ends, and which thus first provide objective reality for the concept of an end that is not a practical end but an end of nature, and thereby provide natural science with the basis for a teleology, i.e., a way of judging its objects in accordance with a particular principle the likes of which one would otherwise be absolutely unjustified in introducing at all (V, 375-76).

Therefore, organized beings are the only natural products that must be considered (or judged) as if they were natural ends, that is, by means of a "maxim" of the reflective power of judgment that guides our inquiry of nature and its products (376). This reflective maxim is an indispensable guideline for investigating nature, but it does not determine nature or any of its products (as a constitutive principle of the determining power of judgment would). That is to say, this maxim only serves to reflect on nature and its products, for orienting our investigation of nature, but not for *explaining* it.

2.5. – The Antinomy of the Teleological Power of Judgment

As Allison accurately asserts in his "Kant's Antinomy of the Teleological Judgment", this section of the KU is "deeply puzzling" (Allison 2003, 219). It is puzzling not only because Kant does not seem to justify the antinomy itself, but also because he offers a series of considerations about our discursive understanding and the necessity to appeal to a supersensible ground, which makes the whole section somewhat obscure. Despite this apparent obscurity, this section contains some of the most fascinating and richest passages in the whole third *Critique*. Many commentaries have been written about this section; and yet, the wide-ranging diversity of interpretations among scholars makes it exceptionally easy to get lost in these commentaries. In this sense, the scholarly literature on this topic is more confusing than illuminating, not only due to the breadth of the scholarship concerning to this antinomy, but also and mainly because the interpretations—or

misinterpretations—often contradict each other[78].

Nevertheless, two dominant discussions can be distinguished, namely, i) whether the antinomy is based on a conflict between two constitutive principles of the determining power of judgment or between two maxims of the reflective power of judgment; ii) whether there is a proper antinomy or rather there is only an *appearance* [*Anschein*] of an antinomy. However, these two main discussions are closely related: if we assume that the conflict arises from two constitutive principles, then the antinomy disappears when replacing these constitutive principles by reflective maxims[79]. Nevertheless, this last interpretation leaves out the Kantian assertion that the conflation of constitutive principles with reflective maxims corresponds to the "preparation for the resolution" of the antinomy, not to the resolution itself (that is to say, the mere appearance of an antinomy, as it seems to arise from conflating both kinds of principles, does not *prima facie* justify a dialectical conflict). On the other hand, if we state that the dialectical conflict is between two maxims of the reflective power of judgment, then we do have a real conflict or antinomy of the power of judgment[80]. Furthermore, this latter interpretation, in addition to justifying the antinomy itself, is closer to the development of the argument that Kant stresses throughout the antinomy: why the use of teleological principles is necessary for us—i.e. humans with limited and discursive understanding—when investigating nature; and, at the same time, why we cannot abandon the principle of mechanism when *explaining* nature and its products. Accordingly, this section will follow the latter line of interpretation: namely, there is a justified conflict or antinomy between two maxims of the reflective power of judgment, which are the maxims of mechanism and teleology. Moreover, Kant indeed offers a satisfactory resolution to this conflict.

The first requirement of any antinomy is to have an autonomous faculty (i.e., a faculty capable of providing principles of its own), whose principles contradict or conflict with each other. As McLaughlin explains: "[a]n antinomy in Kant's system is a conflict of laws, and only a faculty that gives itself laws, i.e. that is autonomous, can be involved in an antinomy" (McLaughlin 1990, 128). The first thing that Kant calls attention to is that our determining judgments are not in danger of falling into dialectical reasoning (like

[78] Despite this endless and confusing literature, we can find good account of this antinomy with some revealing interpretations in: Allison (1991, 2003), McLaughlin (1990), Watkins (2009), Breitenbach (2008), and Quarfood (2015).
[79] See, for instance, Butts (1990) and Allison (1991).
[80] For instance, McFarland (1970), McLaughlin (1990), and Breitenbach (2008).

an antinomy), because such judgments are only subsumed under concepts given elsewhere—through the understanding, in this case—and do not have internal principles that might conflict with each other. The reflective power of judgment, on the contrary, has to subsume the particular under a law that is not given yet, so it has to serve as a principle for itself[81]. That is to say, this principle "can serve as a *merely subjective principle* for the purposive use of the cognitive faculties, namely for reflecting on one kind of objects. In relation to such cases, the reflective power of judgment therefore has its *maxims* [...] for the sake of the cognition of natural laws in experience" (KU, AA V, 385-86, my emphasis). Between these maxims, there may indeed arise a conflict or an antinomy. So, according to Kant, we must pay attention to these maxims of the reflective power of judgment which may ground a natural dialectic.

From the great heterogeneity, contingency and diversity of the particular laws of nature, the reflective power of judgment sets out from two subjective principles—or maxims—in order to attain the interconnected empirical laws of nature. These are the maxims of mechanism[82] and teleology; the former is provided by the understanding *a priori*, and the latter "is suggested by particular experiences that bring reason into play in order to conduct the judging of corporeal nature and its laws in accordance with a special principle" (KU, AA V, 386). Apparently, these two maxims contradict each other, and hence a dialectic may result between these two seemingly conflicting subjective principles. The maxim of mechanism is, according to Kant, the thesis, and the antithesis corresponds to the teleological maxim:

> The first maxim of the power of judgment is the *thesis*: All generation of material things and their forms must be judged [*muß… beurteilt werden*] as possible in accordance with merely mechanical laws [*bloß mechanischen Gesetzen*]. The second maxim is the

[81] What Kant calls *heautonomy*, which is the peculiar legislation of the reflective judgment: "the power of judgment does not give the law to nature nor to freedom, but solely to itself" (KU, First Introduction, AA XX: 225).

[82] I call the first maxim of the reflective power of judgment "mechanism" in order to simplify the kind of explanation this maxim carries with it, namely, the mechanical explanation of nature (or natural products), which conceives a material whole only by means of the aggregate and interaction of its constituent parts. For more details of this type of explanation, see section 3.3. I am aware that the use of the term "mechanism" can be to some extent ambiguous, because Kant uses this term in the first and second Critiques as a synonym of natural causality (that is, as temporal succession by means of efficient causes as it was described in the Second Analogy of Experience). Nevertheless, I think that both senses of the term "mechanism" can coexist prior distinction of its peculiarities and specifications (i.e., "mechanism of nature" as synonym of natural causality, and "mechanism"—or mechanical explanation—as a specification of natural causality in the explanation of material wholes by means of the *nexus effectivus* and the moving forces of the parts). McLaughlin (1990) also terms "mechanism" to this maxim of the reflective power of judgment.

> *antithesis*: Some products of material nature cannot be judged as possible according to merely mechanical laws (judging them requires an entirely different law of causality, namely that of final causes [*Endursachen*]) (387, my emphasis).

If we transform these subjective principles or maxims into constitutive principles for the determining power of the judgment concerning the possibility of the objects *themselves*, the thesis and antithesis would be: "Thesis: All generation of material things is possible in accordance with merely mechanical laws. Antithesis: Some generation of such things is not possible in accordance with merely mechanical laws" (387). According to Kant, these objective principles of the determining power of judgment do contradict each other, so one of them must be necessarily false. Furthermore, as Kant states, in this case we would face an antinomy of the legislation of reason and not of the power of judgment itself. But reason can prove neither the thesis nor the antithesis, because the possibility of things cannot be determined *a priori* through merely *empirical* laws of nature (387). Therefore, this second formulation of the antinomy (i.e., between two constitutive principles of the determining power of judgment) is finally ruled out by Kant, since it does not meet the requirements for producing an antinomy of the power of judgment.

Now, in the case of the first formulation (i.e., of the two maxims of the reflective power of judgment), Kant states that when judging nature, we ought to proceed by means of two maxims of the reflective power of judgment. These two maxims operate as guidelines or heuristic strategies in the study of nature. Furthermore, there is no contradiction whatsoever between these two maxims, according to Kant. And that is because

> For reflection in accordance with the first maxim [mechanism] is not thereby suspended, rather one is required to pursue it as far as one can [...]. It is only asserted that human reason, in the pursuit of this reflection and in this manner, can never discover the least basis for what is specific in a natural end, although it may well be able to discover other cognitions of natural laws; in which case it will remain undetermined whether in the inner ground of nature itself, which is unknown to us, physical-mechanical connection and connection to ends may not cohere in the same things, in a single principle: *only our reason is not in a position to unify them in such a principle*, and thus the power of judgment, as a reflecting (on a subjective ground) [...], is forced to think of another principle than that of the mechanism of nature as the ground of the possibility of certain forms in nature (388, my emphasis).

When investigating nature, we must proceed as far as possible with the maxim of mechanism because, as Kant states, without this principle there is no proper cognition of nature at all. But because of the peculiar constitution of our reason, mechanism will never be capable of discovering the specific ground that constitutes a *Naturzweck* as such. In other words, in a natural thing, the maxims of mechanism and teleology must cohere in a single (and higher) principle, but our reason "is not in a position to unify them", so our reflective power of judgment is constrained to think another principle beside mechanism as the ground of the possibility of such a thing. Accordingly, there is no real opposition between mechanism of nature and teleology, but now Kant has to show in which sense there is no real contradiction between both subjective principles and, most importantly, how both maxims could cohere in a single principle.

In §71, Kant states that all appearance or resemblance (*Anschein*) of an antinomy between these maxims rests on confusing a subjective principle of the reflective power of judgment with a constitutive principle of the determining power of judgment (389). That is to say, the contradiction emerges when one treats the concept of a technique of nature (or the principle of purposiveness) *dogmatically*, rather than *critically*. Such dogmatic treatment would amount to considering a concept as contained under another concept that constitutes a principle of reason, and we determine the former in accordance with the latter. This type of treatment is lawful for the determining power of judgment. Contrarily, the treatment that is lawful for the reflective power of judgment is the critical one. Critical treatment would amount, in turn, to considering a concept "only in relation to our cognitive faculties, hence in relation to the subjective conditions for thinking it, without undertaking to decide anything about its object" (395). Before explaining this, Kant states that those systems that have treated the concept of the purposiveness of nature (or the "technique of nature" [*Technik der Natur*], that is, the teleological maxim) dogmatically have failed to account for it, be this from the standpoint of Realism (objectively positive purposiveness) or that of Idealism (objectively negative purposiveness).[83] The reason for this failure rests on the fact that the concept of "objective purposiveness in nature" (or "technique of nature") "cannot be drawn from experience and is not requisite for the

[83] "The systems with regard to the technique of nature, i.e., of the idealism or of the realism of natural ends. The former is the assertion that all purposiveness in nature is unintentional, the latter that some purposiveness in nature (in organized beings) is intentional, from which there can also be inferred as a hypothesis the consequence that the technique of nature is also intentional, i.e., an end, as far as concerns all its other products in relation to the whole of nature" (391).

possibility of experience its objective reality cannot be guaranteed by anything" (397). Or, in other words, this concept cannot be treated dogmatically because it is a maxim of the reflective power of judgment for *orienting* our investigation of nature, but never for *explaining* it as a constitutive principle would do. That is to say, all these systems have tried to explain the purposiveness of nature (*Zweckmäßigkeit der Natur*) as if it were a constitutive principle of the determining power of judgment rather than what it is, namely, a subjective principle for reflecting upon nature and its products, as a heuristic tool for guiding our research into nature.

After rejecting any dogmatic treatment of the concept of the purposiveness of nature comes probably the most puzzling part of the Antinomy of the Teleological Power of Judgment, namely, the paragraphs 75-78, and the whole disquisition about our discursive understanding in contrast to intuitive (or archetypical) understanding (and the appeal to a supersensible ground in order to unify the maxims of mechanism and teleology). Despite the obscurity that these sections seem to possess, §§ 76-77 are by far one of the most interesting passages of the whole third *Critique,* and they are also the part where the resolution of the antinomy is finally carried out. The following passage offers a good entry point into these puzzling sections:

> To say that the generation of certain things in nature or even of nature as a whole is possible only through a cause that is determined to act in accordance with intentions is quite different from saying that *because of the peculiar constitution of my cognitive faculties* I cannot judge about the possibility of those things and their generation except by thinking of a cause for these that acts in accordance with intentions [*die nach Absichten wirkt*] (397-98, my emphasis).

The main point of this passage rests on Kant's conception of the "peculiar constitution" of our cognitive faculties, which cannot judge such natural things (i.e., *Naturzwecke*) without the subjective and regulative presupposition that these things are only possible by a cause that acts in accordance with ends (or *intentions*). Nevertheless, as Kant warns us, this kind of judging is a peculiarity of our *discursive* understanding (*diskursiver Verstand,* i.e., a faculty of concepts), and not a property of the things in themselves. This *discursive understanding* is the one that we finite rational beings are allowed to possess. That is to say, according to Kant it is impossible for our cognitive faculties to get some insight into these kinds of natural products without presupposing an *intention* (that is, an

end) that underlies their generation and internal possibility[84]. Moreover, as mentioned earlier, natural ends are mechanically inexplicable, therefore, the only possibility for conceiving the self-organizing character of an organized being is in relation to our cognitive faculties, that is, only subjectively. And according to the peculiarities of our cognitive faculties, there is no other way to judge these natural products but by means of the teleological maxim. Let us analyze this argument further.

According to Kant, for our human-discursive understanding the distinction between the possible (*Möglichkeit*) and the actual (or the real, *Wirklichkeit*), or between the possibility and the actuality of things is absolutely necessary (V, 401). And the cause of this distinction lies in the cognitive faculties of the subject, which requires two heterogeneous sources (concepts and intuitions) in order to constitute an object in general. This distinction between the possible and the actual is only subjectively valid for our human-discursive understanding, and not to the things considered in themselves. For that reason, our human understanding goes from the universal (the concepts) to the particular (intuitions), and the power of judgment only applies the general rule (the concept) to the particular case (intuition). In these cases, we have a determining function of the power of judgment (that is, the power of judgment only subsumes the particular given under a universal rule of the understanding). Nevertheless, in some cases we do not have the general or universal rule to subsume some particular natural things (like organized beings), or, in Kant's words, "the particular, as such, contains something contingent with regard to the universal" (404). In such cases, the power of judgment becomes reflective and it produces the universal according to its own principle, which is the purposiveness of nature (*Zweckmäßigkeit der Natur*). Even though this principle or maxim is necessary for our human power of judgment in order to attain the connection of particular laws of nature (404), it is, however, only valid subjectively for our power of judgment. That is to say, it does not determine the object (in this case, an organized being) at all.

It is at this point of the Kantian argument where §77 appears ("On the special character of the human understanding, by means of which the concept of a natural end is

[84] "For it is quite certain that we can never adequately come to know the organized beings and their internal possibility in accordance with merely mechanical principles of nature, let alone explain them; and indeed this is so certain that we can boldly say that it would be absurd for humans even to make such an attempt or to hope that there may yet arise a Newton who could make comprehensible even the generation of a blade of grass according to natural laws that no intention has ordered; rather, we must absolutely deny this insight to human beings" (KU, AA V, 400).

possible for us"), which contains the reason why the use of the concept of natural end is unavoidable for our power of judgment when judging living organisms. Kant highlights that we have to pay attention to the special relation of our understanding and the power of judgment, and to the very fact "that we have to seek a certain contingency [*Zufälligkeit*] in the constitution of our understanding in order to notice this as a special character of our understanding in distinction from other possible ones" (406). This *contingency* is found in the particular, which must be subsumed under the universal (the concept). Accordingly, our discursive understanding "in its cognition, e.g., of the cause of a product" proceeds from the analytical-universal (concepts) to the particular (the given empirical intuition). Now, as Kant suggests, we can conceive an intuitive understanding (at least negatively or in opposition to our discursive one), which proceeds from the synthetically-universal (from the intuition of a whole as such) to the particular. That is to say, this understanding goes from the whole to the parts in its cognition of a natural whole (407). By contrast, our discursive understanding must progress from the parts to the whole, that is, a natural whole must be regarded by our understanding only as the effect of the moving forces of the parts. However, as Kant asserts, the latter representation is a mechanical conception of a natural product, and does not properly account for the possibility of an organized and self-organizing being:

> Now if we consider a material whole [*Ganzes der Materie*], as far as its form is concerned, as a product of the parts and of their forces and their capacity to combine by themselves [*als ein Produkt der Teile und ihrer Kräfte und Vermögen, sich von selbst zu verbinden betrachten*] (including as parts other materials that they add to themselves), we represent a mechanical kind of generation [*eine mechanische Erzeugunsart*]. But from this there arises no concept of a whole as an end, whose internal possibility presupposes throughout the idea of a whole on which even the constitution and mode of action of the parts depends, which is just how we must represent an organized body [*organisierten Körper*] (408).

According to Kant, we must represent an organized body or a living organism by means of the idea of an end. Thus, it is also a peculiarity of our discursive understanding that we represent some products of nature as possible in accordance with final causality, and not just with the causality of the natural laws of matter (that is, the moving forces of the parts as the efficient cause of the whole). That is to say, we represent a natural whole as the effect (the product), whose representation is the cause of its possibility; in other words,

we represent these products as an end: the product of a cause whose determining ground is the representation of the effect. Nevertheless, as mentioned some sections before, the end does not lie outside the product itself, rather it is internal to it, and for this reason these products are called natural ends, instead of ends *simpliciter*.

Thus, we can say that our discursive understanding has two ways of representing natural wholes: on the one hand, by means of the maxim of mechanism, whose limitation consists in reducing the whole to a mere aggregate of the moving forces of its parts. On the other hand, through the teleological maxim: the whole contains the ground of the very possibility of its parts, that is, we represent the whole as an end. This last representation of natural wholes is the only one that makes possible the representation of a whole such as a living organism, because it enables the very possibility for conceiving an organism as an organized and self-organizing being. In other words, it is due to our limited-discursive understanding that the use of teleological principles is necessary for us when reflecting upon living beings (even though we cannot *explain* them by teleological considerations).

At this point of the argument, Kant raises the question whether it is possible to unify both maxims of mechanism and teleology into a single higher principle. In the first place, Kant warns us that both principles cannot be unified if they were constitutive and dogmatic principles for explanation (*Erklärung, Deduktion*) of things in nature. That is to say, these two principles cannot cohere in a single principle if they were principles of the determining power of judgment (KU, AA V, 411), because one type of explanation excludes the other one. Accordingly, Kant argues that the unification of mechanism and teleology "cannot rest on a ground for the explanation ([*Erklärung*], explication [*Explication*]) of the possibility of a product in accordance with given laws for the determining power of judgment, but only on a ground for the elucidation ([*Erörterung*], exposition) of this for the reflecting power of judgment" (412). That is to say, this higher principle of unification is a subjective-heuristic one that orients our investigation of nature, but which does not determine or explain it at all.

This higher principle is, according to Kant, the supersensible (*das Übersinnliche*), which resides outside both mechanism and teleology, and also, outside nature; but, at the same time, is the foundation of nature "as phenomenon". Nevertheless, the problem with this principle is that it cannot be explained:

> Now, however, the common principle of the mechanical derivation on the one side and the teleological on the other is the supersensible [*das Übersinnliche*], on which we must base nature as phenomenon. But from a theoretical point of view, we cannot form the least affirmative determinate concept of this. Thus how in accordance with this, as a principle, nature (in accordance with its particular laws) constitutes a principle for us, which could be cognized as possible in accordance with the principle of generation from physical as well as from final causes, *can by no means be explained* [*läßt sich keineswegs erklären*](412-13, my emphasis).

As Kant says, we cannot form any positive and determinate concept of this principle; we can only have an undetermined concept of a ground that enables the judging of nature in accordance with empirical laws. Therefore, we can explain neither this supersensible ground nor how this unification operates, but we must presuppose this unifying principle in order to attain some insight into nature and its products. Although we cannot explain this supersensible principle of unification, it is necessary for guiding our experience of nature as a system of empirical laws, and, specifically, for grounding our teleological judgments of nature.

On the other hand, Kant argues that one of these two maxims of reflection (i.e., mechanism and teleology) must be subordinated to the other. Due to the constitution of our discursive understanding, the only way in which we can conceive something as *organized* is by means of the conception of an end (i.e., by means of teleological principles), so the maxim of mechanism has to be subordinated to teleology. As Allison accurately clarifies: "since mechanism cannot be eliminated, while teleological reflection is required if one is even to begin to conceptualize biological phenomena (grasp them as organized), the only alternative is to subordinate the mechanistic to the teleological principle" (Allison 2003, 231). Without mechanism we cannot attain any scientific cognition of nature at all[85], but we have "never to lose sight of the fact that those which, given the essential constitution of our reason, we can, in spite of those mechanical causes, subject to investigation only under the concept of an end of reason, must in the end be subordinated to causality in accordance with ends" (415). Therefore, both maxims of the reflective power of judgment do not contradict each other, and they can actually operate

[85] In fact, we have the obligation to try to explain mechanistically all natural events and things as far as our cognitive faculties can: "[n]ow on this is grounded the authorization and, on account of the importance that the study of nature in accordance with the principle of mechanism has for our theoretical use of reason, also the obligation to give a mechanical explanation of all products and events in nature, even the most purposive, as far as it is in our capacity to do so" (415).

together, according to Kant. We must proceed as far as possible with the principle of mechanism, since it is entirely unrestricted for explaining nature and natural products (387); but mechanism must be subordinated to the teleological maxim, since without this maxim we cannot even to begin to conceive a natural thing as organized and self-organizing.

2.6. - Methodology of the "Critique of the Teleological Power of Judgment"

The last part of the "Critique of the Teleological Power of Judgment" (and of the third *Critique* as a whole) is called "Methodology of the Teleological Power of Judgment", and it is also an Appendix of the book. This appendix is basically a question about the role or use of teleology for theoretical inquiry into nature. However, even though this part of the book raises the question about the role of natural teleology for our research into nature, this Appendix is more concerned with moral-practical philosophy than to theoretical philosophy (unlike the Analytic and Dialectic of the Teleological Judgment, which both have epistemological implications). In this section of the chapter, I will offer a very condensed synthesis of the Methodology, just to highlight those aspects I consider are worthwhile to bear in mind in light of the preceding sections. In order to do so, this section has ordered the Methodology into three main topics: namely, i) the role of natural teleology and the necessary subordination of the principle of mechanism to the maxim of teleology; ii) the question of final ends (*Endzwecke*) in nature; and iii) the question concerning the supreme cause of nature viewed as a system of ends.

i) Kant states throughout the Methodology that teleology has only methodological considerations for our theoretical approach to nature ("[teleology] has at least a negative influence on procedure in theoretical natural science" KU, AA V, 417), but it does not offer empirical knowledge of nature. Now, Kant must ask whether teleology pertains to the doctrine of nature or to theology. Kant will assert that teleology pertains to none of them: "[t]eleology, as a science, thus does not belong to any doctrine at all, but only to *critique*, and indeed to that of a particular cognitive faculty, namely that of the power of judgment" (417, my emphasis). As Wick explains in a very straightforward way:

> Teleology does not itself provide any empirical knowledge, even though it is necessary for knowing nature scientifically. Neither does it prove God's existence with metaphysical certainty. Its main purpose is to guide scientific inquiry and the suggestion that God exists arises only in relation to the subjective need for a scientific guide (Wick 2007, 233).

Therefore, teleology is necessary for investigating nature (i.e., as a guideline), but it does not provide empirical knowledge of nature and its products. Accordingly, teleology does not pertain to the doctrine of nature, but it can nonetheless provide *guidance* to theoretical natural science, and also, it can offer some reflections about our moral-practical destination. On the other hand, teleology cannot be treated as a part of theology either, but it can be regarded as a propaedeutic for it.

In §§80-81, Kant addresses the methodological significance of subordinating mechanism to teleology when judging something as a natural end (*Naturzweck*). As he has already stated in the Antinomy, we must proceed as far as possible with the mechanistic explanation of nature, since the authorization (*Befugnis*) to seek mechanical explanation of nature and its products is unrestricted (417). Nevertheless, the mechanical explanation of natural products is certainly quite limited due to the peculiar constitution of our understanding, which conceives these natural things as natural ends (that is, by means of teleological considerations). Accordingly, "our judging of them [natural things] must always be subordinated to a teleological principle as well" (417). The mechanistic explanation of nature is insufficient for thinking the very possibility of something as organized and self-organizing, therefore, this principle must be subordinated to teleological principles in order to even start thinking these natural products as organized. However, without the principle of mechanism we would not have natural science strictly speaking (and we would not have the chance to even start explaining organic beings), and furthermore these organized beings (judged as natural ends) would not be considered *natural* products (422). Therefore, even though the principle of mechanism must be subordinated to teleology, it is absolutely unavoidable for natural science in its investigation of nature and its products.

ii) Now, if we judge some natural things in nature as *Naturzwecke*, then we must also consider the possibility of asking about a final end in nature "in relation to which all other natural things constitute a system of ends in accordance with fundamental principles of reason" (429). That is to say, judging something as a *Naturzweck* leads us necessarily

to the question of the "ultimate end" (*letzten Zwecke*) and "final end" (*Endzwecke*) in nature as well as to the idea of the whole nature viewed as a system of ends (*System von Zwecken*). The ultimate end in nature is, according to Kant, the human being. The end that can be promoted through the connection of human being to nature is either happiness or human culture. But, as Kant says, in order to "discover where in the human being we are at least to posit that ultimate end of nature, we must seek out that which nature is capable of doing in order to prepare him for what he must himself do in order to be a final end [*Endzwecke*]" (431). Happiness is an end that can be fulfilled in nature, but happiness does not prepare the human being to be a final end, unlike culture which is, for Kant, "[t]he production of the aptitude of a rational being for any ends in general (thus those of his freedom)" (431). Only culture can be an ultimate end of nature in regard to the human being, because culture is the human production of that formal-subjective condition (or the aptitude) for setting ends in general and achieving them. Accordingly, only culture can be considered an ultimate end in nature, because it prepares the human being to be an *Endzwecke*. Now, the question of the final end (*Endzwecke*) arises.

Kant begins §84 ("On the final end of the existence of a world, i.e., of creation itself") by defining *Endzweck* as an end that does not require another one as a condition for its possibility, that is, a final end is unconditioned (or an end in itself). That kind of unconditioned end cannot be found or produced in nature, because "there is nothing in nature (as a sensible being) the determining ground of which, itself found in nature, is not always in turn conditioned" (435). Accordingly, we must ask what an end in itself might be, i.e. unconditioned, which "without him the chain of ends subordinated to one another would not be completely grounded" (435). Kant states that the only being that can be an end in itself is the human being as the rational subject of morality. Morality teaches us how a rational being can be an unconditioned end, an end in itself and also capable of being a final end[86]. The human being, as the subject of morality, is the only being capable of being a final end, in which nature as a whole is teleologically subordinated (436).

iii) Now, the problem of the final end leads us to the question of the supreme cause of nature as a system of ends. Kant distinguishes and contrasts two attempts of reason for inferring the supreme cause of nature (that is, the existence of God), namely, physicotheology and ethicotheology. The former "is to infer from the ends of nature

[86] "The moral laws, however, have the unique property that they prescribe something to reason as an end without a condition, thus do exactly what the concept of a final end requires" (KU, AA V, 449).

(which can be cognized only empirically) to the supreme cause of nature and its properties" (436); the latter is the attempt to infer this supreme cause from the moral ends of human rational being in nature ("which can be cognized a priori" 436). Even though the former "naturally" precedes the latter, physicotheology cannot reveal to us anything related to the final end, because it cannot even pose the question about the final end of creation (437) and the supreme cause of nature, i.e. God's existence. The reason for this limitation rests on the fact that no physical proof can demonstrate something that lies beyond nature (that is, that lies in the supersensible sphere). That is to say, it is impossible to demonstrate the existence of God as the supreme cause of nature by the merely theoretical principles of reason.

It is only in morality where the concept of *Endzweck* makes any sense; hence ethicotheology (or moral teleology) can determine its object (God) by means of the moral argument. This argument starts from practical freedom and the consciousness of the moral law in us, that is to say, this argument starts from a supersensible standpoint that can account for God's existence (at least from a practical substratum). "Now since we recognize the human being as the end of creation only as a moral being, we have in the first place a ground, at least the chief condition, for regarding the world as a whole interconnected in accordance with ends and as a system of final causes" (444). Accordingly, it is impossible for the regulative idea of nature as a system of ends to be attained from a merely physical-natural standpoint (like physicotheology), since an end in itself (unconditioned) has only practical-moral validity (in a rational-moral subject, like the human being). Thus, we can think nature as an interconnected system of ends, but only in regard to the moral-practical sphere. In other words, "we must assume a moral cause of the world (an author of the world) in order to set before ourselves a final end, in accordance with the moral law; and insofar as that final end is necessary, to that extent [...] is it also necessary to assume the former, namely, that there is a God" (450).

This last idea leads us to a recurrent topic in Kant's Critical philosophy, namely, God's existence as a matter of faith or belief (*Glaubenssachen*). Matters of faith are "[o]bjects that must be conceived a priori in relation to the use of pure practical reason in accordance with duty (whether as consequences or as grounds) but which are excessive for its theoretical use" (469). This idea was already addressed by Kant in the Canon of Pure Reason of the first *Critique* and in the Postulates of Pure Practical Reason of the second *Critique*. The central point of this idea is that faith is the way in which we can

"assume as true" ("*als wahr anzunehmen*") God's existence[87]. That is to say, God's existence is the object of an authentic practical faith, not the object of mere opinion nor a matter of fact. We can only have opinions about objects susceptible to an experiential cognition, and God's existence clearly exceeds the sphere of sensible experience. Therefore, "[o]bjects of mere ideas of reason, which cannot be represented for theoretical cognition in any sort of possible experience at all [...], one cannot even have an opinion, because to have an opinion a priori is absurd on its face and is a straight road to pure figments of the brain" (467). On the other hand, the matters of fact are "[o]bjects for concepts the objective reality of which can be proved" either by means of pure reason (either practical or theoretical) or through experience, "but in all cases by means of intuitions corresponding to the concepts" (467). Once again, God's existence (and the corresponding concept of final end) is not able to be presented as an intuition, so it is not a matter of fact[88].

In conclusion, the regulative concepts of final end and God's existence only have validity in practical reason, not in theoretical reason. "[A] final end is merely a concept of our practical reason, and can neither be deduced from any data of experience for the theoretical judging of nature nor be derived from any cognition of it" (454). That is to say, these two practical concepts (final end and God's existence) are necessary only with respect to practical reason, but they do not expand our theoretical knowledge of nature and its products. Therefore, these two practical concepts do not amplify or extend our cognition of nature; they do not give any clue at all for our theoretical research into nature. But they do represent a necessary subjective presupposition in regard to morality. As Kant says at the end of the third *Critique*:

> If one asks why it is so important to us to have a theology at all, then it becomes clear that it is not necessary for the expansion or improvement of our knowledge of nature and, in general, for any sort of theory, but is necessary in a subjective respect strictly for

[87] "Faith (as *habitus*, not as *actus*) is reason's moral way of thinking in the affirmation of that which is inaccessible for theoretical cognition. It is thus the constant fundamental principle of the mind to assume as true that which it is necessary to presuppose as a condition for the possibility of the highest moral final end, on account of the obligation to that" (KU, AA V, 471).

[88] The only concept of reason that can be considered as matter of facts is freedom: "But what is quite remarkable, there is even one idea of reason (which is in itself incapable of any presentation in intuition, thus incapable of theoretical proof of its possibility) among the facts, and that is the idea of freedom, the reality of which, as a particular kind of causality (the concept of which would be excessive from a theoretical point of view) can be established through practical laws of pure reason, and, in accordance with these, in real actions, and thus in experience. – It is the only one among all the ideas of pure reason whose object is a fact and which must be counted among the *scibilia*" (KU, AA V, 468).

> religion, i.e., for the practical, that is, the moral use of reason [*dem praktischen, namentlich dem moralischen Gabrauche der Vernunft*] (482).

This chapter has introduced a general overview of Kant's "Critique of the Teleological Power of Judgment", especially in relation to the main concept that is at stake in it, namely, the reflective concept of *Naturzweck*. However, key to understanding the Kantian notion of a natural end is Kant's conception of analogy, since Kant develops the notion of *Naturzweck* by analogy with our causality in accordance with ends (or with our technical-practical reason). For this reason, to fully understand what a natural end is, it is necessary to understand, first, what concept of analogical reasoning Kant has in mind when developing the "Critique of the Teleological Power of Judgment", and, second, what is the best way to construe the very analogy that Kant invokes between the living organism and our technical reason.