

KANT'S CONCEPT OF THE TECHNIQUE OF NATURE IN THE *CRITIQUE OF THE POWER OF JUDGMENT*

O CONCEITO DE KANT DE TÉCNICA DA NATUREZA NA *CRÍTICA DA FACULDADE DE JULGAR*

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Resumo: a relação entre razão e natureza envolve um dos principais aspectos da crítica da teleologia de Kant. Visando destacar esta relação, investigarei o conceito de técnica da natureza, tal como introduzida na *Crítica da faculdade de julgar*. De acordo com Kant, a técnica da natureza permite as leis da razão a representarem o acordo dos princípios transcendentais da razão com a natureza. Deste modo, o conceito da técnica da natureza assume um papel prolífico ao expor, através de uma analogia com as faculdades humanas, a atividade produtiva da natureza, como se sua atividade fosse orientada a fins.

Palavras-chave: Juízo, Fim, Técnica da Natureza, Liberdade, *Nexus Effectivus*, *Nexus Finalis*.

Abstract: The relationship between reason and nature embodies one of the main aspects of Kant's critique of teleology. In order to highlight this relation, I shall investigate the concept of the technique of nature, as it has been introduced in *Critique of the Power of Judgment*. According to Kant, the technique of nature allows the laws of reason to represent the agreement of the transcendental principles of reason with nature. Thus, the concept of the technique of nature assumes a fruitful role by exposing, through an analogy with human faculties, the productive activity of nature, as if its activity were oriented towards ends.

Keywords: Judgment, End, Technique of Nature, Freedom, *Nexus Effectivus*, *Nexus Finalis*

Introduction

To think of nature in terms of spontaneous production oriented towards ends represents Kant's strategy to make natural products and laws intelligible and communicable. This task can be pursued, by assuming the concept of purposiveness as the guideline for the reflecting power of Judgment and without attributing a constitutive function to it. However,

this concept is not a sufficient ground that guarantees for the unity and the agreement of nature and reason. The concept of the technique of nature, I claim, plays an important epistemological role to answer the question of the possible relationship between *nexus effectivus* and *nexus finalis* in judging of nature. Through this concept, Kant attributed a reference of unity to the objective purposiveness of organisms and to the generation of different natural kinds. In what follows, I shall discuss the concept of the technique of nature within the context of the third *Critique* and highlight its relevance in Kant's arguments concerning the ground of the constitution of our faculties. The present paper is not meant to be an exhaustive analysis of this concept, but rather a step to enrich the debate and perhaps to strengthen an interpretation of the *Critique of the Power of Judgment* that throws a fresh light on Kant's system.

1. The origin of the concept of the technique of nature

Many attempts in analyzing §36-41 and §76-78 of the third *Critique* tried to shed light on the distinction between the aesthetic and the teleological power of Judgment, as well as on its role as a *medium* between reason and sensibility.¹ The function of synthetic and empirical elements, previously considered in the section devoted to aesthetic judgments (§36), acquires more relevance in the case of the teleological power of Judgment. Indeed, according to Kant, the judgments of the *Naturforschung* (concerning, for example, chemical, physical and biological phenomena) should be grounded on purposes produced by nature itself.²

The general distinction that Kant draws between aesthetic and teleological judgments is the following:

On this is grounded the division of the critique of the power of Judgment into that of aesthetic and teleological power of Judgment; by the former is meant the faculty for judging formal purposiveness (also called subjective) through the feeling of pleasure or displeasure, by the latter the faculty for judging the real purposiveness (objective) of nature through understanding and reason (CJ 5:193)³

In order to find the ground of the distinction between formal and real purposiveness, it is required to consider the concept of an 'end' (*Zweck*). In fact, the "excessive" multiplicity of

¹ For the general approach that I follow in reading the third *Critique*, see Nuzzo (2005, 125).

² Nuzzo (2005, 89).

³ Kant, I., Guyer, P. (ed.) (2000): *Critique of the Power of Judgment* (CJ).

nature in its shapes and forms leads to another representation of natural objects (CJ 5:193-4). In Kant's view, "the concept of the combinations and forms of nature in accordance with ends is still at least one more principle for bringing its appearances under rules where the laws of causality about the mere mechanism of nature do not suffice" (CJ 5:360). Thus, according to Kant, 'end' is the concept that satisfies the demand of universality from an objectively real standpoint. In the case of the aesthetic power of Judgment, universality refers to the *claim of Taste* (without adequacy to any concept). In the second case of the teleological power of Judgment, it must be followed the guideline (*Leitfaden*) of the *Zweckmäßigkeit*, the purposiveness of nature, as if (*als ob*) it were the concept, through which universality is objectively inferred to judgments concerning, for example, organisms. Kant introduces the problem in the *Critique of the Power of Judgment* as follows:

No one has doubted the correctness of the fundamental principle that certain things in nature (organized beings) and their possibility must be judged in accordance with the concept of final causes, even if one requires only a guideline for coming to know their constitution through observation without rising to the level of an investigation into their ultimate origin (CJ 5:389).

Therefore, the objectively real purposiveness is the ground of teleological judgments, and to think of this principle universally, in referring judgments to particular objects of experience, such as organisms, Kant presupposes the rational concept of end, in particular of internal end.

Rolf-Peter Horstmann in *Why Must There Be a Transcendental Deduction in Kant's Critique of Judgment?* claimed that "we can see why Kant always emphasizes that there is a structural difference between aesthetic and teleological judgments in relation to the faculty of judgment" (see also CJ, 5:VII-VIII).⁴ Even if purposiveness is a transcendental principle of the aesthetic power of Judgment, it is more difficult to define this concept in the field of the teleological power of Judgment, because the possibility of teleological judgments seems to depend "on the possibility of applying to an object of nature the concept of an end understood as a concept of reason".⁵ This point reveals the central question of Kant's conception of the technique of nature.⁶

⁴ Horstmann (1989, 173-175). Horstmann points out that the teleological judgement is not materially dependent on the power of judgment and its principle, though its validity is that of a judgment of reflection.

⁵ Horstmann (1989, 174).

⁶ See also *Erste Einleitung in die Kritik der Urtheilskraft*, (AA:XX, 204-5; 215; 219-21; 228-9; 248-51).

How could the variety of natural phenomena, not only chemical and biological, but also physical, be grasped into a system? And how could we make experience of the connection between *nexus effectivus* and *nexus finalis*, if the principle of conformity to purposes is transcendental, but it seems to ground the universality of teleological judgments on nature itself? In other words, why and how could be combined elucidation (*Darstellung*) and explanation (*Erklärung*) in face of certain cognitive processes concerning nature?

The function that Kant attributes to the teleological power of Judgment is essential for us “in order to be able to be oriented” in experience (CJ 5:193), especially in a determined particular experience. The latter can be compared with other cases and can be encompassed into natural science, by unifying different empirical laws under a common principle. This unitary function pertains to reason, but it can be realized by a certain use of the power of Judgment also. As I shall emphasize, the concept of the technique of nature plays a crucial role in order to provide a representation of the origin of natural generation within the system of nature, and to give a meaning to the unity of natural generation from an epistemological point of view. The concept of a technique of nature is a necessary assumption in order to realize the unity of different laws and different meaning of causality, because it grounds the possible use of the principle of purposiveness in teleological judgments.

2. Technique of Nature and Laws of Reason

Reinhard Brandt analyzed the question of the relationship between the technique of nature and laws of reason in *The Deductions in the Critique of Judgment: Comments on Hampshire and Horstmann*.⁷ He argued that the principles of reason are transcendental because they presuppose that the principles of unity, specification, and affinity, which are initially only logical or methodological, “accord with nature itself”.⁸ As Brandt pointed out, there is a difficulty: Kant’s exposition remarks the relationship between the suitability of nature for human cognitive faculties and the purposiveness among the parts of the system of nature.⁹ By maintaining that this element of suitability with nature guarantees the possible truth of a

⁷ Brandt (1989).

⁸ See Kant, I., Guyer, P., Wood, A. (ed.) (1998, 596) A 653-4/B681-2.

⁹ Brandt (1989, 180). As Brandt points out the origin of those problems are to be found in the *Dissertation* of 1770. I agree with Paul Guyer that the problem exposed above is to be found in the *Beweisgrund*, for further details see Guyer (2005, 89-92). Moreover Nuzzo (2005, 342) claims that the core question about the ground of natural production and its suitability for our judgment can be found in Kant’s *Theory of the Heavens* (1755).

structured system of empirical knowledge, Brandt states that the *Critique of pure Reason* and the third *Critique* are compatible, even if the latter presents many shifts from the former, as it happens in overall structure of Kantian philosophy between 1781 and 1790. Moreover, Brandt remarks that “the Judgment presents reason with no goals for its maximal use, but rather supplies with the concept of purposiveness a fundamental possibility: to think as unity something that, for the understanding, would remain only accidental and incomprehensible”.¹⁰

Brandt claims that “in the final introduction to the *Critique of Judgment* and in the work itself (with one exception in CJ §23, 5:246), Kant abandoned the concept of a technique of nature in the principle of suitability of nature to our cognitive faculty; it is now applied only to organic bodies, that is where nature itself shows the form of a system” (CJ 5:193, 360, 390 etc).¹¹

However, by considering the definition of the concept of the technique of nature (CJ 5:360), it might be shown that it refers not only to organic bodies, but also to geometrical shapes recognized in nature (crystal shapes, symmetrical anatomic aspects, etc), as the following passage suggests:

This analogy of forms, insofar as in spite of all the differences it seems to have been generated in accordance with a common prototype, strengthens the suspicion of a real kinship among them in their generation from a common proto-mother, through the gradual approach of one animal genus to the other, from that in which the principle of ends seems best confirmed, namely human beings, down to polyps, and from this even further to mosses and lichens, and finally to the lowest level of nature that we can observe, that of raw matter: from which, and from its forces governed by mechanical laws (like those which are at work in its production of crystals), the entire technique of nature, which is so incomprehensible to us in organized beings that we believe ourselves compelled to conceive of another principle for them, seems to derive. (CJ 5:418-9)

This passage emphasizes the proper function of the concept of the technique of nature consisting in setting the question of another kind of generation, that of final causes, in order to ground the contingency found in nature and let it be compatible with the mechanical explanation of nature.¹² Kant clarifies that the concept of final causes must be “a certain presentiment of our reason, or a hint, as it were given us by nature, that we could by means of that concept of final causes step beyond nature and even connect it to the highest point in the

¹⁰ Brandt (1989), p. 187.

¹¹ About this point, I perfectly agree with Brandt (1989, 186-187).

¹² Kant advances the hypothesis of a universal (chemical) law of affinity of matter in order to explain the affinity found in nature and to justify the use of the law of continuity. However, since this is a hypothesis only, Kant grounds his provisional judgment about natural affinity on the concept of the technique of nature.

series of causes if we were to abandon research into nature, [...] and attempt to discover first where that stranger in natural science, namely the concept of natural ends, leads” (CJ 5:390).

To a certain extent, therefore, it is possible to think of final causes through the concept of the technique of nature. The concept of final cause is allowed, if it is used as a maxim of natural science, although it leads to a controversial problem, when it is considered as a means to go beyond nature, i.e. as a ground for the constitutive judgments concerning nature. For this reason, Kant underlines the impossibility to cognize something about the technique of nature itself, even though he believes that this concept is necessary to think of another kind of causality, namely a technical agency (*Wirkungsart*) of nature, as the following passage suggests:

For we adduce a teleological ground when we ascribe causality in regard to an object to a concept of the object as if it were to be found in nature (not in us), or rather we represent the possibility of the object in accordance with the analogy of such a causality (like the kind we encounter in ourselves), and hence we conceive of nature as technical through its own capacity; whereas if we did not ascribe such a agency to it, we would have to represent its causality as a blind mechanism (CJ 5:360).

Kant configures a two-fold problem. On the one hand, a transcendental question arises about the possibility of connecting ends with objective principles, in accordance with the laws of nature. On the other hand, our statements about certain natural events and final connections must be grounded on a special kind of agency, (CJ 5:390). Therefore, the possibility to connect *nexus effectivus* with *nexus finalis* depends on the definition of the technique of nature:

Insofar as we could call the procedure (the causality) of nature a technique, on account of the similarity to ends that we find in its products, we would divide this into intentional technique and (*technica intentionalis*) and unintentional technique (*technica naturalis*) (CJ 5:390-1).

In these quotations, Kant emphasizes the main character of science as investigation¹³ although he claimed in the *Critique of pure Reason* and in the *Metaphysical Foundations of Natural Science* (1786) that all scientific systems (a part from general logic) are incomplete, and it is always possible to increase *per intususceptionem* their extensions. Scientific systems can be enlarged and extended through scientific investigation, namely by observation and

¹³ See Butts (1992, 88-103).

experiment.¹⁴ Furthermore, scientific systems can absorb new rules, laws and elements before being defined just *ex hypothesin*. In the *Critique of the Power of Judgment*, Kant underlines this point, by maintaining that “teleological judging is rightly drawn into our research into nature, at least problematically, but only in order to bring it under principles of observation and research in analogy with causality according to ends, without presuming to explain it” (CJ 5:360). It seems crucial to remember that this maxim of the teleological power of Judgment must be understood *for the use* only, and not dogmatically:

Nothing is left for us except, if need be, to give up all these objective assertions and to weigh our Judgment critically, merely in relation to our cognitive faculty, in order to provide its principle with the non-dogmatic but adequate validity of a maxim for the reliable use of reason (CJ 5:392 footnote).

As a result, Kant differentiates between judgments expressing the causality belonging to the *nexus effectivus* and another one to the *nexus finalis*, but also defines the possible common ground for their compatibility in judgments: their use must respect the rational laws of uniformity and continuity of nature and answer to the demand of a systematic unity of reason.

3. What does it mean to think of the world as a product of intelligence?

The concept of the technique of nature introduces the question of a common ground representing agency in accordance with intentions. The concept of an objective purposiveness of nature is a critical principle of reason for the reflecting power of Judgment, a maxim that reason prescribes to it:

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, and thus by thinking of a being that is productive in accordance with the causality of an understanding (CJ 5:397-8).

Reason determines the use of cognitive faculties, according to their special character, essential conditions, and the limits of their domains. Therefore, teleological judgments are

¹⁴ This character of scientific systems can be also detected from Kant's earlier writings collected in the *Opus postumum* (AA:XXII, 330), where he defines observation and experiment as *Prüfungsmaximen* for physics, chemistry and biology.

drawn into our research of nature, but only problematically, in favour of observation, and in analogy with causality according to ends, without presuming to explain nature in itself. This second function (explanation) is proper of the determining power of Judgment (see CJ 5:360), whereas the maxim prescribed by reason for the reflecting power of Judgment responds to a special demand. Indeed, it is necessary to subject nature to the concept of an intention, in order to judge its organized products. This concept of intention is thus a necessary maxim for the use of reason in experience, i.e. for its empirical use.¹⁵ In order to judge and to connect empirical laws of nature, in accordance with the limits of our reason, “we absolutely cannot base the possibility of those natural ends on anything except an intelligent being – which is what alone is in accord with the maxims of our reflecting power of Judgment and is thus a ground which is subjective but ineradicably attached to the human race” (CJ 5:400).

Thus, the result of Kant's claim assumes a proper originality without embracing Spinozism or Hylozoism and by rejecting the Wolffian external or objective teleology. The concept of purposiveness of nature, insofar as it is used as a maxim for natural knowledge, leads, however, to a controversial problem. It consists in the ground of compatibility of the *nexus effectivus* and the *nexus finalis*, when judging different kinds of phenomena in the same world. Kant's appeal to a supersensible ground for the unity of the principles concerning a *nexus effectivus* or a *nexus finalis*, implies that there must be presupposed an indeterminate and unknowable *substratum* enabling their combination. On the one hand, this *substratum* is intelligible only in its effects, which are judged according to the concept of purposiveness. On the other hand, according to Kant, the understanding proceeds in judging the determination of the kind of agency (*Wirkungsart*):

If we now speak of the systems for the explanation of nature with regard to final causes, one must note that they all convert one another dogmatically i.e., concerning objective principles of the possibility of things, whether through intentionally or entirely unintentionally acting causes, but not concerning the subjective maxims for merely judging about the causes of such purposive products – in which case disparate principles could be well united with each other, unlike the former case, where contradictorily opposed principles cannot each other out and cannot subsist together (CJ 5:391).

Therefore, it is possible to think of a connection of principles (those explained by a *nexus effectivus* with those elucidated by a *nexus finalis*), only by considering them as

¹⁵ This is one of the main novelties that Kant introduced after the *Critique of pure Reason*.

disparate principles and by presupposing a common intelligible ground. Without the intelligible ground, it would be impossible to think of the concept of purposiveness of nature and the free human agency in a world that admits mechanical causality, or the spontaneous origin of a series of events. The possibility of being oriented in experience and recognizing general empirical laws of nature relies on presupposing this intelligible ground, even if it must be considered as a guideline and it cannot be further determined or proved with respect to its objective reality.

The concept of the technique of nature assumes a necessary function proving objective reference to the concept of natural generation of different kinds, whereas the intelligible *substratum* provides a subjective and universal reference to the laws of reason to let them agree with purposiveness. Furthermore, the concept of the technique of nature gives meaning to the possibility of the existence of a necessary contingency in the world, which is the result of an analogy with our faculties. Indeed, we might conclude, as A. Nuzzo points out, that “we must assume that nature proceeds as if it were producing its form technically, precisely because we are ourselves beings who belong to nature and who are able to act in a purposive way”.¹⁶

Thus, on the one hand, an epistemological question emerges, and, on the other hand, the practical horizon is disclosed. The next two sections deal with these questions respectively.

4. The Relationship between the Whole and its Parts: the Constitution of our Faculties

The concept of an intelligible *substratum* leads Kant to the question of the possible ways of conceiving of the part-whole relation, i.e. the constitution and the unity of a system, according to our faculties. The question of the constitution of human faculties (*Vermögen*) presupposes the distinction between understanding and intuition. According to Kant, these sources of knowledge are complementary, but in different combinations, they allow the ontological distinction between possibility and actuality of things (CJ, 5:401 ff.):

It is still valid, however, for the use of our cognitive faculties in accordance with their special constitution, thus not for objects and thereby for every cognitive being: because I cannot presuppose that in every such being thinking and intuiting, hence

¹⁶ Nuzzo (2005, 253).

the possibility and actuality of things, are two different conditions for the exercise of its cognitive faculties. For an understanding to which this distinction did not apply, all objects that I cognize would be (exist), and the possibility of some that did not exist, i.e., their contingency if they did exist, as well as the necessity that is to be distinguished from that, would not enter into the representation of such a being at all (CJ 5:402-3).

Kant's definition of the intuitive understanding depends on the peculiar constitution of our faculties. The concept of an absolute and necessary being is an indispensable idea of reason, but remains an unattainable problematic concept for human understanding. In particular, it seems necessary to focus on the distinction that makes a ground for the teleological power of judgement realize the unification of the *nexus effectivus* under the *nexus finalis*, namely the resolution of the *Antinomy of the teleological Judgment*.

Kant extensively discusses the distinction of the analytic and synthetic universal of the concept of a certain kind of agency (*Wirkungsart*). According to him, "what is in issue here is thus the relation of our understanding to the power of Judgment, the fact namely that we have to seek a certain contingency in the constitution of our understanding in order to notice this as a special character of our understanding in distinction from other possible ones" (CJ 5:406). How could this distinction be related to the proper and peculiar character of human understanding? This relationship is possible by means of the practice of judging. As we find contingency in nature, by observing and judging it, Kant points out:

This contingency is quite naturally found in the particular, which the power of Judgment is to subsume under the universal of the concepts of the understanding; for through the universal of our (human) understanding the particular is not determined, and it is contingent in how many different ways distinct things that nevertheless coincide in a common characteristic can be presented to our perception (CJ 5:406).

In order to conceive of a possible agreement of certain natural products with the power of Judgment, we must think of another understanding (in analogy with our faculty), in relation to which the agreement of natural laws with the power of Judgment can be represented. To solve this question, Kant employed the concept of the technique of nature, because it is the key to unify the manifold in the whole of nature without attributing an external existence to the concept of final causes:

"Our understanding has the property that in its cognition e.g. of the cause of a product, it must go from the analytical universal (of concept) to the particular (of the empirical intuition), in which it determines nothing with regard to the manifoldness

of the latter, but must expect this determination for the power of Judgment from the subsumption of the empirical intuition (when the object is a product of nature) under the concept" (CJ 5:407).

Kant marked the difference between discursive and intuitive understanding (negatively determined, namely as not being discursive), that is an archetypical model of understanding, in order to think of nature "at two levels",¹⁷ and to conceive of contingency, which is necessary to define a discursive understanding in its use. The intuitive understanding proceeds from the whole to the parts, i.e. from the synthetic universal to the particular, in which there is no contingency in the combination of the parts. The parts are thought as grounds of the different possible forms that are to be merely subsumed as consequences. Moreover, the intuitive understanding can conceive of the possibility of the parts, as depending upon the whole,¹⁸ only by representing a whole containing the ground for the possibility of its form and the connection of its parts.

Nevertheless, human understanding proceeds by considering the agency and determining the relationship between cause and effect, according to its possible representative ways, i.e. it conceives of a real whole of nature, which is regarded as the effect of the concurrent moving forces of the parts:

It is a mere consequence of the particular constitution of our understanding that we represent products of nature as possible only in accordance with another kind of causality than that of the natural laws of matter, namely only in accordance with that of ends and final causes, and that this principle does not pertain to the possibility of such things themselves (even considered as phenomena) in accordance with this sort of generation, but pertains only to the judging of them that is possible for our understanding (see CJ 5:408).

Hence, final causes are not meant to be related to the generation and the existence of organisms as such, or to the genesis of things in themselves. Rather, they are related to the act of judging, namely to the use of the principle of purposiveness in connecting our faculties and the possible experience.

When a sufficient ground of final causes cannot be found among outer objects or appearances, then this ground must still be sought only in a supersensible *substratum* of nature. For it is absolutely impossible to draw from nature itself any explanatory ground for purposive

¹⁷ See Kant, I., Guyer, P. (ed.) (2000, xxxvii).

¹⁸ For further details see Cassirer (2003, 61-93). Other examples can be taken from one recent study, based on Kantian teleology, and concerning the relationship between purposiveness and quantum theory. See Pringe (2007, 168-170).

connections, and, in accordance with the constitution of the human cognitive faculty, it is necessary to seek the highest ground of such connections in an original understanding as cause of the world (see CJ 5:410).¹⁹ This is probably the more relevant consequence of Kant's solution of the antinomy of the teleological power of Judgment. Kant remarks that the ground for purposive connections has to be sought in an unknowable *substratum* that, in considering nature as a whole, must be viewed as an original understanding causing the world.

However, by conceiving of the technique of nature inside nature itself and improving the instrument of analogical reasoning, Kant is far from offering a theological solution. On the contrary, he draws the coherent consequence of the transcendental approach. In fact, the only way to ground purposive connections in nature consists in reflecting the *nexus finalis* in judgments as if (*als ob*) it were a product of a superior intelligence that thinks of nature as a whole, and creates a series of natural events oriented towards ends. This aspect enables the coexistence in the same world of mechanical natural laws and freedom.

Kant chooses the concept of the technique of nature as the agency that can produce the correspondence between an unknowable substance and human ways of representing and judging specific natural events and products. This correspondence depends on the constitution of human faculties and on the capacity of human beings to conceive of their free agency according to rational ends.

5. Explicatio and Expositio: how can we connect *nexus effectivus* and *nexus finalis*?

As emphasized in §2, in order to find the connection between *nexus effectivus* and *nexus finalis*, Kant investigated the link between reason and the power of Judgment, and he gave an answer to the problem of the unity of many *genera* in nature.

In one of the most debated passages in §78, Kant focused on the possible common ground of the unification of the *nexus effectivus* and the *nexus finalis*: his solution is the subordination of the principle of mechanism to the teleological principle in the explanation of

¹⁹ In the *Opus postumum*, Kant discussed the question of the possible element that guarantees the ground of the possibility of organisms, represented as the basis of the possibility of the parts. Kant tried to prove *a priori* the existence of the cosmic *Urstoff*, namely the Aether, in order to provide a common and universal basis for moving forces. For more details see Förster, E. (2000); Edwards, J. (2000); Friedman, M. (1992).

a thing as a natural end.²⁰ The unification of the principle of the universal mechanism of matter with the teleological principle of judgment is realized through the concept of the technique of nature. Several difficulties arise because both the concepts that make this unification possible, namely the concepts of 'explication' and 'exposition', are subject to a certain ambiguity.²¹ However, it is possible to unify effects under final causes through the elucidation (*Darstellung*)²² that is the only way in which the possibility of natural objects can be represented. Elucidation, by means of analogical reasoning lets final causes be represented in intuition, albeit indirectly.

The concept of the technique of nature is conceivable, by considering and judging the effects produced by nature only, because it is impossible to know an intelligible *substratum* of natural generations, without receiving it in intuition. Even though the concept of the technique of nature is necessary in order to admit the coexistence of contingency and necessity in nature, Kant remarks that it might not be said what this concept consists in (see CJ 5:415):

For in the place of that which (at least for us) can only be conceived of as possible in accordance with an intention no mechanism can be assumed; and in the place of that which can be cognized as necessary in accordance with the latter, no contingency, which would require an end as its determining ground, can be assumed (CJ 5:414).

However, it is possible to obtain, according to the use of the power of Judgment, the universal principle of the reflecting power of Judgment for the whole of nature (see CJ 5:414), by unifying the *nexus effectivus* and *nexus finalis*, without confusing them. The ground of this possibility is justified by Kant as follows:

Since the ground of this unifiability lies in that which is neither the one nor the other (neither mechanism nor connection to an end) but is the supersensible *substratum* of nature, of which we can cognize nothing, the two ways of representing the possibility of such objects are not to be fused into one for our (human) reason, but rather we cannot judge them other than as a connection of final causes grounded in a supreme understanding, by which nothing is taken away from the teleological kind of explanation (CJ 5:414).

²⁰ For the definition of 'end' (*Zweck*), see CJ 5:408.

²¹ In the Cambridge edition of the *Critique of the Power of Judgment*, Guyer translates 'Explication' with "explanation" and 'Exposition' with "elucidation". Some difficulties in the translation have been found by Guyer, Garroni and Longuenesse in the different translations of the third *Critique*, but more in general they are confirmed in other studies by V. Mathieu. For the previous definition of 'elucidation' and 'explanation' compare Kant, I., Guyer, P., Wood, A. (ed.) (1998, 638-9) A730/B758 and A729/B752: "Instead of the expression 'definition', I would rather use that of 'exposition' which is always cautious, and which the critique can accept as valid to a certain degree while yet retaining reservations about its exhaustiveness".

²² About the relationship between *Darstellung* and technique of nature, see Nuzzo (2005, 239-41).

The authorization and the obligation to give a mechanical explanation of all products and events in nature are supported by the consideration that all products are to be subjected to investigation only under the concept of ends of reason, and the causality of freedom. It is not by chance, indeed, that Kant concludes §78 by determining the practical and effective skills of theoretical activity. The practical horizon is the proper dimension of rational beings: the practical character of pure reason is the assumption of Kant's transcendental philosophy. It would be further the aims of this paper to discuss this topic, but it is necessary to underline that the reflective power of Judgment reveals the status of our faculties and opens the path to Kant's practical philosophy, particularly ethicoteology, from within the system of natural teleology.

Conclusion

The status of the *Critique of the Power of Judgment* is eminently significant not only for Kant's theoretical philosophy, but for his system in general. It is concerned with the empirical and the practical horizon where human beings acquire their proper dimension. Kant assumes experience as being eminently practical and historical: it is strictly related to our ability of organizing society according to rational ends,²³ and to the rational activity (*Handlung*) of synthesis as the ground that embodies the constitution of our faculties.²⁴

According to this premise, the concept of the technique of nature allows the representation of an internal agency of natural generations that is compatible with the constitution of human faculties and its products, such as geometrical figures. Moreover, the concept of the technique of nature assumes an essential role in order to determine the relationship between reason and the power of Judgment in the cognitive process of the contingency, in the field of science, as well as in evaluating historical processes. In §62 Kant offers a passage about this skill, by pointing out that:

²³ See for example Kant's *Lectures on Anthropology* and *The Metaphysics of Morals*. About Kant's anthropology see the recent debate between W. Stark and R. Brandt concerning the possible connection of Anthropology with Morals in Kant's system. For further details, also see Jacobs, Kain (2003, 15-37; 60-84; 85-104).

²⁴ For the analysis of this point in the field of Kant's Anthropology and for a historical background, see Kaygill (2003, 164-193). For further details on the consequences that this original activity has in the domain of Morals see Kant, Gregor (ed.) (1996, 37-38;50).

Admiration is an astonishment that continually recurs despite the disappearance of this doubt. The latter is consequently an entire natural effect of that purposiveness observed in the essence of things (as appearances), which also cannot be criticized insofar as the compatibility of that form of sensible intuition (which is called space) with the faculty of concepts (the understanding) is not only inexplicable for us insofar as it is precisely thus and not otherwise, but also enlarges the mind, allowing it, as it were, to suspect something lying beyond those sensible representations, in which, although unknown to us, the ultimate ground of that accord could be found (CJ 5:365).

The reference to the “enlargement of the mind” seems to be the most important consequence of Kant’s use of the concept of the technique of nature. On the one hand, nature as a whole produces events and seems to be governed by laws of matter and laws of ends. On the other hand, the concept of purposiveness can be thought only by an intelligence and in accordance with human constitution, so that human beings only can realize rational ends in the world and they are “the ‘middle-ground’ on which nature’s and freedom’s paths intersect”.²⁵ About the constitution of our faculties, Kant points out that:

Thus how in accordance with this [the supersensible], 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 explained (CJ 5:413).

The passage above suggests that the representative way of elucidation might unify mechanism and teleological technicism (see CJ 5:413) by means of the concept of the technique of nature. Nevertheless, this question concerns to what extent and how we think of the purposiveness of nature as a principle for us. In other words, it concerns the question of the possible unification of *nexus effectivus* and *nexus finalis* by means of the supersensible is a question for Kant that involves analogical reasoning at the theoretical level.

However, Kant’s perspective provides a possible practical answer. The correspondence of the technique of nature with the ‘technique of reason’ is possible because of the use of the concept of final end and purposiveness of nature.

This aspect represents a strongest thesis of the *Critique of the Power of Judgment*: the dichotomy between the concept of nature and freedom is not referred to different worlds, but it is an ineradicably constitutive element of human faculties. The solution of the antinomy of the teleological power of Judgment, that is the compatibility of *nexus effectivus* and *nexus*

²⁵ Nuzzo (2005, 252).

finalis, through the subordination of the former to the latter, could be considered the substantiation of the coexistence of laws of nature and freedom in the same world. Furthermore, the historical dimension seems to be the stage of a contingent necessity, in which they can be unified.²⁶ On this topic, post-Kantian philosophers made critical observations, concerning the reasons why Kant talked of human faculties in terms of sensibility and understanding. Maimon²⁷ and Schulze,²⁸ for instance, asked this question after the publication of the *Critique of the Power of Judgment* and argued that the ground of the distinction between sensibility and understanding, the crucial assumption of Kant's system, was in need of further justification. Schelling and Hegel, by reading §§76-78 of the third *Critique*, have been inspired by topics related to the link between finitude and infinitude and to the realization of freedom in the empirical dimension.²⁹ The contribution of the third *Critique* to the development of the philosophical enquiry can certainly be extended further German Idealism. As I tried to show, the relevance of the concept of the technique of nature could open the path for an interpretation of Kant's *Critique of the Power of Judgment* as a study of different kinds of *Wirkungsart*. The latter not only involves a wide reflection on human agency and the historical dimension, but also on epistemological tools that can account for the complexity of the world and construct a systematic view of it.

REFERENCES

BRANDT, R. (1989). The Deductions in the Critique of Judgment: Comments on Hampshire and Horstmann, in: Förster, E. (ed.): **Kant's Transcendental Deductions. The Three 'Critiques' and the 'Opus postumum'**. Stanford, pp. 177-190.

BUTTS, E. (1992). Teleology and Scientific Method in Kant's Critique of Judgment, in: Chadwick, R., Cazeaux, C. (ed.): **Immanuel Kant Critical Assessments**. London, pp. 88-103.

²⁶ In the context of the *Critique of the Power of Judgment*, the absorption of culture within the domain of ethicoteology can be read as an attempt oriented towards this direction: "Beautiful arts and sciences, which by means of a universally communicable pleasure and an elegance and refinement make human beings, if not morally better, at least better mannered for society, very much reduce the tyranny of the sensible tendencies, and prepare humans for a sovereignty in which reason alone shall have power" (CJ 5:433).

²⁷ More details and texts available in di Giovanni, Harris (ed.) (2000, 181-184).

²⁸ For further details, see di Giovanni, Harris (ed.) (2000, 120 footnote).

²⁹ (ed.) Di Giovanni, Harris (ed.) (2000, 42).

CASSIRERr, E. (1940/1941). Kant und die Moderne Biologie. in: Orth, E. W. (ed.) (2003): **Ernst Cassirer Geist und Leben Schriften**. Leipzig.

DI GIOVANNI, G. and HARRIS, H. S. (ed.) (2000). **Between Kant and Hegel: Texts in the Development of Post-Kantian Idealism**. Indianapolis.

EDWARDS, J. (2000). **Substance, Force and the Possibility of Knowledge: On Kant's Philosophy of Material Nature**. Berkeley.

FÖRSTER, E. (2000). **Kant's Final Synthesis: An Essay on the 'Opus postumum'**. Cambridge.

FRIEDMAN, M. (1992). **Kant and the Exact Sciences**. Cambridge.

GUYER, P. (2005). **Kant's System of Nature and Freedom**. Oxford.

HORSTMANN, R. P. (1989). Why must there be a transcendental deduction in the Critique of Judgment. in: Förster, E. (ed.): **Kant's Transcendental Deduction. The Three 'Critiques' and the 'Opus postumum'**. Stanford, pp. 173-175.

JACOBS, B. and KAIN, P. (ed.) (2003). **Essays on Kant's Anthropology**. Cambridge.

KAYGILL, H. (2003). Kant's Apology of Sensibility. in: JACOBS, B. and KAIN, P. (ed.): **Essays on Kant's Anthropology**. Cambridge, pp. 164-193.

KANT, I. Guyer, P. (ed.) (2000). **Critique of the Power of Judgment**. New York.

_____. Guyer, P., Wood, W. A. (ed.) (1998). **Critique of Pure Reason**. New York.

_____. Gregor, M. (ed.) (1996). **The Metaphysics of Morals**. Glasgow.

NUZZO, A. (2005). **Kant and the Unity of Reason**. West Lafayette.

PRINGE, H. (2007). **Critique of the Quantum Power of Judgment**. Berlin.