This paper investigates the relationship between Kant's analytics of biology, and the metaphysical conceptions of contingency and necessity in §§76–7 of the CPJ. In general, the connection between purposiveness and contingency is attested within the very project of a critique of a power of judgment. Indeed, the many particular, empirical laws of nature seem contingent regarding the universal laws of nature\(^1\) (like Newton's laws of mechanics) that are explicated transcendentally by Kant in the first Critique, and that account for what happens in nature, conceived of as a set of objects under laws. 'Reflective judgment', as explored in the third Critique, deals with such empirical laws, and seeks to discover them when some phenomena are identified: the power of judgment therefore deals with the contingency proper to these laws. Since \textit{purposiveness} designates the principle proper to the power of judgment (\textit{CPJ} V 182–4), a deep connection between purposiveness and contingency will be the object of the transcendental investigation of the power of judgment in the \textit{CPJ}.

The present paper addresses more specifically the connection between contingency and purposiveness as a concept proper to life sciences, namely "natural purposes"\(^2\). My \textit{Leitfaden} here is the general relation Kant maintains between necessity, purposiveness, and contingency in arguing that purposiveness is the "lawfulness of the contingent as such" (First \textit{Introduction} XX 217.28). I argue that Kant's understanding of purposiveness as a specific kind of lawlike contingency makes sense of several features of biological judgments, and must in turn be conceived of in relationship with the finiteness as discursiveness of our understanding, because natural purposiveness provides the reflection of such finiteness in a specific concept. This finally provides groundings for the solution of

\(^{1}\) "We must think of there being in nature, with regard to its merely empirical laws, a possibility of infinitely manifold empirical laws, which as far as our insight goes are nevertheless contingent" (\textit{CPJ} V 183.23–6)

\(^{2}\) I translate \textit{Naturzweck} by 'natural purpose', even though the standard translation is 'natural end'—in order to keep the homogeneity with the term 'purposiveness'.
the antinomy of teleological judgment, and casts a light on Kant's last views of the metaphysical issues about contingency.

I first summarize the Kantian theory of organisms, in the context of the emerging life sciences, as it is articulated by the two criteria he provides for natural purposes. Then I show how this conception accounts for the biological understanding, by unraveling the connection between contingency and mechanism which is proper to biological explanations. Third, I turn to §77 and consider Kant's elucidation of this concept of purposiveness as grounded in the structure of our finite understanding. The last two sections draw consequences from this analysis, concerning respectively the status of the modalities and the metaphysical issue of contingency.

1. Organisms are Natural Purposes

This section lays out Kant's theory of organism against the background of his metaphysical question about purposiveness and contingency. In the second section of the *CPJ*, Kant puts forth the thesis that "things, as natural ends, are organized beings" (*CPJ* V 372.13); this thesis implies, as many commentators have taken it (Zumbach 1984, 4–8; Lenoir 1982, 10–30; McLaughlin 1990, 1–6), that he is dealing with the specificity of biological judgment and argues that it requires a new concept of purposiveness.

Kant's project stems here from the recognition that the life sciences, as they emerged in the late eighteenth century, require a specific kind of intelligibility compared to that which he elucidated in the first *Critique*. He argues that all forms of such intelligibility required an ascription of purposiveness to living beings and living nature³, and the critical project implies explicating this concept of purposiveness.

Although Kant's own research dealt with natural history, generation and heredity, with the theory of adaptive germs and dispositions triggered by environments,⁴ Kant's examples are also from comparative anatomy (*CPJ* V 376.26–36) and physiology (*CPJ* V 418.18–419.9), even if the most important set of citations comes from embryology, and includes mentions of Blumenbach. Embryology requires, through the theory of germs, the idea of type reached by embryological

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³ Adickes (1923, II 478) states that this general apperception was the novelty of the *CPJ*.
⁴ See the two essays on human races, *Races* (1775) and *Human Race* (1785), and in this volume Fisher, Goy, and Zuckert; see also Sloan (2002).
processes; comparative anatomy, as developed later by Cuvier, integrates functions and structures in a way that functions make us understand the range of structures realizing them; and the Kantian idea of varieties and species in the two essays on human races requires preadaptation (germs are preadapted to all environments, and a given environment should trigger the proper germ). Hence, under the forms of adaptation, function and conservation of form, purposiveness is always present for Kant in biological judgments (Huneman 2006). Interestingly, these explanatory practices involved, at those times, many new kinds of forces, such as the vis essentialis in Wolff's embryology, or the nisus formativus or Bildungstrieb in Blumenbach's, and the vital properties like irritability or sensibility according to Haller and the Montpellier vitalists such as Bordeu or Barthez. The CPJ can be understood as an attempt to comprehend all those forces, and in general the Naturlehre discourse which makes use of it, in a synthetic framework, allowing researchers to justify or dismiss all such forces.footnote

Paragraph §64 establishes a phenomenology of those entities which seem to require a teleological judgment: they display a specific relation between themselves and their components, at the three levels of parts, individual, and species (parts being respectively: organic parts; time-instances of the individual; and individuals as parts of the lineage). The tree "generates itself" (CPJ V 371.7) with regard to its species (i.e., reproduction); it "generates itself as an individual" (CPJ V 371.13); and it generates itself in such a way that "the preservation of the one is reciprocally dependent on the preservation of the other" (CPJ V 371.30–2).

Paragraph §65 therefore conceives of the concept of natural purpose as necessary to make sense of those phenomena:

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 (CPJ V 375.26–8).

If something is to be seen as a purpose, it means that its possibility is not conceivable except as by design, meaning that a concept should have made it possible (§61). It is because of a concept that this entity is what it is and how it is—that is the very meaning of purposiveness. Therefore, if something is to be thought as a purpose, it

footnote
5 On the difference between Naturlehre and Naturwissenschaft, see Sloan (2006), and Fisher (2007).
has to present a specific connection between its parts and itself as a whole (§64),
according to which the parts are what they are due to a concept of the whole. Kantian
purposiveness then means the interrelation between determination through a concept,
and specific part-whole relationship. In English, this is captured by the ambiguity of
the word 'designed', which means both being designed and having a design. Such a
relationship between parts and wholes was exactly realized by the phenomenon
presented by organisms in §64. Thereby, if something is to be understood as a
(natural) purpose, it has to be an organism. But the concept of a natural purpose is a
concept we need in order to make sense of a set of phenomena that are already
physical objects, i.e., objects of nature, so it does not constitute the object of
knowledge. But if we want to understand organisms, we have to think them in those
terms. The concept of a natural purpose provides a rule for biological judgment as
such but it is a "regulative principle".

Fundamentally, this view of purposiveness emphasizes the relationship
between wholes and parts as definitional for purposiveness, rather than the classical
view that purpose relates means and ends. Philosophically, this means that the very
meaning of purposiveness exceeds the idea of instrumentality and design, which was
the ordinary sense of purposiveness and according to which one can see organisms as
somehow engineered, traits of animals as organs having utilities—in the tradition of
Galenic physiology. This enables Kant to develop a notion of purposiveness
throughout the book that allows for "purposiveness without an end [Zweckmässigkeit
ohne Zweck]" (CPJ V 226.27), a notion which would have no place if purposiveness
were wholly determined by intention, instrumentality, and utility.

Teleology in this sense is opposed to the explanatory stance proper to the
understanding, which is mechanism. Indeed, mechanism explains wholes from parts,
as McLaughlin (1990, 152–4) has emphasized. Kantian teleology therefore works the
other way round: from wholes to parts. The way living beings grow had been
previously contrasted with the growth of brute matter, by Bourguet (1762, 71) in his
Lettres philosophiques: it is an intussusception opposed to growth by aggregation,
because here the added parts are made of the same stuff as the whole—a distinction
acknowledged by Kant in §64 (CPJ V 371.17–9). Clearly, the mechanical way of
thinking could not account for intussusception. Claiming that organisms are natural
purposes implies that the mechanism of nature is not enough to account for them and
their properties.
To be precise, natural purpose is a complex concept because it requires two criteria. The first one concerns the determination of parts by wholes, which I call the design criterion; the second is an epigeneticity criterion. The design criterion can indeed be satisfied by any purposive individual system, be it an organism or a machine. To be a natural purpose, a system should satisfy another requirement: it has to be such that the parts are causes and effects of themselves as well as the whole, according to the whole (or else they are designed by another entity, and we are in the domain of technology, instrumentality, etc.). It means that parts produce themselves according to the whole, something which is attested by histology and contemporary cell physiology.⁶

For a body, therefore, which is to be judged as a natural end in itself and in accordance with its internal possibility, it is required that its parts reciprocally produce [hervorbringen] each other, as far as both their form and their combination is concerned, and thus produce a whole out of their own causality, the concept of which, conversely, is in turn the cause (in a being that would possess the causality according to concepts appropriate for such a product) of it in accordance with a principle […]. 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, 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), which cannot be the case in any instrument of art, but only of nature, which provides all the matter for instruments (even those of art): only then and on that account can such a product, as an organized and self-organizing being, be called a natural end (CPJ V 373.26–374.8).

Considering the second criterion, one could say that even if machines are organized, organisms—organisierte Wesen—are self-organizing, in the sense that they intrinsically have this epigenetic character indicated by the criterion. This epigenetic character of organisms allows Kant to distinguish between formative and motive forces, the former applying to organisms and the latter to all physical bodies. Because the concept of natural purpose is a regulative one, those forces proper to organic

⁶ See Huneman (2007b) on the necessary relationship between epigenetic criterion, and regulative character of the principle of teleology.
entities are not on a par with motive forces, they are postulated to make sense of organisms. To this extent, those forces name a rather unknown kind of causation in nature, because we have no analogue for it (CPJ V 375.10–6). The analytics of biological judgment here rightly allows Kant to criticize the proliferation of weird forces in the Naturlehre, as it was the initial problem.

The epigeneticity criterion, however, can have several readings. If parts cause the form—i.e., the structure, internal organization and arrangement—of the other parts, for example having a muscle here will mean having the antagonistic muscle there, this is a sense of causation that amounts to mere counterfactual dependence. If 'causing' means producing, this is a rather different sense of causation. Actually, the metaphysician Ned Hall (2004) argues that those two general senses of causation are irreducible, so that the concept of causation is ultimately equivocal. This means that the second criterion—definitive of a natural purpose, and therefore essential in the teleological explanatory stance—may pertain to two different interpretations of causation. In this sense, physiology—where the issue is rather dependence between parts—will need the first reading of the criterion, whereas embryology will need the second one. Those two disciplines therefore instantiate the teleological standpoint in different ways and will therefore be related in different ways to the mechanistic stance. Yet in the weak, counterfactual reading of causation, the second criterion seems to conflate with the first: after all, being dependent upon other parts and the wholes as to its form and constitution reduces to being integrated into a general design. Thereby, it is only with embryology that the distinction between purposes and natural purposes really holds. This is not surprising, if we consider that purposiveness can be distinguished into several concepts, including function and embryological type: physiology uses the concept of function, and it is clearly not restricted to biological entities, because it is also a concept in engineering. So finally, the fact that the second criterion of natural purposiveness is—among biological disciplines—only required by

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7 "An organized being is thus not a mere machine, for that has only a motive power [bewegende Kraft], while the organized being possesses in itself a formative power [bildende Kraft], and indeed one that it communicates to the matter, which does not have it (it organizes the latter): thus it has a self-propagating [fortpflanzende] formative power, which cannot be explained through the capacity for movement alone [Bewegungsvermögen] (that is, mechanism)" (CPJ V 374. 21–5).

8 See Breitenbach (this volume), about analogical judgment in this case.
embryology amounts to the fact that, among the purposive notions, function indeed concerns both organisms and artifacts.

After having explicated Kant's view that organisms are natural purposes, I turn to the implications of his approach to teleology, and to the way it involves the notion of contingency.

2. Teleology and Mechanisms: the Lawfulness of Contingent as Such
What is purposive cannot be sufficiently explained through the mechanistic laws of nature—which means that there is an essential feature of the object, as it interests us, which cannot be accounted for by these laws. More precisely, one cannot explain why such a feature is present rather than not, through the mere knowledge of the laws. This makes for an involvement of necessity and contingency within the concept of purposiveness.

For example, regarding the laws of physics, and as a result of an ontogenetic process, a normal chick and a "monster" or a non-viable chick are on a par: the laws of physics (related to the initial conditions) account for their production, and from this viewpoint there is nothing special concerning the normal chick. Hence the very notion of normality, of embryological type, the idea that the embryological process should lead to producing a chick, does not make sense from the viewpoint of the laws of matter as such. In this sense, the normal vs. abnormal⁹, or the embryological types, are contingent regarding the universal laws of nature. More precisely, those categories indicate a certain intelligibility of such contingent entities, structures, and processes (regarding the laws of nature). That is exactly why Kant conceives of purposiveness as the "lawfulness of the contingent as such" (First Introduction XX 217.28). There is nothing lawlike, i.e., nothing necessary regarding the laws of physics, in a chicken (qua chicken)¹⁰ producing a baby chick; an abnormal development would be just as necessary. However, this contingent embryological process occurs according to certain regularities, which are exactly what embryology tries to capture. It is a new level of necessity, intrinsic to some contingent processes and entities.

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⁹ Ginsborg (2001) emphasized the role of normativity as proper to life sciences and ontology of living being, in Kant's texts.

¹⁰ Seeing the chicken's embryogenesis as a chicken development, hence aiming at producing a chick, requires assuming purposiveness.
Thus, it is clear that issues about biological purposiveness involve metaphysical issues about contingency and necessity. Therefore two questions arise. First, how are those necessities—necessity in general and the necessity of contingency as such—related? Which means both: how can a teleological principle of judgments be compatible with ordinary principles of science, which are non-purposive? And how can they be articulated in scientific practice (from §79 on, and then in the whole "Methodology")? This issue is addressed in the remainder of this section. Second, how can these ideas of explanation and necessity impact upon the general concepts of necessity and contingency, especially considered in the §§76–7? The last section will tackle this issue.

I do not consider extensively the question of compatibility, i.e., the "Antinomy of Teleological Judgment", which is treated by Quarfood in this volume. It is sufficient to note that its solution lies eventually in the idea that both maxims are regulative, but not on the same domain\textsuperscript{11}—and that they can be conceived of as being the same in the supersensible, since all of them concern only appearances.

\text{[T]he common principle of the mechanical derivation on the one side and the teleological on the other is the supersensible, on which we must base nature as phenomenon (CPJ V 412.33–6).}

This commonness implies that we can presume that

we may confidently research the laws of nature (as far as the possibility of their product is cognizable from one or the other principle of our understanding) in accordance with both of these principles, without being troubled by the apparent conflict between the two principles for judging this product (CPJ V 413.9–12).

To be conceivable, such a solution requires a deeper understanding of necessity and contingency, undertaken below.

Given that the two principles seem compatible, the "Methodology" (from §79 on) intends to justify their articulation. §§80 and 81 for example consider the cases of the archaeology of nature, and of the theories of generation,\textsuperscript{12} and show how they are complementary. But the complementarity Kant imagines is already sketched in §66

\textsuperscript{11} See the solution here proposed by Quarfood and his reconstruction of the interpretative debates.

when he explains that the mechanical explanations of an organic process such as hair growth being completed, something would still be missing for our understanding of such growth:

It might always be possible that in, e.g., an animal body, many parts could be conceived as consequences of merely mechanical laws (such as skin, hair, and bones). Yet the cause that provides the appropriate material, modifies it, forms it, and deposits it in its appropriate place must always be judged teleologically, so that everything in it must be considered as organized, and everything is also, in a certain relation to the thing itself, an organ in turn (CPJ V 377.17–23).

In contemporary terms, mechanism and teleology can be conceived of as two complementary explanatory stances. The first one uncovers processes at work in all of nature, and therefore it is not proper to biology. However, when facing a particular process taking place in an organism, it does not answer questions such as: why is this process here? Typically, knowing how hair grows does not tell us many things about its function (it tells us some things, because the process excludes some putative functions). Therefore, we need another explanatory stance, which asks why hair is here, and this stance gives rise to many functional explanations. This second explanatory stance clearly does not concern non organized entities. As Kant would have said, non living entities are explained by laws of nature in general, so there is no contingency which would lead us to ask: why is it the case that X rather than not?

Against doubts raised against Kant by Förster,13 these remarks support the view that indeed Kant's conception of purposiveness explicates it as the lawfulness of the contingent as such, accordingly to the formulation of the "First Introduction". Because both stances are explanatory, they uncover some lawfulness; and because the teleological one is different from mechanism, it concerns a lawfulness which is necessarily contingent regarding such mechanism. Understood as a distinction of explanatory stances that instantiate grades of lawfulness, Kant's view of biological judgment has indeed captured a hallmark of biological sciences, as is attested to by later reflections about the specificity of this field. Mayr (1961), aiming at capturing what makes biology different from physics, argued that there are two kinds of biologies, with completing explanatory stances for the same phenomena: the biology

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13 Förster (2008, 267) pointed out, that "the description by Kant of the problem as a lawlikeness of the contingent is hardly helpful and the real problem arose before" (my translation).
of proximate causes, unraveling the development and functioning of organisms; and the biology of ultimate causes, namely evolutionary disciplines, which investigates (by considering populations of organisms) why those proximate processes and developments exist. A complete explanation needs both stances, but partial questions (like the function of some behaviors, or the developmental pathways) can be answered through a specific stance. In the Darwinian framework (unknown to Kant) this exemplifies a bipartition, proper to life sciences, of complementary explanatory stances.\(^{14}\)

Finally, after having characterized how judging organisms involves the lawfulness of the contingent as such, the "Dialectic" and the "Methodology" sections of the \textit{CPJ} display the cohesiveness of natural necessity (correlated with scientific explanation), articulating various degrees and levels of contingency within it. Yet the question remains of what the concepts of necessity and contingency themselves mean, and how their meaning is affected when one acknowledges purposiveness—necessity within the contingent—as a notion necessary for biological judgments. The last two sections address this metaphysical issue.

\textbf{3. Why Purposiveness? Its Transcendental Genealogy}

The last question raised by the analytics of biology is: if the concept of purposiveness allows us to experience some beings that we contingently encounter, thereby revealing a concept which is not, however, a condition of experience (i.e., in the 'transcendental subject'), why is such a concept available to us since it is neither from observation, nor given in the transcendental frame of experience? The latter question is handled in §§76–7, just before the conclusion of the "Dialectic".

Kant's answer relies on the distinction between two kinds of understandings: the discursive understanding, which is ours and cannot derive the particular from the general,\(^{15}\) and the intuitive understanding, which could cognize the particular together

\(^{14}\) Another prominent example is Bernard's (1878, 359–62) theory of the "prescription of evolution", which directs all physiological processes of metabolism, and which is ultimately physico-chemical, but is not graspable through experimental physiology.

\(^{15}\) "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" (\textit{CPJ} V 406.13–6). Strawson (1995, 20) interprets
with the general. It is a contingent fact that our power of thought has the structure it has (since an intuitive understanding is conceivable):

What is at 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 (CPJ V 406.7–10).

This statement entails several consequences. First, our understanding needs the faculty of reflective judgment as an ability to find the rule for the case, because it cannot derive the particular from knowledge of the universal, in other words all cases from the rules. Where our understanding has to go from the general to the particular through more and more particularized concepts, each of them being schematized in an intuition as an exemplar—(vertebrate/Canis/dog), the intuitive understanding would produce the intuition together with the universal. For such understanding, there would be no gap between universal laws and particular empirical laws of nature, a gap which precisely defines the task of the power of judgment (CPJ V 180.1–6), and prescribes the territory of the CPJ.

Second, why is the discursivity of the understanding relevant for what one could call the transcendental genealogy of the concept of purposiveness and its link to mechanism? The reason is that discursivity means that we have to proceed from the rules governing the parts (which are general rules) to the most particular behavior of the whole, as an individual system. Discursivity indeed could mean that the understanding has to use some rules, or that the parts are given to it rather than the whole. Kant focuses on this second characterization, even though he thinks that at some point they go together. The discursivity of our understanding entails some contingency in that it "must progress from the parts, as universally conceived grounds, to the different possible forms, as consequences, that can be subsumed under it" (CPJ V 407.26–8),\(^\text{16}\) this progression not being governed by a universal law. It is the parts, indeed, that are subject to the general laws; our knowledge of laws concerns parts—think of Newtonian mechanics, which understands motion from the motion of concepts as general and intuitions as particulars. In this sense the discursiveness of our understanding means exactly the separation between concepts and intuitions.

\(^{16}\) On this point, see McLaughlin, in this volume.
material points—which allows a system to be understood by starting from the understanding of the lawlike behaviors of its parts\textsuperscript{17}.

In accordance with the constitution of our understanding, by contrast, a real whole of nature is to be regarded only as the effect of the concurrent moving forces of the parts (*CPJ V* 407.28–30).

Therefore mechanism constitutes the explanatory stance which is natural to our discursive understanding. The problem for a transcendental analysis is the possibility of the *other* stance, which is triggered by our experience of organisms, those entities that, in order to be conceived of as organisms, have to be purposively understood.

Since those entities cannot be understood by our discursive understanding—our understanding is one kind of understanding, but does not exhaust what understandings in general can be—we have to think of them *as grasped by another understanding than ours*, that is, by an understanding which goes from wholes to parts. But this grasp is, in its turn, *conceived of* by our understanding. Therefore, what appears eventually is an entity whose parts are somehow understood as being the object of a holistic perception through an intuitive understanding; yet this perception is at the same time a concept, given that the intuitive understanding is not subject to the separation between intuitions and concepts. Therefore, the parts in the end appear as being prescribed in a concept.

Thus if we would not represent the possibility of the whole as depending upon the parts, as is appropriate for our discursive understanding, but would rather, after the model of the intuitive (archetypical) understanding, represent the possibility of the parts (as far as both their constitution and their combination is concerned) as depending upon the whole, then, given the very same special characteristic of our understanding, this cannot come about by the whole being the ground of the possibility of the connection of the parts (which would be a contradiction in the discursive kind of cognition), but only by the representation of a whole containing the ground of the possibility of its form and of the connection of parts that belongs to that (*CPJ V* 407.30–408.2).

\textsuperscript{17} Up to a point, these considerations on the mechanistic stance concern what we could call now non-linear dynamics and the science of dynamical systems and their emergent properties. It is a fact that many uses of Kant's theory of biology in contemporary contexts concern those kinds of approaches to organisms, e.g., Kauffmann (1993, 18, 543).
In other words, the intuitive understanding can represent the derivation of the parts, ruled by laws, from the whole, but we can only think of this derivation as captured by an intuitive understanding which is not ours. This means that for us, such derivation goes from the representation of the whole to the forms and links of parts. We cannot think of deriving parts from the whole, except by positing the concept of the whole as the source of the whole. But this concept is our grasp on the knowledge the intuitive understanding would have (since it has itself no concepts). The concept of the whole, the representation, which makes this experience of organized wholes something purposive (because to be a purpose is to be derived from a concept (CPJ V 408.2–6)) comes from this sort of duplication of the understanding: it is a thought by the intuitive understanding conceived of by our discursive understanding. The whole as captured by an intuitive understanding is, in our discursive understanding, represented as the concept of the whole prescribing the parts and their connections. This means that, for us, the unconceivable causation of some products of nature is explicated by a causality going from the concept of the whole to the parts.

Interestingly, there are two characterizations of purposiveness which Kant uses throughout the book: first, a purpose is something whose possibility of the production is given in a concept (e.g., in §61) and second, a purpose is an entity displaying a specific relation between its parts and itself as a whole (e.g., in §65)—a duality that is characterized in the double meaning of 'design'. Here their duality becomes transcendentally grounded: it is the difference between intuitive and discursive understandings (as a difference between how parts and whole are related in their comprehension) and the reflection here described that makes it the case that a purpose involves the part-whole relationship and at the same time is a matter of having a concept at its root.

Intrinsic to the concept of purposiveness is reflection of the finiteness (i.e., the separation of intuitions and concepts) within the construction of the concept. In this sense, judgments of purposiveness are reflective because at the occasion of the encounter with some specific entities in the world they reflect the contingent structure of our power of knowledge, namely its finiteness. It is through purposiveness that our thought relates itself to the contingency of its finite structure to the point that a

18 “Strictly speaking, the organization of nature is therefore not analogous with any causality that we know” (CPJ V 375.5–7).
specific concept instantiates such relation. This relation explains finally why purposiveness is at the heart of reflexivity in our judgment.

Given that contingency pertains to the finite structure of thought, and that purposiveness is the lawfulness of contingency as such, what are the connections between contingency and necessity uncovered by this last transcendental analysis of purposiveness? This is the object of the last section of this paper.

4. Contingency, Purposiveness, and Critique
4.1 Possibility, Existence, and Their Non-Difference

Such a question requires us first to consider Kantian views on modalities. In our power of knowledge, concepts (possible, universal, terms underdetermining their objects) are separated from intuitions, which give us the existence of objects. Therefore, for a discursive understanding, the contingency of the particular regarding the general also entails the separation between the possible and the extant.

Possibility and existence are the two main modalities. In Kant's view, modalities concern the relationship of the knowing subject to its object; they do not characterize the constitution of the object, but the mode through which the subject relates to it. To this extent, all categories of modality in Kant are reinterpreted in terms of the structures of our power of knowledge: to be objectively possible is to be related to the possibility of experience; to exist means to be involved in an actual experience.

To this extent, it is not only that intuitions provide access to existing objects, but, reciprocally (and this is the transcendental thesis), the meaning of 'existence' or 'actuality' is given by the intuition; and correlativel, the meaning of 'possibility' is given by concepts as likely to have an objective validity (through the transcendental conditions of experience).

It is absolutely necessary for the human understanding to distinguish between the possibility and the actuality of things. The reason for this lies in the subject and the nature of its cognitive faculties. For if two entirely heterogeneous elements were not required for the exercise of these faculties, understanding for concepts and sensible intuition for objects corresponding to them, then there would be no such distinction.

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19 “The relationship (of an object) to perception is its existence; the relationship to mere thought, its possibility; the relationship to thought in as much it determines existence: necessity” (Notes and Fragments. XVII 500.3–6; my translation).
(between the possible and the actual). That is, if our understanding were intuitive, it
would have no objects except what is actual. Concepts (which pertain merely to the
possibility of an object) and sensible intuitions (which merely give us something,
without thereby allowing us to cognize it as an object) would both disappear. Now,
however, all of our distinction between the merely possible and the actual rests on the
fact that the former signifies only the position of the representation of a thing with
respect to our concept and, in general, our faculty for thinking, while the latter
signifies the positing of the thing in itself (apart from this concept) (CPJ V 401.31–
402.10).

But because our faculty of knowledge, by conceiving of the contingency of its
structure, conceives of another understanding having another structure, we conceive
of a power of knowledge for which possibility and existence are not different, namely,
for which possibility and existence have no meaning. In the CPR, conceiving of this
understanding was required because of the principle of complete determination, which
compels us to think of a ground for all determinations ("Transcendental Dialectic",
concerning the "ideal of reason"). But here, it is from the background of the
difference between possibility and existence that this instance arises: reason demands
that we "assume some sort of thing (the original ground) as existing absolutely
necessarily, in which possibility and actuality can no longer be distinguished at all"
(CPJ V 402.22–4).

In §76 Kant thereby acknowledges the fact that an instance of non-difference
between both possibility and existence emerges for our understanding, in exactly the
same logical move as the move through which purposiveness emerges from the
reflection of finiteness. But by definition such an instance is empty, because we
cannot either know it through a concept, or intuit it; it is "an unattainable problematic
concept for the human understanding" (CPJ V 402.32).

Likewise, as far as the case before us is concerned, it may be conceded that
"we would find no distinction between a natural mechanism and a technique of nature,
i.e., a connection to ends in it, if our understanding were not of the sort that must go
from the universal to the particular" (CPJ V 404.18–21). If there is no difference

20 Since if 'possible' means 'existent', it means something at least completely different than what
'possible' usually means, which entails that the possible is larger than the existent.
21 See comments in Allison (2003, 397–405).
between possibility and existence, there is no sense talking of contingency and lawfulness of contingency as such (i.e., purposiveness), etc.—then there is no difference between mechanism and teleology. Yet the solution of the "Dialectic" (in §78), as seen earlier, will be that the compatibility between mechanism and teleology rests on their possible equation in the supersensible substrate of reality. Here, we see that it is in the nature of our understanding to make conceivable a non-differentiation between mechanism and teleology. To this extent, the possibility of a solution of the "Dialectic" is demonstrated in the transcendental 'genealogy' of the meaning of 'purposiveness' (as an inquiry on the origins of the concept of purposiveness within the discursiveness of our understanding) within the structures of our faculty of knowledge, because such a genealogy establishes the conceivability of an instance of non-difference. That's why such a transcendental genealogy in its relation to concepts of possibility and existence was required for solving the "Antinomy".

4.2 The Circle of Contingency and the Nature of Criticism

The reflection of finiteness and the emergence of the meaning of 'purposiveness', as well as the correlative elucidation of the difference between possibility and existence, have major consequences for the very concept of contingency, which was metaphysically involved in the conception of purposiveness in terms of lawfulness of the contingent as such. I conclude this study by explicating such consequences.

First, what is contingency? It is the possibility of not being, or of being different. Like all modalities, according to transcendental philosophy (CPR, "Anticipations of possible experience"), this concerns the relationship of our knowledge to its objects rather than its objects themselves. In the CPR Kant distinguishes the pure and the empirical concepts of contingency. The pure concept of contingency is the possibility of being different; however, to apply it to phenomena, namely things in time, raises the difficulty of being different at two different moments. The possibility of the opposite of X in the same time t is something not testable, not provable by the occurrence of the opposite at later time t'. (What contingency concerns is the possibility of not-X at t, not at t', which is the only testable fact.) Therefore what contingency means for phenomena is that one state came after another state, and therefore could not have been possible by itself (and
therefore is not necessary). Empirical contingency is attested to by change in time (*CPR A 460/B 488*).

Metaphysics in the Leibnizian style asked questions about the contingency of what is (or, in other words, the contingency of laws of nature). In the first *Critique* modalities changed their status, so asking this question no longer makes sense: contingency or necessity are not properties of phenomenal being per se, but properties of the knowledge of those beings; empirical contingency, Kant shows, simply means that the being belongs to a temporal (hence causal) series—a requisite which makes no sense regarding the whole of being. The fourth antinomy of the *CPR* demonstrated thereby the lack of meaning of the metaphysical question about the contingency of what is.

In addition, there exists a radical contingency, to which the heart of the philosophical questioning turns in §77 of the *CPJ*, namely the contingency within our understanding between particular and universal, which in turn expresses the contingency of the structure of our thinking. Where the first *Critique* condemned interrogations about the contingency of everything, i.e., of all that is, the third *Critique* now recasts this question. Particular laws of nature, and, moreover, organisms, display a specific kind of contingency—and in order to be understood they require some necessity proper to them. Purposiveness is the concept which makes sense of those various kinds of contingencies, to the extent that they involve some lawfulness. The consequence is that Kant's analysis provides a transcendental elucidation for life sciences and natural history. But this concept of purposiveness in its turn is traced back to the contingency that affects our faculty of knowledge. As a general consequence, the metaphysical question of deciding on the contingency of all that is, is dismissed, and replaced by the transcendental question of making sense of the necessity of the contingent, as it is investigated by our best science. This last question then gives rise to the question of how the contingent structures of our thinking shape some meanings, through which we can make sense of the contingent as lawlike—first of all, the signification 'purposiveness'. Do philosophical questions of this kind now ultimately define *critique*?

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22 On this issue see Tonelli (1959).
5. Conclusion

In this paper I have considered the metaphysical aspects of the third Critique, which concludes a lengthy questioning about contingency and necessity, once they have been understood in a transcendental fashion. I related it to the CPJ, as an analytics of the emerging life sciences. My argument is that §§76–7 are located precisely at this juncture because they ask why we have the concept of purposiveness, namely a concept construed as likely to make sense of all phenomena in living world. With purposiveness being the necessity of the contingent as such, answering the question of its transcendental origin casts a light upon contingency and necessity in late critical philosophy.

Contingency as a question means precisely the transcendental issue of the possibility of our knowledge of whatever seems contingent, i.e., particular laws of nature and the determining features of organisms (normativity, functions, adaptation, types). Teleology appears as the explanatory stance that provides a scheme for the contingent as lawlike—a stance whose possibility is ultimately grounded in the reflection of the finiteness of our power of judgment (§77). The antinomy of teleological judgment made reference ultimately to the supersensible ground of appearances in order to be resolved, because here mechanism was no longer constitutive and could then be equated with teleology. The elucidation of the concept of purposiveness led in paragraphs §76 and 77 to the final justification of this appeal by showing that an instance of non-difference between mechanism and teleology intrinsically belongs to the structure of such concept.

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