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KANT ON TELEOLOGICAL THINKING AND ITS FAILURES

MANFRED BAUM*

I. NATURAL ENDS

The concept of purposiveness is fundamental for the understanding of human action. Rational action is always acting according to a (subjective) end; that is, according to concepts of the object of our will, which we intend to realize through our acting. Thus, our acting is a more or less purposive means for the realization of conceptually represented and anticipated consequences of actions, which Kant also calls the matter of the will. The intended object of willing and acting, i.e., the objective end, can be a product (like an artifact), a change of a given object, or a new state of the acting subject itself. In each case, the action is regarded by the agent as purposive in view of its intended consequence. In this common sense of purposiveness, not only rational actions are purposive for the intended end, but also things can be regarded as purposive in relation to other things if they are suited to generate or to preserve these things. But this property of things, which Kant calls "external" or "relative" purposiveness, obviously rests on the transposition of human rationality of action to the effects of nature or God. Since there is an obvious analogy with human action there seems to be no particular problem for theoretical philosophy or philosophy of nature implied in such a transposition.

The question whether there can be products of nature, which "even if considered in themselves and without a relation to other things"[1] can be regarded as ends of this nature or "natural ends," cannot be answered *a priori*.[2] For the concept of nature, and of the things generated within it, implies not even a hint to purposiveness in *any* sense as a property of such

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1. IMMANUEL KANT, CRITIQUE OF THE POWER OF JUDGMENT 5:375, at 247 (Paul Guyer ed., Paul Guyer & Eric Matthews trans., 2000) [hereinafter KANT, JUDGMENT]. I have used the 2000 Guyer and Matthews translation of the CRITIQUE OF THE POWER OF JUDGMENT with modifications when necessary and as indicated in subsequent footnotes. Page references, e.g., 5:375, are by volume and page number to the *Akademie* edition and reproduced in the margins of the 2000 Guyer and Matthews translation. The second page number, e.g., 247, refers to the corresponding page in the 2000 Guyer and Matthews translation.

2. *Id.*

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natural things. But according to Kant, we are confronted with the empirical and therefore contingent *factum brutum* that there exist in nature plants and animals, which he calls "organized beings."[3] They are, according to Kant, the only natural products the possibility of which can only be conceived as that of ends of this nature. This means that plants and animals "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 . . . ."[4] This amounts to the introduction of a particular kind of causality of nature "which one would otherwise be absolutely unjustified in introducing at all"[5] if these plants and animals did not exist. This is the concept of "teleology" according to which one has to judge the causality of nature in generating these products, although nature in bringing about its effects cannot be regarded as acting in accordance with concepts of ends. The concept of a "natural end" is, therefore, an at least paradoxical, if not a contradictory, concept.

If one proposes the thesis "that a thing is possible only as an end,"[6] one wants to say "that the causality of its origin must be sought not in the mechanism of nature, but in a cause whose productive capacity is determined by concepts . . . ."[7] In justifying such a claim, one relies on the alleged fact that the form of this thing cannot "be possible in accordance with mere natural laws . . . ."[8] Rather, even empirical cognition of the cause and effect of things having such forms "presupposes concepts of reason,"[9] as is the case with human action in accordance with concepts of ends. If the form of such a thing cannot be explained by empirical laws of nature, i.e., if this given form of a product of nature cannot be cognized as necessary under the natural conditions of its generation, this contingency of its form is, according to Kant, a ground for regarding the causality of its origin "as if it were possible only through reason; but this [reason] is then the capacity for acting in accordance with ends (a will); and the object which is represented as possible only on this basis is represented as possible only as an end,"[10] in other words, as the object of a rational will.

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3. *Id*.
4. *Id*. at 5:376, at 247 (second emphasis added).
5. *Id*.
6. *Id*. at 5:369, at 242.
7. *Id*. at 5:369–70, at 242 (footnote omitted).
8. *Id*. at 5:370, at 242.
9. *Id*.
10. *Id*.

Such an assumption, however, is at first sight implausible *vis-a-vis* an object "that one cognizes as a product of nature,"[11] for our incapacity to cognize the form of such a natural product as a necessary consequence of the conditions of its generation is, by itself, not yet a sufficient reason to judge it as "an end, hence a *natural end* . . . ."[12] In order to be justified in doing this, something more is required.

This "something more" is expressed in Kant's assertion: "a thing exists as a natural end *if it is cause and effect of itself* (although in a twofold sense) . . . ."[13] For such a determination of the idea of a natural end relates to a kind of causality which cannot be connected "with the mere concept of a nature . . . ."[14] Natural causality is a causality of causes that produce their succeeding effects without being able to be reciprocally produced by their effects. This is already ruled out by the direction of the sequence of times. If an effect should be able to produce its cause, it must be earlier (according to the temporal order) than its cause, instead of succeeding it. If a thing is to exist as cause and effect of itself, this reciprocity cannot obtain within the same kind of causality. This is indicated by Kant's mentioning a twofold sense of cause and effect. By this he means that the inner causality of natural ends must be distinguished as efficient and final causality in order to give the "somewhat improper and indeterminate expression"[15] of a thing "related to itself reciprocally as both cause and effect"[16] a plausible sense. In any case, the concept of such a thing would transcend the concept of *nature* and its kind of causality if it were impossible to "ascribe an end to it."[17]

Kant elucidates his *new* definition of a natural end (opposing it to a *machine*) by using the example of a tree, of which one can say in three respects that it generates itself and is as such cause and effect of itself:

(1) A tree generates itself as far as the *species* is concerned. For the other tree that is generated is of the same species as itself. Since trees of the same species are effects and causes of other trees, the species "tree" preserves itself by unceasingly producing trees, and thereby producing itself.[18]

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11. *Id*.
12. *Id*.
13. *Id*. at 5:370, at 243 (footnote omitted).
14. *Id*. at 5:371, at 243.
15. *Id*. at 5:372, at 244.
16. *Id*.
17. *Id*. at 5:371, at 243 (translation revised).
18. *See id*.

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(2) A tree also generates itself as an *individual*. For what we call its growth equals a self-generation. "[T]he matter that it adds to itself with a quality peculiar to its species . . . and develops itself further by means of material which, as far as its composition is concerned, is its own product."[19]

(3) The *parts* of the tree also generate themselves indirectly, since the preservation of the one reciprocally depends on the preservation of the others, and they are in this way cause and effect of each other. This is true, for example, of the relation of the leaves as the parts of a tree to it as a whole. They "are certainly products of the tree, yet they preserve it in turn, . . . and its growth depends upon their effect on the stem."[20] And there is also the "self-help of nature in the case of injury in these creatures, where the lack of a part that is necessary for the preservation of the neighboring parts can be made good by the others . . . ."[21]

In exploiting this example one can grasp what it means that a natural product "yet at the same time [is to be cognized] . . . as possible only as a natural *end*,"[22] if something's being a natural end means to "be related to itself reciprocally as both cause and effect . . . ."[23] Kant clarifies the peculiarity of such a teleological consideration of natural products in two steps:

(1) In order to be a natural *end*, "its parts (as far as their existence and their form are concerned) [must be] possible only through their relation to the whole."[24] This is a consequence of the thing's being regarded *as an end*, i.e., as something whose concept "must determine *a priori* everything that is to be contained in it."[25] If a thing is regarded in this way, namely, that it is conceived *as possible* only in this way, it is—however—merely regarded as a *work of art*. This means that it is considered as a "product of a *rational* cause distinct from the matter (the parts), the causality of which (in the production and combination of the parts) is determined through *its idea of a whole* that is thereby possible . . . ."[26] Thus, if one one-sidedly stresses the character of a natural end *as an end*, one gets as a result merely the product of a rational (i.e., divine or human) artist, e.g., a clock, and not a product of nature.

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19. *Id*.
20. *Id*. at 5:372, at 244.
21. *Id*.
22. *Id*. at 5:370, at 242 (translation revised).
23. *Id*. at 5:372, at 244.
24. *Id*. at 5:373, at 244–45.
25. *Id*. at 5:373, at 245.
26. *Id*. (emphasis added).

(2) If one stresses the other side, that the natural end is to be a product *of nature* that nevertheless "contain[s] in itself . . . a relation to ends"[27] but is *without* "the causality of the concepts of rational beings *outside of* it,"[28] then it is required "that its parts" are not combined by an artist according to the idea of a whole. Instead, the parts must "be combined into [the unity of] a whole by being reciprocally the cause and effect of their form. For in this way alone it is possible in turn for *the idea of the whole* conversely (reciprocally) to determine the form and combination of all the parts . . . ."[29] The *idea of the whole*, understood in this way, is then not to be regarded as the concept of an artist who is through it the cause of his product, "but [merely] as a ground for the cognition [*ratio cognoscendi*] of the systematic unity of the form and the combination of . . . the manifold [of the parts] *for someone who judges it*."[30]

In these determinations of a natural end, one can recognize Kant as a *critic* of the power of judgement: as a natural end only that natural product can be regarded which *must be judged as* a natural end without giving this judgement the validity of acognition of the thing itself. Only a dogmatic thinker can *misunderstand* what must be judged as a natural end *as* a natural end which by itself, independently of this kind of judging, exists in nature. This corresponds exactly to the subjectivity of the judgement of taste. An object of perception is not judged as beautiful because it is beautiful in itself, rather only *that* object is beautiful, the judging of which is based upon a reciprocal promotion of the imagination and the understanding of the subject reflecting on the intuited form of the object, such that the resulting feeling of pleasure must be regarded as valid for all its aesthetic judges.

Thus, in a natural end effective causes and final causes are united in a way that is only subjectively valid. If a body is to be judged as a natural end it is conceived as something whose "parts reciprocally produce each other, as far as both their form and their combination is concerned, and thus produce a whole out of their own causality . . . ."[31] So far the parts are conceived as *causae efficientes*, without respect to a rational *artifex*, whose concepts would have causality. But in addition to the fact that the natural end must be so conceived, the "concept" of this whole "conversely, [could be] in turn the cause of it in accordance with a principle (in a being that

27. *Id*.
28. *Id.* (emphasis added).
29. *Id*. (emphasis added).
30. *Id*. (footnote omitted) (emphasis added).
31. *Id*.

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would possess the causality according to concepts appropriate for such a product),"[32] i.e., could contain its *causa finalis* of its production, as it would be in the case of a divine *artifex* or a craftsman. In sum, a natural end is conceived as such a natural product in which "the connection of *efficient causes* could at the same time be judged as an *effect through final causes*,"[33] if there were reasons to assume such a superhuman *artifex* after the model of the Platonic *demiurge*.

This thought-experiment results in that determination of natural ends that remains when we avoid the fictions of a human or superhuman artist and, at the same time, avoid its ambiguous determination of a peculiar *causa sui*, i.e., of a being that relates to itself reciprocally as cause and effect. A natural end, then, is a natural product in which

> each part, just as it exists only *through* all the others, is also conceived as existing *for the sake of the others* and 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 as the parts of a clock); rather the part must be thought of as an organ that *produces* the other parts (consequently each produces the other 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*.[34]

This is Kant's final determination of the "natural end" as a concept of the teleologically reflecting power of judgement, through which natural products must be thought of in relation to our human, discursive understanding. This is done without granting that an objective reality could be attributed to this concept, independent of its relation to our understanding.

II. THE TRANSCENDENTAL PRINCIPLE OF PURPOSIVENESS

In his *Critique of the Power of Judgment*, Kant has introduced the concept of purposiveness not as a concept that is indispensable for reflection upon particular products of nature, but as a transcendental principle of the reflecting power of judgment regarded as an *a priori*

32. *Id*. (translation revised).
33. *Id*. (footnote omitted).
34. *Id*. at 5:373–74, at 245 (translation revised).

legislative faculty.[35] Its legislation is, however, only an act of *heautonomy*, i.e., of its legislation for its own use in the ascent from the particular in nature to the universal, within the realm of empirical concepts and of particular empirical laws. The transcendental principle of the purposiveness of nature, in its particular laws for the reflecting power of judgment, asserts that these empirical laws are not—as is the case with the transcendental or strictly universal laws of nature—given *a priori* through the pure understanding, but nevertheless must have a systematic unity. Since our understanding, through its categories and principles, first makes possible a nature in general as a system of appearances in accordance with transcendental laws, one can express the legislating of the reflecting power of judgment in a popular manner like this: through it the principle is established that nature must in its particular and empirical laws, which are left undetermined by those strictly universal laws, be so regarded as "if an understanding (even if not ours) had likewise given them for the sake of our faculty of cognition, in order to make possible a system of experience . . . ."[36]

This subjective purposiveness of nature for our faculties of cognition in their empirical use is what the reflective power of judgment assumes in its own favor. One can ask, then, in which sense this principle can be called a transcendental one and whether something like a transcendental deduction can be provided for it, through which this assumption can be justified. Under a transcendental principle, Kant, here, understands a principle "through which the universal *a priori* condition under which alone things can become object of our cognition at all is represented."[37] Thus it is an ontological principle, but one that does not deal with possible things in general; instead it addresses the conditions of possible cognition of things through our human faculties of cognition. The principle of the purposiveness of nature for our faculties of cognition deals with "objects of possible empirical cognition in general"[38] and represents, as such, the universal condition *a priori*, but not of the possibility of our cognition of objects in general, rather, only of objects of our human experience. The totality of these objects is nature, "but not merely as nature in general, but rather as nature as determined by a manifold of particular laws."[39] Accordingly, such a transcendental principle requires a transcendental

35. *See id*. at 5:179, at 66.
36. *Id*. at 5:180, at 67.
37. *Id*. at 5:181, at 68.
38. *Id*. at 5:*182*, at 69.
39. *Id*.

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deduction, but this cannot be established in the manner of the deduction of the categories and of the principles of their use. This is because the concept of the purposiveness of nature for our reflecting power of judgment is not a category, not a concept of the pure understanding of an object of intuition in general, which corresponds to the necessary forms of thinking. Instead of a proof of the objective validity of the concept of purposiveness, Kant only adduces the argument that the unity of nature, conceived according to this purposiveness, i.e., as a "unity of nature in accordance with empirical laws . . . must . . . necessarily be presupposed and assumed, for otherwise no thoroughgoing interconnection of empirical cognitions into a whole of experience would take place . . . ."[40] This is why "the power of judgment must . . . assume it as an *a priori* principle for its own use that what is *contingent* for human insight in the particular (empirical) laws of nature nevertheless contains *a lawful* unity, . . . in the combination of its manifold into one experience . . . ."[41] It is already obvious that the concept of the purposiveness of nature for the reflecting power of judgment can have no objective validity and that nevertheless this principle is indispensable for this power of judgment.

Although Kant in his introductions to the third *Critique* never gives an example for such a systematic unity of empirical laws of nature, we know from his other works and his *Nachlass* that Galileo's law of falling bodies, Kepler's laws of the movements of the planets around the sun, and Newton's law of universal gravitation are for Kant the model of such a systematic unity of natural laws. Newton's mutual attraction of masses, and his formula for the law of this attraction, is itself a particular empirical law from which, through mathematical transformation, the particular laws of Galileo and Kepler can be derived. In turn, one can say of these particular laws that they deal with a lawlikeness of the motions of bodies indicating in an as yet undetermined manner an unknown common cause of motion that, however, cannot be *a priori* determined out of the accelerated motions themselves. Galileo's and Kepler's laws are thus purposive for Newton's dynamical world-system of moving forces, and they also have historically prepared Newton's discovery. But only after this discovery can one say that these three laws together constitute a purposive unity, i.e., a lawlikeness of the logically contingent particular under a universal law, which is confirmed by the two particular laws but which itself is also merely contingent. Kant's transcendental principle of

40. *Id*. at 5:183, at 70.
41. *Id*. at 5:183–84, at 70 (second and third emphases added).

purposiveness is, it is true, valid for nature in the manifold of nature's empirical laws. However, Kant's critical philosophy is neither of philosophy of science, be it biology or mathematical physics, nor of the progress of scientific cognition in the sense of Neo-Kantianism or Thomas S. Kuhn. Thus we are, as critical philosophers, admittedly "delighted (strictly speaking, relieved of a need) when we encounter such a systematic unity among merely empirical laws, . . . even though we necessarily had to assume that there is such a unity . . . ."[42]

The only possible "deduction" of the concept of a purposiveness of nature for our power of judgment as a transcendental principle of object cognition consists, as we have seen above, only in the indication that "unity of experience (as a system in accordance with empirical laws),"[43] which is in itself contingent, "must still necessarily be presupposed and assumed, for otherwise no thoroughgoing interconnection of empirical cognitions into a whole of experience would take place . . . ."[44] Our transcendental principle is thus only a maxim of the the power of judgment for its own empirical use, a subjective principle originating from its "heautonomy."[45]

From this transcendental principle, Kant proceeds first to the "combination of the feeling of pleasure with the concept of the purposiveness of nature"[46] and then to "the aesthetic representation of the purposiveness of nature."[47] Both of them underscore the subjectivity of this principle by exposing the sensible intuition of the human being and its faculty of feeling as that for which nature is to be purposive. The second connection established by Kant between his transcendental principle and its use in judging objects of nature is the one to "the logical representation of the purposiveness of nature."[48] One can represent purposiveness in an object of experience out of an objective ground if one is attentive to the "correspondence of its form with the possibility of the thing itself, in accordance with a concept of it which precedes and contains the ground of this form."[49] This kind of purposiveness relates the form of the object "to a determinate cognition of the object under a given concept . . . ."[50]

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42. *Id*. at 5:184, at 71.
43. *Id*. at 5:183, at 70.
44. *Id*.
45. *Id*. at 5:185–86, at 72.
46. *Id*. at 5:186, at 73.
47. *Id*. at 5:188, at 75.
48. *Id*. at 5:192, at 78.
49. *Id*.
50. *Id*.

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In the use of the given concept for the cognition of an object "the business of the power of judgment in using it for cognition consists in *presentation* (*exhibitio*), i.e., in placing a corresponding intuition beside the concept . . . ."[51] This is the business of the *determinating* power of judgment. It consists *either* in the construction or the schematization of the concept of the understanding in its theoretical use, which both are performed by the imagination, *or* in the technically-practical use of the concept in which the imagination proceeds "as in art, when we realize an antecedently conceived concept of an object . . . ."[52] In the case of the *reflecting* power of judgment, the presentation (*Darstellung*) of the concept is performed "through nature, in its technique (as in the case of organized bodies) . . . ."[53] But this only happens, "when we ascribe to [*unterlegen*] it[, i.e., nature,] our concept of an end for judging its product,"[54] that is, when we judge nature in such a way as if it would generate its products according to concepts. In this case we represent "not merely a *purposiveness* of nature in the form of the thing, but this product of it is represented as a *natural end*."[55]

Here, again, Kant connects the transcendental principle of the "subjective purposiveness of nature in its forms, in accordance with empirical laws"[56] with the purposive constitution of objects *within* nature. Since we already attribute to nature, according to the transcendental principle, "as it were a regard to our faculty of cognition, in accordance with the analogy of an end . . . we can regard . . . *natural ends* as the *presentation* [*Darstellung*] of the concept of a real (objective) purposiveness . . . ."[57] And since this kind of purposiveness is judged by understanding and reason "in accordance with concepts," Kant calls it "the logical representation of the purposiveness of nature."[58]

Now Kant is completely aware of the fact that to this kind of judging natural ends, in contrast to the aesthetic judgment of natural forms,

> no *a priori* ground at all can be given why there must be objective ends of nature, i.e., things that are possible only as natural ends, indeed not even the possibility of such things is obvious from the

51. *Id*. at 5:192–93, at 78.
52. *Id*. at 5:193, at 78.
53. *Id*.
54. *Id*. (footnote omitted).
55. *Id*.
56. *Id*.
57. *Id*. at 5:193, at 79,
58. *Id*. at 5:192, at 78.

> concept of nature as an object of experience in general as well as in particular . . . .[59]

Natural ends are enigmatic *facta bruta*, the possibility of which we can only cognize out of their actuality. Thus Kant *does not* derive the judging of natural products as natural ends from his transcendental principle. He only adduces a kind of motive for this use of the reflecting power of judgment:

> [T]he power of judgment, without containing a principle for this in itself *a priori*, in order to make use of the concept of ends in behalf of reason, merely contains in some cases that come before it (certain products) the rule *after* that transcendental principle has already prepared the understanding to apply the concept of an end (at least as far as form is concerned) to nature.[60]

Thus the "logical," i.e., the teleological judging of natural things as natural ends is only an analogy to the principle of the formal and subjective purposiveness of nature for our faculties of cognition and not justified by it. Just as little justification is provided by the aesthetic judgment of natural things as beautiful objects.

Although we thus must judge organized bodies as self-organizing systems "in accordance with the *idea* of an end of nature[,] . . . [one] cannot adduce any fundamental principle from the concept of nature, as object of experience, that would warrant ascribing to it *a priori* a relation to ends . . . ."[61] Nevertheless, experience proves that such natural products exist whose objective purposiveness we cognize "empirically" through "many particular experiences" and the "unity of their principle."[62] This is all that Kant says in justification of teleological judging. The inclination of human beings to judge nature according to concepts of ends has thus no theoretically cogent reasons and is presumably based on an interest of practical reason.

III. KANT AS A CRITIC OF TELEOLOGICAL THINKING

Kant has frequently pointed to the unavoidability of teleological thinking, particularly in the empirical cognition of so-called natural ends. In 1755, in his *Universal History of Nature and Theory of the Heaven*, and

59. *Id*. at 5:193, at 79.
60. *Id*. at 5:193–94, at 79.
61. *Id*. at 5:194, at 80 (emphasis added).
62. *Id*.

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in 1790, in his *Critique of the Power of Judgment*, Kant seems to assert the same thing, namely, that the generation of our planetary system can be explained in accordance with mechanical laws, but "the generation of the single plant or a caterpillar from mechanical grounds [cannot] be distinctly and completely known by us."[63] On a closer look, one can recognize the differences between the two denials of our ability to such cognition. In 1755, Kant says, "sooner . . . the origin of the entire present constitution of the world can be cognized, than the generation of a single plant . . . or a caterpillar can be . . . cognized by us."[64] After he has himself given the explanation of the heavenly structure, which was comparatively easy, it is a difficult future task to give a corresponding explanation for plants and animals. Thirty-five years later he writes:

> [I]t 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.[65]

This assertion of Kant is, in 1790, based on his theory of the possibility of pure and empirical cognition of objects through our understanding, which was not at Kant's disposal in 1755. However, the impossible for humans is not in itself or objectively impossible. In nature itself, "if we could penetrate to the principle of [this] nature in the specification of its universal laws known to us,"[66] there could well "lie hidden [a] ground sufficient for the possibility of organized beings without the assumption of an intention underlying their generation"[67] (i.e., in the mere mechanism of nature). Thus we cannot say, that because we can cognize these things, i.e., organized beings, "only under the idea of ends[,] we would also be justified in presupposing that this is a necessary condition for every thinking and cognizing being, thus that it is a condition that depends on the object and not just on our own subject."[68] Therefore, the proposition "there is a God"[69] (i.e., the conclusion of the argument from design) is "a proposition resting only on subjective conditions, namely those of a

63. IMMANUEL KANT, UNIVERSAL NATURAL HISTORY AND THEORY OF THE HEAVENS 29 (W. Hastie trans., 1969) (1755) (translation revised).
64. *Id*. (translation revised).
65. KANT, JUDGMENT, *supra* note 1, at 5:400, at 271 (citation omitted).
66. *Id*.
67. *Id*.
68. *Id*. at 5:399, at 270.
69. *Id*. at 5:400, at 270.

reflecting power of judgment appropriate to our cognitive faculties,"[70] which is, misleadingly, expressed "as objectively and dogmatically valid . . . ."[71]

Kant's position with regard to the, for humans, unavoidable teleological way of thinking is that the assumption of the objective reality of natural ends, i.e., of organized natural products whose causality we can only cognize in accordance with "the idea of ends," rests merely on the specifically human conditions of cognition. This is why "we cannot make any objective judgment at all, whether affirmative or negative, about the proposition that there is an intentionally acting being as a world-cause . . . at the basis of what we rightly call natural ends . . . ."[72] But what we can cognize is that we, and why we, in accordance with "our own nature . . . absolutely cannot base the possibility of those natural ends on anything except an intelligent being . . . ."[73]

But what is our own nature in respect of our specifically human faculty of cognition? Kant answers this question in sections seventy-six and seventy-seven of his third *Critique*. Here we learn to understand why we cannot escape teleological thinking, and why this subjective unavoidability cannot ground any objective cognition of nature and of ourselves. However, these sections do not deal with an empirical (i.e., anthropological) cognition of the human faculties of cognition, rather they deal with the *a priori* principles of cognition "of a finite rational being in general,"[74] from which it follows that "we cannot and must not conceive [*denken*] otherwise."[75] As his third example for a subjective necessity of human thinking, Kant adduces the "distinction" we find "between a natural mechanism and a technique of nature, i.e., a connection to ends in it . . . ."[76] This depends, he argues, on the peculiarity of our discursive understanding that it "must go from the universal to the particular . . . ."[77] Since every cognition consists either in bringing objects under concepts already available to us (as well as in determining the objects through these concepts), or in bringing objects of which we already have a concept under another concept (which we attribute to these objects as a common predicate), our determining power of judgment presupposes that the

70. *Id*. at 5:399, at 270.
71. *Id*. at 5:399–400, at 270.
72. *Id*. at 5:400, at 271.
73. *Id*.
74. *Id*. at 5:401, at 272.
75. *Id*.
76. *Id.* at 5:404, at 274.
77. *Id*.

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objects, which are to be determined, are all suited, i.e., purposive for this predication, although they differ in many respects from what is thought in their common predicate. Thus, all determining judgments presuppose a logical purposiveness of the particular for the universal under which the particular is to be subsumed. This purposiveness can itself not obtain if there is no universal law for the particular, i.e., a special rule in accordance with which the particular that is to be subsumed is not contingently but necessarily so constituted that it can be subsumed as a (particular) case under a higher (universal) law (as a *casus datae legis*). However, every particular contains something contingent in "regard to the universal,"[78] which is not already contained in the universal. This is also true of particular laws of nature, which are to stand, together with others, under higher natural laws (and, of course, under the transcendental laws of nature in general). Thus, they must have some kind of unity insofar as they are all cases of a common higher natural law. This "lawlikeness of the contingent" of the particular natural laws is their purposiveness as particular cases for being determined through a general law. Therefore, the deducibility (e.g., by mathematical transformation of equations) of the particular laws from more universal laws of nature is not logically warranted, i.e., cannot be established analytically from the concept of the object with which the general law is dealing, but rests exclusively on the logically contingent and yet lawlike agreement of the particular laws with their determining more universal laws of nature. Thus we have, at last, discovered the reason why "the concept of the purposiveness of nature in its products is a concept that is necessary for the human power of judgment in regard to nature . . . ."[79] This transcendental principle of the reflecting power of judgment thus follows from the discursiveness of the human understanding, which means that it "must go from the universal to the particular . . . ."[80] This is true of concepts in relation to their objects and for (more) universal laws in relation to the particular laws under them. But this purposiveness of nature in its products and in their particular laws provides no objective determination of these objects themselves. It is only "a subjective principle of reason for the power of judgment . . . ."[81] This principle is, in fact, merely a maxim, but it "is just as necessarily valid for our *human power of judgment* as if it were an objective principle."[82]

78. *Id.*
79. *Id.*
80. *Id.*
81. *Id.*
82. *Id.*

After we have seen where the assumption of a subjective purposiveness of nature for our power of judgment comes from, Kant explains the possibility of the concept of a natural end likewise out of "a special character of *our* (human) understanding . . . ."[83] When we say about a natural product that it is a natural end, we think it through an "idea." But the product itself is given in nature and this nature is then represented as if it had the causality of a being, which acts according to ends. The natural end is an object given in experience upon which one can reflect "according to that idea."[84] Now the idea of a natural end presupposes "the idea of a possible understanding other than the human one," "grounding" the natural end.[85] Thus one can say: "certain products of nature, as far as their possibility is concerned, *must*, given the particular constitution of our understanding, *be considered by us* as intentional and generated as ends, yet without thereby demanding that there actually is a particular cause"[86] that acts according to ends and is, therefore, an understanding. Why is there no necessity to make such an inference? It is because "another (higher) understanding than the human one might be able to find the ground of the possibility of such products of nature even in the mechanism of nature . . . ."[87]

Thus, we must assume that our understanding is of a peculiar constitution, which is based on the fact that the particular, to be brought under universal concepts of the understanding, has a contingency for our understanding. "[F]or 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 [*Merkmal*] can be presented to our perception."[88] The discursiveness of our understanding as a faculty of concepts as common marks of the particulars given to it by nature is thus the cause for the logical contingency of the particular. But if we conceive of an understanding completely independent of sensibility and itself, by its own spontaneity, capable of intuition, then such an intuitive understanding would not have to "go from the universal to the particular and thus to the individual (through concepts) . . . ."[89] For such an understanding "that contingency of the agreement of nature in its products in accordance with *particular* laws

83. *Id*. at 5:405, at 275.
84. *Id*. (translation revised).
85. *Id*. at 5:405–06, at 275.
86. *Id*.
87. *Id*. at 5:406, at 275.
88. *Id*.
89. *Id*. at 5:406, at 276.

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for [our] understanding, which makes it so difficult for ours to bring the manifold of these [particular laws] to the unity of cognition, is not encountered . . . ."[90] This difficulty, and the contingency of the particular, is due to the fact that for our understanding, "the particular is not determined by the universal, and the latter therefore cannot be derived from the former alone . . . ."[91] From this contingency, it follows that the agreement of the natural things with our power of judgment can only be represented by us as due to a kind of purposiveness of nature. The origin of this supposed purposiveness from our peculiar understanding becomes obvious when we conceive of another understanding in relation to which "we can represent that agreement of natural laws with our power of judgment, which for our understanding is conceivable only through ends as the means of connection, as *necessary*."[92]

It is thus a property of our understanding "that in its cognition . . . it must go from the *analytical universal* (of concepts) to the particular (of the given empirical intuition) . . . ."[93] If we want to cognize, for example, the cause of a natural product, we determine the pure concept of cause, given to us by our understanding, through an empirical intuition, which comes from our senses. The understanding thus determines nothing "with regard to the manifold of the empirical intuition"[94] through its concept. It "must expect this determination for the power of judgment from the subsumption of the empirical intuition . . . under the concept."[95] But if we conceive of an understanding, which "is not discursive like ours but is intuitive,"[96] it will go "from the *synthetically universal* (of the intuition of a whole as such) to the particular, i.e., from the whole to the parts . . . ."[97] An intuitive understanding would thus cognize the product of nature as that particular, which becomes possible through the limitation of an underlying whole, just as particular spaces are cognized as possible through the limitation of the all-encompassing one whole of space. In the representation, i.e., in the idea of the intuitive understanding of a whole, "there is [thus] no contingency in the combination of the parts, in order to make possible a determinate form of the whole . . . ."[98] But if, as is true for

90. *Id.* (footnote omitted).
91. *Id*. at 5:406–07, at 276.
92. *Id*. at 5:407, at 276.
93. *Id*.
94. *Id*. (translation revised).
95. *Id*.
96. *Id*.
97. *Id*.
98. *Id*. (emphasis omitted).

our discursive understanding, the whole is composed from given parts, the resulting form of this whole is possible in very many ways. Our discursive understanding is "dependent on" the contingency of its composition of parts, because it "must progress from the parts, as universally conceived grounds[of possible wholes,] to the different possible forms [of wholes], as consequences, that can be subsumed under [them]."[99]

Kant then confronts the whole, consisting of parts with the two kinds of understanding. When we represent a whole through our discursive understanding, we represent the "possibility of the whole as depending upon the parts . . . ."[100] But if we represent the way in which the intuitive understanding conceives of a whole, we represent "the possibility of the parts (as far as both their constitution and their combination is concerned) as depending upon the whole . . . ."[101] However, since this "would be a contradiction in the discursive kind of cognition,"[102] for which wholes depend on parts, such a dependence of the parts upon the whole according to the "peculiarity of our understanding"[103] can only be represented in such a way that not the whole itself, but "the *representation* of a whole [contains] the ground of the possibility of [the] form [of this whole] and of the connection of parts that belong to that [whole]."[104] With this last step of his argumentation, Kant has, indeed, given an explanation of teleological thinking in its subjective necessity from our discursive understanding:

> But now since the whole would in that case be an effect (*product*) the *representation* of which would be regarded as the *cause* of its possibility, but the product of a cause whose determining ground is merely the representation of its effect is called an end, it follows that it is merely a 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 . . . .[105]

The teleological thinking applied to natural things is thus a subjectivly necessary consequence of the discursiveness of our cognition. After we

99. *Id*. at 5:407, at 276–77.
100. *Id*. at 5:407, at 277.
101. *Id*.
102. *Id*. *at* 5:407–08, at 277.
103. *Id*. at 5:408, at 277 (translation revised).
104. *Id*.
105. *Id*.

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have found this explanation by a kind of cognizing ourselves, we cannot assert that the "mechanical kind of generation"[106] of organized bodies is objectively impossible. From such a mechanical explanation "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 depend, which is just how we must represent an organized body."[107] However, since this kind of representing is only necessary for our discursive understanding it does not follow that the mechanical generation of such a body "is impossible . . . *for every understanding* . . . ."[108] And since it is at least possible to consider the material world as mere appearance, we can conceive of "a supersensible real ground [of] nature, although it is unknowable for us"[109] through which nature as an object of the senses is determined in accordance with mechanical laws and at the same time as an object of reason that is determined "in accordance with teleological laws . . . ."[110] This kind of reconciliation can be conceived without contradiction, but it also implies that nature as object of experience cannot be cognized as being determined "in accordance with teleological laws"[111] as objectively valid principles.

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106. *Id*. at 5:408, at 278.
107. *Id*.
108. *Id*.
109. *Id*. at 5:409, at 278.
110. *Id*.
111. *Id*.