

Methodology of the Teleological Power of Judgment (1790)

Immanuel Kant

§80. On the necessary subordination of the principle of mechanism to the teleological principle in the explanation of a thing as a natural end.

The **authorization to seek** for a merely mechanical explanation of all natural products is in itself entirely unrestricted; but the **capacity**¹ to get by with that alone is, given the constitution of our understanding insofar as it is concerned with things as natural ends, not only quite restricted, but also distinctly bounded, since by a principle of judgment that follows the first procedure alone nothing at all can be accomplished toward the explanation of such products, and hence our judging² of them must always be subordinated to a teleological principle as well.

It is thus rational, indeed meritorious, to pursue the mechanism of nature, for the sake of an explanation of the products of nature, as far as can plausibly be done, and indeed not to give up this effort because it is impossible **in itself** to find the purposiveness of nature by this route, but only because it is impossible **for us** as humans – since for that an intuition other than sensible intuition and a determinate cognition of the intelligible substratum of nature, which could furnish the ground for the mechanism of the appearances in accordance with [287] particular laws, would be necessary, and this is entirely beyond our capacity.³

If, therefore, the investigator of nature is not to work entirely in vain, he must, in the judging⁴ of things whose concept as natural ends is indubitably established (organized beings), always base them on some original organization, which uses that mechanism itself in order to produce other organized forms or to develop its own into new configurations (which, however, always result from that end and in conformity with it).

It is commendable to go through the great creation of organized natures by means of a comparative anatomy in order to see whether there is not to be found therein something similar to a system, one, indeed, regarding the principle of their generation, without which we would have to settle for the mere principle of judging⁵ (which provides no insight into their production), and would have to give up all claim to **insight into nature** in this field. The agreement of so many genera of animals in a certain common schema, which seems to lie at the basis not only of their skeletal structure but also of the arrangement of their other parts, and by which a remarkable

¹ *Vermögen*

² *Beurtheilung*

³ *Vermögen*

⁴ *Beurtheilung*

⁵ *Beurtheilungsprincip*

simplicity of basic design⁶ has been able to produce such a great variety of species by the shortening of one part and the elongation of another, by the involution of this part and the evolution of another, allows the mind at least a weak ray of hope that something may be accomplished here with the principle of the mechanism of nature, without which there can be no natural science at all. This analogy of forms, insofar as in spite of all the differences it seems to have been generated in accordance with a common prototype,⁷ strengthens the suspicion of a real kinship among them in their generation from a common proto-mother,⁸ 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.

[288] Now here the **archaeologist** of nature is free to let that great family of creatures (for thus must one represent it if there is to be a basis for the thoroughly coherent kinship that has been mentioned) originate from the remaining traces of its oldest revolutions in accordance with any mechanism for it that is known to or conjectured by him. He can have the maternal womb of the earth, which has just emerged from a condition of chaos (just like a great animal), initially bear creatures of less purposive form, which in turn bear others that are formed more suitably for their place of origin and their relationships to one another, until this birth-mother itself, hardened and ossified, has restricted its offspring to determinate species that will degenerate no further, and the variety will remain as it turned out at the end of the operation of that fruitful formative power. – And yet ultimately he must attribute to this universal mother an organization purposively aimed at all these creatures, for otherwise the possibility of the purposive form⁹ of the products of the animal and vegetable kingdoms cannot be conceived at all.¹⁰ In that case, however, he has merely

⁶ *Grundriss*

⁷ *Urbild*

⁸ *Urmutter*

⁹ *Zweckform*

¹⁰ One can call an hypothesis of this sort a daring adventure of reason, and there may be few, even among the sharpest researchers into nature, who have not occasionally entertained it. For it is not absurd, unlike *generatio equivoca*, by which is meant the generation of an organized being through the mechanism of crude, unorganized matter. It would still be *generatio univoca* in the most general sense of the term, insofar as something organic would be generated out of something else that is also organic, even though there would be a specific difference between these kinds of beings, e.g., as when certain aquatic animals are gradually transformed into amphibians and these, after some generations, into land animals. *A priori*, in the judgment of mere reason, there is no contradiction in this. Only experience gives no example of it; rather, according to experience, all generation that we know is *generatio homonyma* and not merely *univoca*, in contrast to generation from unorganized matter, and produces a product that is in its organization itself homogeneous with that

put off the explanation, and cannot presume to have made the generation of those two kingdoms independent from the condition of final causes.

Even the alteration to which certain individuals in organized genera are contingently subjected, where one finds that their altered characteristic is heritable and has been taken up into the generative power, cannot be properly judged¹¹ as other than an incidental development of a purposive predisposition to the self-preservation of the kind that was originally present in the species, because in the thoroughgoing internal [289]purposiveness of an organized being the generating of its own kind is so closely connected with the condition that it incorporate nothing into its generative power that does not belong to one of the undeveloped original predispositions of such a system of ends. For if one departs from this principle, then one cannot know with any certainty whether several of the elements that are currently to be found in a species are not of contingent, purposeless origin, and the principle of teleology that in an organized being nothing that is preserved in its procreation should be judged to be nonpurposive would thereby turn out to be quite unreliable in application, and valid merely for the original stock (which, however, we no longer know).

Hume makes the objection against those who find it necessary to assume for all natural ends a teleological principle of judging,¹² i.e., an architectonic understanding, that one could with equal right ask how such an understanding is possible, i.e., how the many faculties and properties that constitute the possibility of such an understanding that simultaneously has executive might could themselves have purposively converged in one being. But this objection amounts to nothing. For the whole difficulty surrounding the question about the initial generation of a thing that contains purposes in itself and is comprehensible only through them rests on the further question concerning the unity of the ground of the combination in this product of the manifold of elements **external to one another**; however, if this ground is posited in the understanding of a productive cause as a simple substance, that question, insofar as it is teleological, is adequately answered, but if the cause is sought merely in matter, as an aggregate of numerous substances external to one another,¹³ the unity of the principle for the intrinsically purposive form of its formation¹⁴ is entirely lacking; and the **autocracy** of matter in productions that can be comprehended by our understanding only as ends is a word without any meaning.

From this it follows that those who seek a supreme ground for the objectively purposive forms of matter without conceding an understanding to it nevertheless happily make the world-whole into a single, all-encompassing substance (pantheism) or (what is only a more determinate explanation of the preceding) into a sum of determinations inhering in a single simple substance (Spinozism), merely in order to satisfy that condition of all purposiveness, namely the **unity** of the

which has generated it; and *generatio heteronyma*, so far as our experiential knowledge of nature goes, is nowhere to be found.

¹¹ *beurtheilt*

¹² *Beurteilung*

¹³ Reading *außer einander* with the first edition, rather than *aus einander* (out of one another) with the second.

¹⁴ *Form ihrer Bildung*, the only candidate for the antecedent of the “its” (*ibrer*) would seem to be “a productive cause.”

ground; where by so doing they do, to be sure, satisfy **one** condition [290] of the problem, namely that of unity in the relation to the end, by means of the ontological concept of a simple substance, but adduce nothing for the other condition, namely its relation to its consequence as an **end** through which that ontological ground for the question should be more precisely determined, and thus by no means answer the **whole** question.¹⁵ And this question remains absolutely unanswerable (for our reason) if we do not represent that original ground of things as a simple substance and its quality for the specific constitution of the natural forms founded on it, namely the unity of an end, as that of an intelligent¹⁶ substance, and its relation to those forms (on account of the contingency that we find in everything that we can conceive of as possible only as an end) as the relation to a **causality**.

§81. On the association of mechanism with the teleological principle in the explanation of a natural end as a product of nature.

Just as the mechanism of nature, according to the preceding section, is not by itself sufficient for conceiving of the possibility of an organized being, but must (at least given the constitution of our cognitive faculty) be subordinated to an intentionally acting cause, the mere teleological ground of such a being is equally inadequate for considering and judging¹⁷ it as a product of nature unless the mechanism of the latter is associated with the former, as if it were the tool of an intentionally acting cause to whose ends nature is subordinated, even in its mechanical laws. Our reason does not comprehend the possibility of a unification of two entirely different kinds of causality, that of nature in its universal lawfulness and that of an idea that limits the latter to a particular form for which nature does not contain any ground at all: it lies in the supersensible substrate of nature, about which we can determine nothing affirmative except that it is the being in itself of which we know merely the appearance. But the principle that everything that we assume to belong to this nature (*phaenomenon*) and to be a product of it must also be able to be conceived as connected with it in accordance with mechanical laws nonetheless remains in force, since without this kind of causality organized beings, as ends of nature, would not be natural products.

Now if the teleological principle of the generation of these beings is [291] assumed (as cannot but be the case), then the cause of their internally purposive form can be grounded in either **occasionalism** or **prestabilmism**. According to the former, the supreme world-cause, in accordance with its idea, would immediately provide the organic formation¹⁸ to the matter commingling in every impregnation; according to the latter, it would only have placed in the initial products of its wisdom the predisposition by means of which an organic being produces more of its kind and constantly preserves the species itself, in which a nature that continuously works at their destruction simultaneously makes good the loss of the individuals. If one assumes the

¹⁵ In the first edition, there is a comma rather than a period here.

¹⁶ In the first edition, "intelligible."

¹⁷ *beurtheilen*

¹⁸ *Bildung*

occasionalism of the production of organic beings, then everything that is natural is entirely lost, and with that is also lost all use of reason for judging the possibility of such a product; hence it can be presupposed that no one who cares anything for philosophy will assume this system.

Now **pretabilism** can in turn proceed in two ways. Namely, it considers each organic being generated from its own kind as either the **educt** or the **product** of the latter. The system of generatings as mere educts is called that of **individual preformation** or the **theory of evolution**; the system of generatings as products is called the system of **epigenesis**.¹⁹ The latter can also be called the system of **generic preformation**, since the productive capacity²⁰ of the progenitor is still preformed in accordance with the internally purposive predispositions that were imparted to its stock, and thus the specific form was preformed *virtualiter*. Given this, the opposing theory of individual preformation might better be called the **theory of involution** (or that of encapsulation).

The champions of the **theory of evolution**, which excepts every individual from the formative power of nature in order to allow it to come immediately from the hand of the creator, would still not have dared to have this happen in accordance with the hypothesis of occasionalism, which would make impregnation a mere formality, since the supreme intelligent world-cause has decided always to form a fruit immediately with his own hand and to leave to the mother only its development and nourishment. They instead declared themselves for preformation, as if it made no difference whether they would have these forms arise, supernaturally, at the origin or during the course of the world, when they would in fact have been spared by occasional creation the multitude of supernatural arrangements that would be necessary in order to preserve uninjured the embryos formed at the [292]beginning of the world and to save them from injury by the destructive forces of nature during the long time until their development, and would likewise have been spared an immeasurably greater number of such prefigured beings than would ever develop, thereby making so many of these creations unnecessary and purposeless. Yet they would at least have left something to nature in order not to fall into a complete hyperphysics, which could dispense with all natural explanation. To be sure, they still held fast to their hyperphysics, finding even in miscarriages (which one cannot possibly hold to be ends of nature) a marvelous purposiveness, even if this is only aimed at one day striking an anatomist with its purposeless purposiveness and precipitating his astonishment. But they had absolutely no way of fitting the generation of half-breeds into the system of preformation, but had to concede to the male seed, to which they had otherwise conceded only the mechanical property of serving as the first nourishment of the embryo, a purposive formative power which, however, in the case where the whole product is generated by two creatures of the same species, they would not have conceded to either.

In contrast, even if one did not recognize the great advantage that the defender of **epigenesis** has over the other side in the matter of experiential grounds for the proof of his theory, reason would still already be favorably disposed to this explanation because it considers nature, at least as far as propagation is concerned, as itself producing rather than merely

¹⁹ In the first edition, there is a comma rather than a period here.

²⁰ *Vermögen*

developing those things that can initially be represented as possible only in accordance with the causality of ends, and thus, with the least possible appeal to the supernatural, leaves everything that follows from the first beginning to nature (without, however, determining anything about this first beginning, on which physics always founders, no matter what chain of causes it tries).

No one has done more for the proof of this theory of epigenesis as well as the establishment of the proper principles of its application, partly by limiting an excessively presumptuous use of it, than Privy Councilor **Blumenbach**. He begins all physical explanation of these formations with organized matter. For he rightly declares it to be contrary to reason that raw matter should originally have formed itself in accordance with mechanical laws, that life should have arisen from the nature of the lifeless, and that matter should have been able to assemble itself into the form of a self-preserving purposiveness by itself; at the same time, however, he leaves natural mechanism an indeterminable but at the same time also unmistakable role under this inscrutable **principle** of an original **organization**, on account of which he calls the faculty in the matter in an organized body (in distinction [293] from the merely mechanical **formative power**²¹ that is present in all matter) a **formative drive**²² (standing, as it were, under the guidance and direction of that former principle).

§82. On the teleological system in the external relations of organized beings.

By external purposiveness I mean that in which one thing in nature serves another as the means to an end. Now things that have no internal purposiveness or presuppose none for their possibility, e.g., soils, air, water, etc., can nevertheless be quite purposive externally. i.e., in relation to other beings; but these must always be organized beings, i.e., natural ends, for otherwise the former could not be judged²³ as means. Thus water, air, and soils cannot be regarded as means for piling up mountains, because the latter do not contain in themselves anything at all that requires a ground for their possibility according to ends, thus nothing in relation to which their cause could be represented under the predicate of a means (useful for that end).

External purposiveness is an entirely different concept from the concept of internal purposiveness, which is associated with the possibility of an object regardless of whether its reality is itself an end or not. In the case of an organized being, one can also ask, why does it exist? but one cannot readily ask this of things in which one recognizes merely the effect of the mechanism of nature. For in the former we already represent a causality according to ends for its internal possibility, a creative intelligence,²⁴ and we relate this active faculty to its determining ground, the intention. There is only a single external purposiveness that is connected with the internal purposiveness of organization and is such that, without raising the question of for what end such an organized being must exist, nevertheless serves in the external relation of a means to an end.

²¹ *Bildungskraft*

²² *Bildungstrieb*

²³ *beurteilt*

²⁴ *Verstand*. This term has been translated as “understanding” when it refers to one of the faculties of human cognition; here and in the ensuing sections it will be translated as “intelligence” when it refers to the putative nature of God.

This is the organization of the two sexes in relation to one another for the propagation of their kind; for here one can always ask, just as in the case of an individual, why must such a [294]pair have existed? The answer is that this is what here first constitutes an **organizing** whole, although not one that is organized in a single body.

Now if one asks why a thing exists, the answer is either that its existence and its generation have no relation at all to a cause acting according to intentions, and in that case one always understands its origin to be in the mechanism of nature; or there is some intentional ground of its existence (as a contingent natural being), and this thought is difficult to separate from the concept of an organized being: for once we have had to base its internal possibility in a causality of final causes and an idea that underlies this, we also cannot conceive of the existence of this product otherwise than as an end. For the represented effect, the representation of²⁵ which is at the same time the determining ground of its production in an intelligently acting cause, is called an **end**. In this case, therefore, one can either say that the end of the existence of such a natural being is in itself, i.e., it is not merely an end, but also a **final end**:²⁶ or it is outside of it in another natural being, i.e., it exists purposively not as a final end, but necessarily at the same time as a means.

But if we go through the whole of nature, we do not find in it, as nature, any being that can claim the privilege of being the final end of creation; and one can even prove *a priori* that whatever could be an **ultimate end**²⁷ for nature could never, no matter with what conceivable determinations and properties it might be equipped, be, as a natural thing, a **final end**.

If one looks at the vegetable kingdom, one could initially be led by the immeasurable fertility by which it spreads itself over practically every terrain to think of it as a mere product of the mechanism of nature that is displayed in the formations of the mineral kingdom. But a close acquaintance with the indescribably wise organization of the former does not allow us to stop with this thought, but rather leads to the question: Why do these creatures exist? If one answers: For the animal kingdom, which is nourished by it so that it is able to spread itself over the earth *in* so many genera, then the question arises again: Why do these herbivorous animals exist? Perhaps the answer would be: For the carnivores, which can only be nourished by what lives. But in the end the question is: For what are these, together with all the proceeding natural kingdoms, good? For the human being, for the diverse uses which his understanding teaches him to make of all these creatures; and he is the ultimate end of the creation here on earth, [295]because he is the only being on earth who forms a concept of ends for himself and who by means of his reason can make a system of ends out of an aggregate of purposively formed things.

One could also, with the Chevalier Linné, take the apparently opposite path and say that the plant-eating animals exist in order to moderate the excessive growth of the plant kingdom, by which many of its species would be choked; the carnivores exist in order to set bounds to the voraciousness of the plant-eaters; finally, humankind exists in order to establish a certain balance

²⁵ The words “the representation of” were added in the second edition.

²⁶ *Endzweck*

²⁷ *letzter Zweck*

among the productive and destructive powers of nature by hunting and reducing the number of the latter. And thus the human being, however much he might be valued as an end in a certain relation, would in another relation in turn have only the rank of a means.

If one makes an objective purposiveness of the multiplicity of the genera of earthly species and their external relations to one another, as beings understood as purposive, into a principle, then it is rational to think in turn that there is in this relation a certain organization and a system of all the kingdoms of nature in accordance with final causes. But here experience seems clearly to contradict the maxim of reason, especially in what concerns an ultimate end of nature, which is nevertheless requisite for such a system, and which we cannot place anywhere but in the human being; for in regard to the latter, as one among the many genera of animals, nature has not made the least exception to its generative as well as destructive powers, but has rather subjected him to its mechanism without any end.

The first thing that would have to be intentionally established in an order for a purposive whole of natural beings on the earth would have to be their habitat, the ground and the clement on and in which they should thrive. But a more precise knowledge of the constitution of this foundation of all organic generating gives no indication of anything except a cause that acts quite unintentionally, indeed one which is rather destructive of than favorable to the generation of causes of order and ends. The land and the sea do not merely contain monuments of ancient, powerful devastations, that have affected them and every creature on and in them; their entire construction, the strata of the land and the boundaries of the sea, have every appearance of the products of wild, all-powerful forces of a nature working in a chaotic state. However purposively arranged the configuration, the structure, and the slope of the land may now appear for the reception of water from the air, for the channels of springs between different layers of the earth (for various products), and the course of the streams, still a closer investigation of them proves that they have come about merely as the effect of eruptions both fiery and watery, or even of upheavals of the ocean, as far as concerns the first generation of this configuration [296] as well as especially its subsequent reconfiguration together with the destruction of its first organic productions.²⁸ Now if the habitat, the maternal soil (the land) and the maternal womb (the sea) for all these creatures yields no signs of anything except an entirely unintentional mechanism for their generation, how and with what right could we demand and assert another origin for those products? Even if the human being was not included in these revolutions, as the most meticulous examination of the remains of those natural devastations seems to prove (according to the judgment of Camper), still he is so dependent on the other creatures that if a mechanism of nature

²⁸ If the name **natural history** that has been adopted for the description of nature is to remain in use, then one can call that which it literally means, namely a representation of the **ancient** condition of the earth – about which, even though there is no hope for certainty, there is reasonable ground for making conjectures – the **archaeology** of **nature**, in contrast to that of art. To the former belong fossils, just as to the latter belong carved stones, etc. For since we are really constantly if also, as is fining, slowly working on such an archaeology (under the name of a theory of the earth), this name would not be given to a merely imaginary branch of research into nature. but to one to which nature itself invites and summons us.

reigning over all the others is conceded, then he too must be included beneath that, even if his understanding was able to save him (at least for the most part) from its devastations.

This argument, however, seems to prove more than it was intended to, namely, not merely that the human being is not an ultimate end of nature and, for the same reason, that the aggregate of organized natural things on earth cannot be a system of ends, but rather that even the products of nature that *we* previously held to be natural ends can have no other origin than that in the mechanism of nature.

But in the solution given above for the antinomy of the principles of the mechanical and teleological explanation of organic natural beings we have seen that since these principles are, with regard to their particular laws (the key to the systematic coherence of which, however, we lack) of formative nature, merely principles of the reflecting power of judgment, which in themselves determine nothing about the origin of these beings, but say only that given the nature of our understanding and our reason we cannot conceive of them except in accordance with final causes, the greatest possible effort, indeed boldness, in attempting to explain them mechanically is not merely allowed, but we are also summoned to it by reason, even though we know that we can never be successful in this attempt because of subjective reasons in the particular manner and limitation of our understanding (and not, say, because the mechanism of generation itself contradicts an origin in accordance with [297]ends); and, finally, we have also seen that even the unifiability of the two ways of representing the possibility of nature may well lie in the supersensible principle of nature (outside of as well as inside us), since the representation of it according to final causes is only a subjective condition of the use of our reason when reason would not judge²⁹ the objects merely as appearances, but rather demands that these appearances themselves, together with their principles, be related to the supersensible substratum in order to find possible certain laws of their unity, which cannot be represented except by means of ends (of which reason too has ones that are supersensible).

Immanuel Kant, "Appendix: Methodology of the Teleological Power of Judgment," *Critique of the Power of Judgment* (1790), trans. Eric Matthews (New York: Cambridge University Press, 2001), nn. 80-82.

²⁹ *die Beurtheilung ... angestellt wissen will*