

Introduction to the Summer Seminar

Readings for Monday Lecture by John Keck

Aristotle, Metaphysics VIII.6.1045a8-10 (trans. W.D. Ross)

In the case of all things which have several parts and in which the totality is not, as it were, a mere heap, but the whole is something beside the parts, there is a cause; for even in bodies contact is the cause of unity in some cases, and in others viscosity or some other such quality.

Aristotle, Parts of Animals I.1.640b17-641a32 (trans. William Ogle)

But if men and animals and their several parts are natural phenomena, then the natural philosopher must take into consideration not merely the ultimate substances of which they are made, but also flesh, bone, blood, and all other homogeneous parts; not only these, but also the heterogeneous parts, such as face, hand, foot; and must examine how each of these comes to be what it is, and in virtue of what force. For to say what are the ultimate substances out of which an animal is formed, to state, for instance, that it is made of fire or earth, is no more sufficient than would be a similar account in the case of a couch or the like. For we should not be content with saying that the couch was made of bronze or wood or whatever it might be, but should try to describe its design or mode of composition in preference to the material; or, if we did deal with the material, it would at any rate be with the concretion of material and form. For a couch is such and such a form embodied in this or that matter, or such and such a matter with this or that form; so that its shape and structure must be included in our description. For the formal nature is of greater importance than the material nature.

Does, then, configuration and colour constitute the essence of the various animals and of their several parts? For if so, what Democritus says will be strictly correct. For such appears to have been his notion. At any rate he says that it is evident to every one what form it is that makes the man, seeing that he is recognizable by his shape and colour. And yet a dead body has exactly the same configuration as a living one; but for all that is not a man. So also no hand of bronze or wood or constituted in any but the appropriate way can possibly be a hand in more than name. For like a physician in a painting, or like a flute in a sculpture, in spite of its name it will be unable to do the office which that name implies. Precisely in the same way no part of a dead body, such I mean as its eye or its hand, is really an eye or a hand. To say, then, that shape and colour constitute the animal is an inadequate statement, and is much the same as if a woodcarver were to insist that the hand he had cut out was really a hand. Yet the physiologists, when they give an account of the development and causes of the animal form, speak very much like such a craftsman. What, however, I would ask, are the forces by which the hand or the body was fashioned into its shape? The woodcarver will perhaps say, by the axe or the auger; the physiologist, by air and by earth. Of these two answers the artificer's is the better, but it is nevertheless insufficient. For it is not enough for him to say that by the stroke of his tool this part was formed into a concavity, that into a flat surface; but he must state the reasons why he struck his blow in such a way as to effect this, and what his final object was; namely, that the piece of wood should develop eventually into this or that shape. It is plain, then, that the teaching of the old physiologists is inadequate, and that the true method is to state what the definitive characters are that distinguish the animal as a whole; to explain what it is both in substance and in form, and to deal after the same fashion with its several organs; in fact, to proceed in exactly the same way as we should do, were we giving a complete description of a couch.

If now this something that constitutes the form of the living being be the soul, or part of the soul, or something that without the soul cannot exist; as would seem to be the case, seeing at any rate that when the soul departs, what is left is no longer a living animal, and that none of the parts remain what they were before, excepting in mere configuration, like the animals that in the fable are turned into stone; if, I say, this be so, then it will come within the province of the natural philosopher to inform himself concerning the soul, and to treat of it, either in its entirety, or, at any rate, of that part of it which constitutes the essential character of an animal; and it will be his duty to say what this soul or this part of a soul is; and to discuss the attributes that attach to this essential character, especially as nature is spoken of in two senses, and the nature of a thing is either its matter or its essence; nature as essence including both the motor cause and the final cause. Now it is in the latter of these two senses that either the whole soul or some part of it constitutes the nature of an animal; and inasmuch as it is the presence of the soul that enables matter to constitute the animal nature, much more than it is the presence of matter which so enables the soul, the inquirer into nature is bound on every ground to treat of the soul rather than of the matter. For though the wood of which they are made constitutes the couch and the tripod, it only does so because it is capable of receiving such and such a form.

Immanuel Kant, “Things [Considered] as Natural Purposes Are Organized Beings,” Critique of Judgement, II, § 65. (1790)

We said in the preceding section that if a thing is a natural product but yet we are to cognize it as possible only as a natural purpose, then it must have this character: it must relate to itself in such a way that it is both cause and effect of itself. But this description is not quite appropriate and determinate and still needs to be derived from a determinate concept.

A causal connection, as our mere understanding thinks it, is one that always constitutes a descending series (of causes and effects): the things that are the effects, and that hence presuppose others as their causes, cannot themselves in turn be causes of these others. This kind of causal connection is called that of efficient causes (*nexus effectivus*). But we can also conceive of a causal connection [*Verbindung*] in terms of a concept of reason (the concept of purposes). Such a connection, considered as a series, would carry with it dependence both as it ascends and as it descends: here we could call a thing the effect of something and still be entitled to call it, as the series ascends, the cause of that something as well. This sort of causal connection [*Verknüpfung*] is easily found in the practical sphere (namely, in art). For example, although a house is the cause of the money received for rent, yet, conversely, the presentation [we formed] of this possible income also caused the house to be constructed.¹ This kind of causal connection is called that of final causes (*nexus finalis*). Perhaps it would be more appropriate to call the former causal connection [373]that of real causes, the latter that of ideal causes, since these terms would make it clear at the same time that there cannot be more than these two kinds of causality.

Now in order for a thing to be a natural purpose, it must meet two requirements. *First*, the possibility of its parts (as concerns both their existence and their form) must depend on their relation to the whole. For since the thing itself is a purpose, it is covered [*befaßt*] by a concept or idea that must determine a priori everything that the thing is to contain. But if we think of a thing as possible only in *that* way, then it is merely a work of art. For it is then the product of a rational cause distinct from the matter of the thing ([i.e.,] distinct from the thing’s parts), [a cause which is] determined to exercise its causality (in procuring and combining the

¹ [Hence the *income itself* is the *final* cause (purpose) of the house (or of the house’s being constructed).]

² [Emphasis added.]

parts) by the idea of a whole that is possible through that idea (and [which] therefore [is] not [a cause (viz., the product's matter, i.e., its parts) determined to exercise its causality] by *nature*³ outside the product).

A *second* requirement must be met if a thing that is a product of nature is yet to have, within itself and its inner possibility, reference to purposes, i.e., if it is to be possible only as a natural purpose, without the causality of concepts, which rational beings outside it have. This second requirement is that the parts of the thing combine into the unity of a whole because they are reciprocally cause and effect of their form. For only in this way is it possible that the idea of the whole should conversely (reciprocally) determine the form and combination of all the parts, not as cause—for then the whole would be a product of art—but as the basis on which someone judging this whole cognizes the systematic unity in the form and combination of all the manifold contained in the given matter.

Therefore in order for us to judge a body as being, in itself and in its inner possibility, a natural purpose, what is needed is that all its parts, through their own causality, produce one another as regards both their form and combination, and that in this way they produce a whole whose concept ([if present] in a being possessing the causality in terms of concepts that would be adequate for such a product) could, conversely, be the cause of this body according to a principle, so that the connection of *efficient causes* could at the same time be judged to be a *causation through final causes*.

In such a product of nature, just as each part exists only *as a result* of all the rest, so we also think of each part as existing *for the sake* of the others and of the whole, i.e., as an instrument (organ). But that is [374]not enough (for the part could also be an instrument of art, in which case we would be presenting its possibility as depending on a purpose as such [but not yet on a natural purpose]). Rather, we must think of each part as an organ that *produces* the other parts (so that each reciprocally produces the other). Something like this cannot be an instrument of art, but can be an instrument only of nature, which supplies all material for instruments (even for those of art). Only if a product meets that condition [as well], and only because of this, will it be both an *organized* and a *self-organizing* being, which therefore can be called a *natural purpose*.

In a watch, one part is the instrument that makes the others move, but one gear is not the efficient cause that produces another gear; [and hence] even though one part is there for the sake of another, the former part is not there as a result of the latter. That is also the reason why the cause that produced the watch and its form does not lie in nature (the nature of this material), but lies outside nature and in a being who can act according to the ideas of a whole that he can produce through his causality. It is also the reason why one gear in the watch does not produce another; still less does one watch produce other watches, [by] using (and organizing) other matter for this [production]. It is also the reason why, if parts are removed from the watch, it does not replace them on its own; nor, if parts were missing from it when it was first built, does it compensate for this [lack] by having the other parts help out, let alone repair itself on its own when out of order: yet all of this we can expect organized nature to do. Hence an organized being is not a mere machine. For a machine has only *motive* force. But an organized being has within it *formative* force, and a formative force that this being imparts to the kinds of matter that lack it (thereby organizing them). This force is therefore a formative force that propagates itself—a force that a mere ability [of one thing] to move [another]⁴ (i.e., mechanism) cannot explain.

In considering nature and the ability it displays in organized products, we say far too little if we call this an *analogue* of *art*, for in that case we think of an artist (a rational being) apart from nature. Rather, nature

³ [Emphasis added.]

⁴ [Cf. the *Metaphysical Foundations of Natural Science*, Ak, IV, 530.]

organizes itself, and it does so within each species of its organized products; for though the pattern that nature follows is the same overall, that pattern also includes deviations useful for self-preservation as required by circumstances. We might be closer if we call this inscrutable property of nature an *analogue of life*. But in that case we must either endow matter, as mere matter, with a [kind of property ([viz., the property of life, as] hylozoism [does]⁵) that conflicts with its nature [*Wesen*]. Or else we must supplement matter [375] with an alien principle (a soul) *conjoined* to it. But [that also will not work. For] if an organized product is to be a natural product, then we cannot make this soul the artificer that constructed it, since that would remove the product from (corporeal) nature. And yet the only alternative would be to say that this soul uses as its instrument organized matter;⁶ but if we presuppose organized matter, we do not make it a whit more intelligible. Strictly speaking, therefore, the organization of nature has nothing analogous to any causality known to us.⁷ Beauty in nature may rightly be called an analogue of art, since we attribute it to objects only in relation to our reflection on our *external* intuition of them, and hence only on account of the form of their surface. But *intrinsic natural perfection*, as possessed by those things that are possible only as *natural purposes* and that are hence called organized beings, is not conceivable or explicable on any analogy to any known physical ability, i.e., ability of nature, not even—since we too belong to nature in the broadest sense—on a precisely fitting analogy to human art.

Hence the concept of a thing as in itself a natural purpose is not a constitutive concept either of understanding or of reason. But it can still be a regulative concept for reflective judgment, allowing us to use a remote analogy with our own causality in terms of purposes generally, to guide our investigation of organized objects and to meditate regarding their supreme basis— a meditation not for the sake of gaining knowledge either of nature or of that original basis of nature, but rather for the sake of [assisting] that same practical power in us [viz., our reason] by analogy with which we were considering the cause of the purposiveness in organized objects.

Hence organized beings are the only beings in nature that, even when considered by themselves and apart from any relation to other things, must still be thought of as possible only as purposes of nature. [376] It is these beings, therefore, which first give objective reality to the concept of a *purpose* that is a purpose *of nature* rather than a practical one, and which hence give natural science the basis for a teleology, i.e., for judging its objects in terms of a special principle that otherwise we simply would not be justified in introducing into natural science (since we have no a priori insight whatever into the possibility of such a causality).

Immanuel Kant, *Critique of Judgment*, trans. Werner S. Pluhar (Indianapolis: Hackett Publishing Company, 1987), 251-257.

⁵ [See Ak. 392 and 394-95.]

⁶ [Cf. Ak. 424.]

⁷ On the other hand, the analogy of these direct natural purposes can serve to elucidate a certain ‘kind of] association [among people], though one found more often as an idea than in actuality: in speaking of the complete transformation of a large people into a state, which took place recently,⁸ the word *organization* was frequently and very aptly applied to the establishment of legal authorities, etc., and even to the entire body politic. For each member in such a whole should indeed be not merely a means, but also a purpose: and while each member contributes to making the whole possible, the idea of that whole should in turn determine the member’s position and function.

⁸ [The allusion is probably to the formation of the United States of America.]

