

Georg Wilhelm Friedrich Hegel, Excerpts from *Encyclopedia of the Philosophical Sciences in Outline* (1817)

Abstract

The philosopher [Georg Wilhelm Friedrich Hegel](#) (1770-1831), the most eminent representative of German idealism, postulated a comprehensive theory of the unity of systematic knowledge. In his *Encyclopedia of the Philosophical Sciences in Outline* (1817), passages from which are reproduced here, he practically summarizes this approach: he addresses his central tenet that history constitutes the dialectical progress of the philosophical idea of freedom and situates philosophy as the master discipline vis-à-vis the empirical sciences.

Source

Introduction

#1.

All sciences other than philosophy deal with issues that are assumed to be immediate to representation. Such issues are thus presupposed from the beginning of the science and, in the course of its further development, determinations considered necessary are also derived from representation.

Such a science does not have to justify the necessity of the issues it treats. Mathematics, jurisprudence, medicine, zoology, botany, and so on, can presuppose the existence of magnitude, space, number, law, diseases, animals, plants, and so on. These are assumed to be ready at hand for representation. It does not occur to us to doubt the being of such issues, nor do we expect to be shown conceptually that magnitude, space, disease, animals, or plants must exist in and for themselves. — In the first place such an issue is given its familiar name. This name is fixed, yet for the moment gives only the representation of the object. Still further determinations of the object also have to be made. They can, of course, be derived from the immediate representation. At this point the difficulty may easily arise, however, that certain determinations are apprehended which, it will readily be admitted, are already at hand in the object and are essential to the object. For the formal aspect of this problem, logic or the doctrine of definitions and classifications can be used; but for content one usually proceeds in an empirical manner, in order to discover for oneself and for others whether attributes like those in fact occur in the representation of the general issue. The assessment of this fact can then give rise to sharp controversy.

#2.

By contrast, the beginning of philosophy involves the awkward problem that its object immediately and necessarily provokes doubt and controversy. 1) There is a problem regarding content: in order to be seen as not merely a representation, but as the very object of philosophy, the content must not be found in the representation. Indeed, the cognitive procedure in philosophy is actually opposed to representation, and the faculty of representation should be brought beyond itself through philosophy.

#3.

(2) The beginning of philosophy faces the same embarrassment regarding form, for the beginning as beginning is immediate, but presents itself as mediated. The concept must on the one hand be recognized as necessary and at the same time the cognitive method cannot be presupposed, since its derivation occurs within philosophy itself.

If nothing could be done but to show that representation in itself is the entirely indeterminate topic of philosophy, then one could take refuge in the customary belief that human beings begin with sensory perception and desire, soon feel themselves driven beyond that point to the feeling and intimation of a higher being, an infinite being and infinite will, and then become aware of general concerns: What is the soul, what is the world, what is God? What can I know? On what basis should I act? What should I hope, and so on? Religion and its topics could then be addressed more directly. Yet despite the fact that such questions and issues can themselves be met with doubt and negation, immediate consciousness and even religion in its own way already contain in part the dissolution of such questions and doctrines concerning these topics. But the specific quality that turns these concerns into the contents of philosophy is not expressed in this way. —

Hence one can indeed refer to the topic of philosophy, but neither to its authority nor to a general agreement over what is understood as philosophy. Even the requirement stated earlier, that the knowledge of necessity only occurs through the concept, is not accepted, for there are many who believe that they have grasped philosophy more from immediate feeling and intuition than from the knowledge of necessity, and in fact such immediacy of perception is even called reason. In this sense Newton and the English confuse experimental physics with philosophy, so that electrical machines, magnetic appliances, pumps and the like are called philosophical instruments. But surely it is only thought which should be called the instrument of philosophy, and not a mere assemblage of wood, iron, or other materials.[1]

#4.

Because the topic of philosophy is not immediate, the concept of the topic and the concept of philosophy itself can only be comprehended within philosophy. What is said here of the topic as well as of philosophy is something said prior to philosophy, and is therefore somewhat anticipatory, still ungrounded for itself. It is also, therefore, incontrovertible and intended to provide only an indeterminate, tentative, and historical introduction.

#5.

Philosophy is here represented as the science of reason, particularly insofar as reason becomes conscious of itself as of all being. All knowledge other than philosophy is knowledge of finite things or a finite knowledge, for by this knowledge reason is presupposed as subjective, given, and thus does not recognize itself in this knowledge. Even when topics are found in self-consciousness, such as laws, duties, and values, these are still particulars seen in contrast to both the self-consciousness that is aware of them and the remaining variety of the universe. To be sure, the topic of religion is the infinite topic for itself, which is supposed to contain everything within itself. But the representations of religion do not stay true to themselves. For here again the world remains independent, apart from the infinite, and what religion offers as the highest truth remains at the same time unfathomable, a secret, unknowable, given, and available to differentiating consciousness only in the form of a given and external entity. In religion the true is presented as feeling, intuition, presentiment, as representation or as worship in general, as well as interwoven with thoughts, but truth is not presented in the form of truth. Above all, religion constitutes its own world, separate from the rest of consciousness, even though its attitude is all-embracing.

Philosophy can also be seen as the science of freedom, because in philosophy the heterogeneity of topics and with it the finitude of consciousness disappear. Thus only in philosophy do contingency, the necessity of nature, and the relation to exteriority in general fall away, as well as dependence, longing, and fear. Only in philosophy is reason altogether by itself.— On the same basis, reason in this science does not concern itself with the one-sidedness of subjective rationality, neither as the property of an unusual talent nor as the gift of a particularly divine favor or disfavor, like the possession of artistic skill. Since it is nothing but reason conscious of itself, it is capable by its very nature of being a general science. Nor is it an idealism in which the content of knowledge is determined merely by the self, or has

subjective validation enclosed within self-consciousness. Since reason is conscious of itself as being, the subjectivity of the self, which sees itself as something particular in contrast to objects and can distinguish its own determinations in itself as different from others outside of itself and over against itself, is suspended and transformed into rational generality.

#6.

Philosophy is the encyclopedia of the philosophical sciences, insofar as its entire scope is presented through the specific differentiation of its parts, and it is a philosophical encyclopedia insofar as the differentiation and the connection of its parts are presented according to the necessity of the concept.

Since philosophy is rational knowledge throughout, each of its parts is a philosophical whole, a circle of totality containing itself within itself, but the philosophical idea is also within each particular determinacy or element. The individual circle thus ruptures itself because it is in itself a totality, it breaks through the limit of its own elements and establishes another sphere. The whole presents itself then as a circle of circles in which each circle is a necessary moment, so that the system of its characteristic elements constitutes the whole idea, which also appears in each individual part.

#7.

Philosophy is also essentially encyclopedic, since the true can only exist as totality, and only through the differentiation and determination of its differences can it be the necessity of totality and the freedom of the whole. It is, therefore, necessarily systematic.

Philosophizing without a system can not be scientific. Moreover, if it expresses for itself primarily a subjective perspective its contents are contingent. For the contents are only justified as a moment of the whole, and outside of the whole rest on ungrounded presuppositions or have only subjective certainty.

#8.

It is a mistake to confuse a system of philosophy with a philosophy that is derived from a single principle. On the contrary, the principle of true philosophy contains all particular principles in itself. Philosophy demonstrates this both in itself and in its history: on the one hand, the philosophies that appear different in history are only one philosophy at different stages of development; and on the other hand, the particular principles that underlie particular systems are only branches of one and the same whole.

Here the general and the particular must be distinguished according to their own determinations. Formal logic places the general next to the particular, but in itself it becomes another particular. Concerning the objects of everyday life such an arrangement would strike one as inadequate and awkward, as if for example someone who has asked for fruit would refuse cherries, pears, or grapes, and so on, because they are cherries, pears, and grapes, but not fruit. —

Concerning philosophy, however, one allows this procedure, partly to justify contempt for philosophy with the argument that there are so many different philosophies, and each one is only *a* philosophy but not *the* philosophy. The procedure is also allowed in order to place a philosophy whose principle is general next to one whose principle is particular, even to place one of these next to doctrines that insist there is no philosophy. These names are also used for a movement of thought that presupposes that truth is given and immediate, and on this basis constructs its further reflections.

#9.

As an encyclopedia, however, science is not to be presented in the specific development of its particularity, but is to be limited to the beginnings and basic concepts of the particular sciences.

How many of its particular components are needed to constitute a particular science is to a certain extent entirely indeterminate, since, in order to be true, the component must be not only an isolated moment but also a totality. In truth, therefore, the whole of philosophy constitutes one science; but it

may also be viewed as a whole composed of several particular sciences.

#10.

What is true in any one science is so through and by virtue of philosophy, whose encyclopedia thus comprises all true sciences.

The philosophical encyclopedia can be distinguished from other, ordinary encyclopedias by the fact that the ordinary one is an assemblage of sciences, taken up in a contingent and empirical manner, and it sometimes includes topics that merely bear the names of sciences but are otherwise only collections of bits of information. The unity that brings the sciences together in such an assemblage is, because they are gathered extrinsically, at the same time only external, an ordering. For the same reason this arrangement must, especially since the materials are also of a contingent nature, remain an experiment, and will always exhibit incongruent aspects.

The encyclopedia of philosophy thus excludes (1) mere assemblages of information, such as philology; and (2) pseudosciences that have mere arbitrariness as their basis, such as for example heraldry. Sciences of this type are thoroughly positive. (3) Other sciences are also called positive, however, that have a rational basis and beginning. This part belongs to philosophy; whereas the positive side remains peculiar to the sciences themselves.

Such sciences are those, for example, that exist for themselves outside of philosophy in general. (1) Their beginning, though very true, ultimately gives way to contingency, when they have to bring their universal truth into contact with empirical facts and the phenomena of experience. In this field of contingency and instability it is not the concept but only the ground that can be validated. The study of law, for example, or the system of direct or indirect taxation, ultimately require exact decisions that lie outside the determinacy in and for itself of the concept. Thus a certain latitude of determination is left open, so that for one reason something can be said in one way but for another reason it can be said in another, and neither is capable of definite certainty. Similarly, when it is separated into details the idea of nature dissolves into contingencies, and natural history, geography, and medicine stumble over descriptions of reality in terms of kinds and differences, which are not determined by reason but rather by chance and by games. Even history belongs under this category, insofar as the idea is its essence, whose manifestation, however, lies in contingency and the field of arbitrary decisions. (2) These sciences are also positive in that they do not recognize their concepts as finite, nor do they see how these concepts and their entire realm undergo a transition into a higher sphere, but they see them as valid in any case. Together with this finitude of form, as with the finitude of content, goes the (3) ground of cognition, partly since the sciences are based on rationalizations, but partly, however, since the feeling, faith, and authority of others, or inner and outer intuition in general, are taken as the ground of cognition. This group includes religion, but also the type of philosophy that attempts to base itself on anthropology, facts of consciousness, inner intuition or outer experience, — as well as natural history, and so on. (4) It may happen, however, that “empirical” or “nonconceptual” are epithets pertinent only to the form of scientific exposition, while sensory intuition arranges mere phenomena according to the inner sequence of the concept. In such a case it may also happen that through the contrasts between the assembled phenomena and their variety, the external, contingent circumstances of their conditions suspend themselves, and generality can then emerge into view. — A sensory form of experimental physics, history, and so on, would present in this way the rational science of nature, and of human events and deeds, in an external picture mirroring the concept.

#11.

The whole of science is the presentation of the idea; its division, therefore, can only be conceptualized on this basis. Now since the idea is reason identical to itself, which, in order to be for itself stands in opposition to itself and is itself an other, but in this other is identical to itself, science falls into three parts: (1) logic, the science of the idea in and for itself; (2) the philosophy of nature, as the science of the

idea in its otherness; (3) the philosophy of spirit, the science of the idea as it returns to itself from its otherness.

(1) The division of a science that is projected in advance of itself is at first only an external reflection of its topic, for the differentiation of its concept can be achieved only through knowledge of the concept, which, however, that very science is. Thus the division of philosophy is an anticipation of what is produced by the necessity of the idea itself. (2) As observed in #6, the differences among the various philosophical sciences are only determinations of the idea itself, and it is thus only the idea that manifests itself in these different elements. In nature it is not an other that needs to be recognized as the idea; the idea is in the form of alienation; in the spirit, the same idea has asserted itself as being for itself and becoming in and for itself. Every such determination in which the idea appears is, however, a fleeting moment, and therefore the individual science must not only recognize its contents as an existing topic, but must also recognize in the same act, at once and directly, the transition of its contents into its higher circle. The representation of the relation between the contents as a division is therefore inconsistent in that it places the particular components or sciences next to each other as if they were merely at rest and their differences were substantial, like the differences between kinds.

[...]

B. The Philosophy of Nature

Preliminary Concepts

#192.

Nature has presented itself as the idea in the form of otherness. Since in nature the idea is as the negative of itself, or is external to itself, nature is not merely external in relation to this idea, but the externality constitutes the determination in which nature as nature exists.

#193.

In this externality the determinations of the concept have the appearance of an indifferent subsistence and isolation in regards to each other. The concept therefore exists as an inward entity. Hence nature exhibits no freedom in its existence, but only necessity and contingency.

For this reason nature, in the determinate existence which makes it nature, is not to be deified, nor are the sun, moon, animals, plants, and so on, to be regarded and adduced as the works of God, more excellent than human actions and events. Nature in itself, in the idea, is divine, but in the specific mode by which it is nature it is suspended. As it is, the being of nature does not correspond to its concept; its existing actuality therefore has no truth; its abstract essence is the negative, as the ancients conceived of matter in general as the *non-ens*. But because, even in this element, nature is a representation of the idea, one may very well admire in it the wisdom of God. If, however, as Vanini said, a stalk of straw suffices to demonstrate God's being, then every representation of the spirit, the slightest fancy of the mind, the play of its most capricious whim, every word, offers a ground for the knowledge of God's being that is superior to any single object of nature. In nature, not only is the play of forms unbound and unchecked in contingency, but each figure for itself lacks the concept of itself. The highest level to which nature drives its existence is life, but as only a natural idea this is at the mercy of the unreason of externality, and individual vitality is in each moment of its existence entangled with an individuality which is other to it, whereas in every expression of the spirit is contained the moment of free, universal self-relation. — Nature in general is justly determined as the decline of the idea from itself, because in the element of externality it has the determination of the inappropriateness of itself with itself. — A similar misunderstanding is to regard human works of art as inferior to natural things, on the grounds that works of art must take their material from outside, and that they are not alive. — It is as if the spiritual form did not contain a higher level of life, and were not more worthy of the spirit than the natural form, and as if in all ethical things what can be called matter did not belong solely to the spirit. —

Nature remains, despite all the contingency of its existence, obedient to eternal laws; but surely this is also true of the realm of self-consciousness, a fact which can already be seen in the belief that providence governs human affairs. Or are the determinations of this providence in the field of human affairs only contingent and irrational? But if the contingency of spirit, the free will, leads to evil, is this not still infinitely higher than the regular behavior of the stars, or the innocence of the plants?

#194.

Nature is to be viewed as a system of stages, in which one stage necessarily arises from the other and is the truth closest to the other from which it results, though not in such a way that the one would naturally generate the other, but rather in the inner idea which constitutes the ground of nature.

It has been an awkward conception in older and also more recent philosophy of nature to see the progression and the transition of one natural form and sphere into another as an external, actual production which, however, in order to be made clearer, is relegated to the darkness of the past. Precisely this externality is characteristic of nature: differences are allowed to fall apart and to appear as existences indifferent to each other; and the dialectical concept, which leads the stages further, is the interior which emerges only in the spirit. Certainly the previously favored teleological view provided the basis for the relation to the concept, and, in the same way, the relation to the spirit, but it focused only on external purposiveness, — (cf. #151) and viewed the spirit as if it were entangled in finite and natural purposes. Due to the vapidness of such finite purposes, purposes for which natural things were shown to be useful, the teleological view has been discredited for exhibiting the wisdom of God. The view of the usefulness of natural things has the implicit truth that these things are not in and for themselves an absolute goal; nevertheless, it is unable to determine whether such things are defective or inadequate. For this determination it is necessary to posit that the immanent moment of its idea, which brings about its transiency and transition into another existence, produces at the same time a transformation into a higher concept.

#195.

Nature is, in itself, a living whole. The movement of its idea through its sequence of stages is more precisely this: the idea posits itself as that which it is in itself; or, what is the same thing, it goes into itself out of that immediacy and externality which is death in order to go into itself; yet further, it suspends this determinacy of the idea, in which it is only life, and becomes spirit, which is its truth.

#196.

The idea as nature is: (1) as universal, ideal being outside of itself, space and time; (2) as real and mutual being apart from itself, particular or material existence, — inorganic nature; (3) as living actuality, — organic nature. The three sciences can thus be named mathematics, physics, and physiology.

[...]

II. Inorganic Physics

#204.

Matter in itself holds itself apart from itself through the moment of its negativity, diversity, or abstract separation into parts; it has repulsion. Its being apart from itself is just as essential, however, because these differences are one and the same: the negative unity of this existence apart from itself as being for itself, and thus continuous. Matter therefore has attraction. The unity of these moments is gravity.

Kant has, among other things, through the attempt at a “construction” of matter in his metaphysical elements of the natural sciences, the merit of having started towards a concept of matter, after it had been attributed merely to the deadness of the understanding and its determinations had been conceived as the relations of attributes. With this attempt Kant revived the concept of the philosophy of nature,

which is nothing other than the comprehension of nature or, what is the same, the knowledge of the concept in nature. But in so doing he assumed that the reflective categories of attraction and repulsion were ready-made, and further, he presupposed that the category of the reflection itself, out of which matter should emerge, is ready-made. This confusion is a necessary consequence of Kant's procedure, because the former abstract moments can not be conceptualized without their identity; moreover, because the observation of these opposing determinations suspends itself immediately in their identity, there is the danger that they will appear, like attraction, as a mere continuity. I have demonstrated in detail the confusion which dominates Kant's exposition in my system of *Logic*, vol. 1, part 1, pp. 119ff.

#205.

Matter, as having gravity, is only: (1) matter existing in itself, or general. But this concept must: (2) specify itself; thus it is elementary matter, and the object of elementary physics. (3) Particular matter taken together is individualized matter, and the object of physics as the actual world of the body.

A. Mechanics

#206.

Matter, as simply general, has at first only a quantitative difference, and particularizes itself into different quanta, — masses, which, in the superficial determination of a whole or one, are bodies.

#207.

The body is: (1) as heavy matter the solid identity of space and time, but (2) as the first negation it has in itself their ideality, which differentiates them from each other and from the body. The body is essentially in space and time, of which it constitutes its indifferent content in contrast to this form.

#208.

(3) As space, in which time is suspended, the body is enduring, and (4) as time, in which the indifferent subsistence of space is suspended, the body is transitory. In general, it is a wholly contingent unit. (5) But as the unity which binds together the two moments in their opposition, the body essentially has motion, and the appearance of gravity.

Because the forces have been seen as only implanted onto matter, motion in particular is considered to be a determination external to the body, even by that physics which is presumably scientific. It has thus become a leading axiom of mechanics that the body is set in motion or placed into a condition only by an external cause. On the one hand it is the understanding which holds motion and rest apart as nonconceptual determinations, and therefore does not grasp their transition into each other, but on the other hand only the selfless bodies of the earth, which are the object of ordinary mechanics, appear in this representation. The determinations, which occur in the appearance of such bodies and are valid, are set as the foundation, and the nature of the independent bodies is subsumed under this category. In fact, however, the latter are truly more general and the former is that which is subsumed absolutely, and in absolute mechanics the concept presents itself in its truth and singularity.

#209.

In motion, time posits itself spatially as place, but this indifferent spatiality becomes just as immediately temporal: the place becomes another (cf. #202). This difference of time and space is, as the difference of their absolute unity and their indifferent content, a difference of bodies, which hold themselves apart from each other yet equally seek their unity through gravity; — general gravitation.

#210.

Gravitation is the true and determinate concept of material corporeality, which is thereby just as essentially divided into particular bodies, and which has its manifested existence, the moment of external individuality, in movement, which is thus determined immediately as a relation of several bodies.

General gravitation must be recognized for itself as a profound thought, which constitutes an absolute basis for mechanics if it is conceived initially in the sphere of reflection, though it is so bound up with it through the quantitative determinations that it has attracted attention and credit, and its verification has been based solely on the experience analyzed from the solar system down to the phenomenon of the capillary tubes. Certainly gravitation directly contradicts the law of inertia, for, by virtue of the former, matter strives to get out of itself to another. In the concept of gravity, as has been shown, there are included the two moments of being for itself and of that continuity that suspends being for itself. These moments of the concept now experience the fate, as particular forces corresponding to the power of attraction and repulsion, of being conceived more precisely as the centripetal and the centrifugal forces, which are supposed, like gravity, to act on bodies, and independently of each other and contingently, to meet together in a third entity, the body. In this way whatever profundity was contained in the thought of general gravitation is destroyed again, and the concept and reason will be unable to penetrate into the theory of absolute motion, as long as the vaunted discoveries of forces prevail there.

If one closely considers the quantitative determinations which have been identified in the laws of the centripetal and the centrifugal forces, one very quickly discovers the confusion which emerges from their separation. This confusion becomes even greater if the separation is mentioned in relation to gravitation; gravitation, also called attraction, then seems to be the same as centripetal force, the law of this individual force is taken as the law of the whole of gravitation, and the centrifugal force, which at another time is valued as thoroughly essential, is viewed as something quite superfluous. — In the above proposition, which contains the immediate idea of gravitation, gravity itself, namely, as the concept, which shows itself in the particularity of the body through the external reality of motion, the rational identity and inseparability of these two moments are contained. — The relativity of motion also shows itself in this proposition, which only makes sense in a system of several bodies standing in relation to each other in accordance with a varied determination, so that a different determination will immediately result.

#211.

The particular bodies in which gravity is realized have, as the determinations of their different natures, the moments of their concept. One body, therefore, is the general center of being in itself. Opposing this extreme stands individuality, existing outside of itself and without a center. But the particular bodies are others, which stand in the determination of being outside of themselves and are at the same time, as being in themselves, also centers for themselves, and are related to the first body as to their essential unity.

#212.

(1) The motion of bodies of relative centrality, in relation to bodies of abstract, general centrality, is absolutely free motion, and the conclusion of this system is that the general central body is brought together through relative centrality with dependent corporeality.

As is well-known, the laws of absolutely free motion were discovered by Kepler, a discovery of immortal fame. Kepler proved them, too, in the sense that he found the general expression for the empirical data (cf. #145). Since then it has become a commonplace that Newton first found the proofs of these laws. Not often has fame been more unjustly transferred from the first discoverer to another. Here I only want to point out what has basically already been admitted by mathematicians, namely: (1) that the Newtonian formulas can be derived from Keplerian laws; (2) that the Newtonian proof of the proposition that a body governed by the law of gravitation moves in an ellipse around the central body proceeds in general in a conic section, whereas the main point that was to be proven consists precisely in this, that the course of such a body is neither a circle nor any other conic section, but solely the ellipse. The conditions which make the course of the body into a specific conic section are referred back to an empirical condition, namely, a particular situation of the body at a specific point in time, and to the contingent strength of an impulse which it is supposed to have received at the beginning. (3) Newton's "law" of the force of gravity

has likewise only been demonstrated inductively from experience.

On closer inspection it appears that what Kepler, in a simple and sublime manner, articulated in the form of laws of celestial motion, Newton converted into the nonconceptual, reflective form of the force of gravity. The whole manner of this “proof” presents in general a confused tissue of lines of merely geometrical construction to which a physical meaning of independent forces is given, of the empty concepts of the understanding of a force of acceleration, of particles of time, at whose beginning those forces always play a renewed role, and of a force of inertia, which presumably continues its previous effect, and so on. A rational proof of the quantitative determinations of free motion can only rest on the determinations of the concepts of space and time, the moments whose relation is motion.

[...]

III. Organic Physics

#260.

The real totality of the individual body, in which its particularity is made into a product and equally suspends itself, elevates itself in the process into the first ideality of nature, but an ideality which is fulfilled, and as self-related negative unity has essentially attained selfhood and become subjective. With this accomplished, the idea has entered into existence, initially as an immediate existence, life. This is: (a) as shape, the general image of life, the geological organism; (b) as particular or formal subjectivity, vegetable nature; (c) as individual, concrete subjectivity, animal nature.

A. Geological Nature

#261.

The general system of individual bodies is the earth, which in the chemical process initially has its abstract individuality in particularization, but as the totality it has an infinite relation to itself, as a general, self-dividing process, — and is, immediately, the subject and its product. As the immediate totality, however, presupposed by subjective totality itself, the body of the earth is only the shape of the organism.

#262.

The members of this organism do not contain, therefore, the generality of the process within themselves, they are the particular individuals, and constitute a system whose forms manifest themselves as members of the unfolding of an underlying idea, whose process of development is a past one.

#263.

The powers of this process, which nature leaves behind as independent entities beyond earth, are the connection and the position of the earth in the solar system, its solar, lunar, and cometary life, the inclination of its axis to the orbit and the magnetic axis. Standing in closer relation to these axes and their polarization is the distribution of sea and land: the compact spreading of land in the north, the division and sharp tapering of the parts towards the south, the further separation into an old and a new world, and the further division of the former into continents distinguished from one another and from the new world by their physical, organic, and anthropological character, to which an even younger and more immature continent is joined; — mountain ranges, and so on.

#264.

The physical organization of the earth shows a series of stages of granitic activity, involving a core of mountains in which the trinity of determinations is displayed, and leads through other forms which are partly transitions and modifications, though its totality remains the existing foundation, only more unequal and unformed within itself. This is partly also an elaboration of its moments into a more determinate difference and more abstract mineral moments, such as metals and fossil objects generally,

until it loses itself in mechanical stratifications and alluvial terrains lacking any immanent formative development.

#265.

This crystal of life, the inanimate organism of the earth which has its concept in the sidereal connection but possesses its own process as a presupposed past, is the immediate subject of the meteorological process, which as an organized whole is in its complete determinateness. In this objective subject the formerly elementary process is now objective and individual, — the suspension of immediacy takes place, through which general individuality now emerges for itself and life becomes vital or real. The first real vitality, which the fructified earth brings forth, is vegetable nature.

B. Vegetable Nature

#266.

The generality and individuality of life are still immediately identical in immediate vitality. Consequently the process by which the plant differentiates itself into distinct parts and sustains itself is one in which it comes out of itself and falls into pieces as several individuals, for which the whole plant is more the basis than a subjective unity. A further consequence is that the differentiation of the organic parts is only a superficial metamorphosis, and one part can easily pass into the function of the other.

#267.

The process of shaping and reproduction of the single individual coincides in this way with the process of genus formation. And because self-like generality, the subjective unit of individuality, does not separate itself from real particularization but is only submerged in it, the plant does not move from its place, nor is it a self-interrupting individualization, but a continually flowing self-nourishment. It does not relate itself to individualized inorganic nature, but to the general elements. Nor is it capable of feeling and animal warmth.

#268.

Insofar, however, as life is essentially the concept which realizes itself only through self-division and reunification, the plant processes also diverge from each other. (1) But their inner process of formation is to be seen partly as the positive, merely immediate transformation of nourishment supplies into the specific nature of plants. On the one hand, and for the sake of essential simplicity, this is the division into abstract generality of an implicitly inseparable individuality, as into the negative of vitality, becoming wood. But on the other hand, on the side of individuality and vitality, this is the process specifying itself in an outward direction.

#269.

(2) This is the unfolding of the parts as organs of different elementary relations, the division partly into the relation to earth and into the air and water process which mediates them. Since the plant does not hold itself back in inner, subjective generality against outer individuality, it is equally torn out of itself by light, from which it takes the specific confirmation and individualization of itself, knotted and multiplied into a multiplicity of individuals.

#270.

Since, however, the reproduction of the individual vegetable as a singularity is not the subjective return into itself, a feeling of self, but inwardly becomes wooden, the production of the self of the plant consequently moves in an outward direction. The plant brings forth its light as its own self in the blossom, in which the neutral color green is determined as a specific coloration, or, too, light is produced as a white color, purified from the dark.

#271.

Since the plant in this way offers itself as a sacrifice, this exteriorization is at the same time the concept

realized by the process, the plant, which has produced itself as a whole, but which in the process has come into opposition with itself. This, the highest point of the process, is therefore the beginning of the process of sexual differentiation which occurs in the process of genus formation.

#272.

(3) The process of genus formation, as distinct from the processes of formation and reproduction of the individual, is an excess in the actuality of plant nature, because those processes also directly involve a dissolution into many individuals. But in the concept the process is, like subjectivity which has converged with itself, that generality in which the plant suspends the immediate individuality of its organic life, and thereby grounds the transition into the higher organism.

C. The Animal Organism

#273.

Organic individuality exists as subjectivity insofar as its individuality is not merely immediate actuality but also and to the same extent suspended, exists as a concrete moment of generality, and in its outward process the organism inwardly preserves the unity of the self. This is the nature of the animal which, in the reality and externality of individuality, is equally, by contrast, immediately and inwardly self-reflected individuality, inwardly existing subjective generality.

#274.

The animal has contingent self-movement because its subjectivity is, like light and fire, ideality torn from gravity, — a free time, which, as removed at the same time from real externality, determines its place on the basis of inner chance. Bound up with this is the animal's possession of a voice in which its subjectivity, existing in and for itself, dominates the abstract ideality of time and space, and manifests its self-movement as a free vibration within itself. It has animal warmth, as a permanent preservation of the shape; interrupted intussusception; but primarily feeling, as the individuality which in its determinacy is immediately general for itself and really self-differentiating individuality.

#275.

The animal organism, as living generality, is the concept which passes through its three determinations, each of which is in itself the same total identity of substantial unity and, at the same time and as determined for itself by the form, is the transition into others, so that the totality results from this process. It is only as this self-reproducing entity, not as an existing one, that the animal organism is living.

#276.

The animal organism is therefore: (a) a simple, general being in itself in its externality, whereby real determinacy is immediately taken up as particularity into the general, and is thereby the unseparated identity of the subject with itself; — sensibility; — (b) particularity, as excitability from the outside and, on the other hand, the countereffect coming from the outward movement of the subject; — irritability; — (c) the unity of these moments, the negative return to itself through the relation of externality, and thereby the generation and positing of itself as an individual, — reproduction. Inwardly, this is the reality and foundation of the first moments, and outwardly, this is the articulation of the organism and its armament.

#277.

These three moments of the concept have their reality in three systems, namely, the nervous system, the circulatory system, and the digestive system. The first is in the systems of the bones and sensory apparatus, whereas the second turns outwardly on two sides in the lungs and the muscles. The digestive system is, however, as a system of glands with skin and cellular tissue, immediate, vegetative, reproductive, but as part of the actual system of the intestines it is the mediating reproduction. The

animal thus divides itself in the center (*insectum*) into three systems, the head, thorax, and the abdomen, though, on the other hand, the extremities used for mechanical movement and grasping constitute the moment of the individuality outwardly positing and differentiating itself.

NOTES

[1] There is also a journal, published by Thomson, entitled *Annals of Philosophy or Magazine of Chemistry, Minerology [sic], Natural History, Agriculture, and the Arts*. It is hard to imagine how the materials named in the title could be seen as philosophical.

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