This is the first English translation of Schelling’s *Ideas for a Philosophy of Nature* (first published in 1797 and revised in 1803), one of the most significant works in the German tradition of philosophy of nature and early nineteenth-century philosophy of science. It stands in opposition to the Newtonian picture of matter as constituted by inert, impenetrable particles, and argues instead for matter as an equilibrium of active forces that engage in dynamic polar opposition to one another. In the revisions of 1803 Schelling incorporated this dialectical view into a neo-Platonic conception of an original unity divided upon itself.

The text is of more than simply historical interest: Its daring and original vision of nature, philosophy, and empirical science will prove absorbing reading for all philosophers concerned with post-Kantian German idealism, for scholars of German Romanticism, and for historians of science.
The purpose of this series is to make available, in English, central works of German philosophy from Kant to the present. Although there is rapidly growing interest in the English-speaking world in different aspects of the German philosophical tradition as an extremely fertile source of study and inspiration, many of its crucial texts are not available in English or exist only in inadequate or dated translations. The series is intended to remedy that situation, and the translations where appropriate will be accompanied by historical and philosophical introductions and notes. Single works, selections from a single author, and anthologies will all be represented.

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Ideas for a Philosophy of Nature

as

Introduction to the Study of This Science

1797

Second Edition 1803

Translated by

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with an Introduction by Robert Stern
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Introduction

When it first appeared at Easter in 1797, Schelling’s *Ideas for a Philosophy of Nature* marked the real beginning of a new phase in his philosophical development. Two years before its publication Schelling had left the Tübingen theological seminary, where he had met and made friends with Hegel and Hölderlin, and had taken up a post as private tutor to an aristocratic family; in 1796 he moved with the family to Leipzig. There he plunged into a study of medicine, physics and mathematics, and arrived at a picture of nature that emphasized its polarity and dynamism. This new attention to nature led Schelling to break away from the Fichtean themes that had dominated his previous writings. It is true that he retained elements of his previous outlook, and tried to fit his conception of nature into the framework of the Fichtean idealism of his early works; nonetheless, Schelling’s discovery of nature represents the start of a fresh phase in his philosophical career. The *Ideas* of 1797 came out of these new reflections on nature, to be followed a year later by *On the World Soul*, the second of Schelling’s major works on *Naturphilosophie*. These works at once brought him fame, as well as the support of Goethe, who secured for him a professorship at Jena in 1798.

Six years after its first publication, in 1803, Schelling brought out a second edition of this work, in which he added extensive supplements to the original text. By this time, however, the philosophical background to Schelling’s dynamic conception of nature was no longer that of Fichte’s dialectic of subject and object, but was now that of his own neo-Platonic philosophy of the absolute. This introduction will begin by explaining Schelling’s dynamic conception of nature, and will then examine the effect on this conception of Schelling’s change in philosophical outlook between the two editions of the *Ideas*.

In *On the World Soul* Schelling declares that “it is the first principle of a philosophical doctrine of nature to go in search of polarity and dualism
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throughout all nature.”¹ As with Heraclitus, this emphasis on polarity was associated by Schelling with a conception of nature as a balance of opposed forces or tendencies, a balance that when disrupted leads to strife and activity. In particular, Schelling argues in the Ideas that matter, which appears to be dead and inert, is in fact nothing more than an equilibrium of these opposed forces, and that it may be “brought to life” when this equilibrium is disturbed and a conflict of forces ensues:

In the dead object everything is at rest—there is in it no conflict, but eternal equilibrium. Where physical forces divide, living matter is gradually formed; in this struggle of divided forces the living continues, and for that reason alone we regard it as a visible analogue of the mind. (p. 177)²

Schelling, therefore, stands opposed to the Newtonian picture of matter as made up of hard, impenetrable, inert particles that are acted on by forces external to them. He claims that “absolute inertness . . . is a concept without sense or significance” (p. 165), and argues instead that matter is an equilibrium of active forces that stand in polar opposition to one another.

As Schelling acknowledges (cf. pp. 184–5), this notion of matter is derived in large part from Kant’s “construction” of matter in the Metaphysical Foundations of Natural Science (1786).³ There, in the chapter entitled “Dynamics,” Kant argues that the apparent solidity and impenetrability of material nature are in fact derived from a repulsive force that must be balanced by an attractive force if matter is not to “disperse itself to infinity.”⁴ Kant insists that both these opposed forces are essential for the construction of matter, and material bodies should be seen as arising from the union of the two:

That property upon which as a condition even the inner possibility of a thing rests is an essential element of its inner possibility. Therefore, repulsive force belongs just as much to the essence of matter as attractive force; and one cannot be separated from the other in the concept of matter.⁵

² All references, other than those given in footnotes, are to the translation of the Ideas in this volume.
³ In his Lectures on the Method of University Studies (1803) Schelling comments that “the Kantian construction of matter first led to a higher view directed against the materialistic approach.” He adds, however, that “all its positive elements remained at too low a level” (F. W. J. Schelling, On University Studies, translated by E. S. Morgan, edited and with an introduction by N. Guterman [Athens, Ohio, 1966], p. 150).
⁵ Ibid., p. 60.
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In opposition to the “mathemato-mechanical” approach of atoms and the void, therefore, Kant had argued for a “metaphysico-dynamical” conception of matter as made up of a balance of opposed forces.

Kant’s “metaphysico-dynamical” conception clearly forms the background to Schelling’s account of matter given in the first six chapters of Book II of the Ideas. These chapters form the central core of the work. Like Kant, Schelling argues that attractive and repulsive forces are “conditions of the possibility of matter” (p. 154): “Matter and bodies, therefore, are themselves nothing but products of opposing forces, or rather, are themselves nothing else but these forces” (p. 156). Like Kant also, Schelling contrasts his understanding of matter with that of the Newtonian atomists, who treat matter as if it were independent of force by allowing “reflection” to separate the latter from the former (cf. p. 18).

Schelling therefore begins from the presupposition (which, as we shall see, he thinks can only be grounded philosophically) that “attractive and repulsive forces constitute the essence of matter itself” (p. 165). As a result Schelling claims to be able to dispense with all the efforts of a purely mechanistic physics, to explain the gravitational attraction of matter in mechanical terms. In particular, in Chapter 3 of Book II, Schelling sets out to refute the explanation of gravitation offered by the French-Swiss theorist Georges-Louis le Sage, who had postulated an ether of minute particles (particules ultramondaines) moving in all directions at high velocity in all parts of space. Le Sage then explained the phenomenon of gravitational attraction by arguing that two ordinary spherical bodies would screen each other from the bombardment of these particles, so that on the side of each body facing the other the impact of particles would be less than that on the other side, and the resulting disequilibrium of force would impel the bodies towards each other. Schelling dismisses this hypothesis, not only on the grounds that it still leaves the motion of the minute particles unexplained (p. 164), and that the idea of indivisible primary particles is absurd (pp. 161–2), but also because his (or Kant’s) dynamical conception of matter renders le Sage’s mechanistic hypothesis redundant (pp. 166–7).

In the following three chapters of Book II Schelling then goes on to give an explanation of the chemical properties of bodies and chemical processes on the basis of the dynamical account of matter. In the first of these chapters on chemistry he takes up the question of the qualitative determination of matter. He argues that although matter in general is constructed from an equilibrium of the “basic forces” (die Grundkräfte) of attraction and repulsion, particular qualities of matter in fact derive from an upsetting of this equilibrium,
and a predominance of one of these forces over the other; otherwise, Schelling maintains, the forces would simply cancel each other out, in which case neither force would be present in matter to any determinate degree:

Thus force as such can affect us only insofar as it has a particular degree. But so long as we think of these dynamical forces quite generally—in a wholly indeterminate relationship—neither one of them has a particular degree. We can picture this relationship as an absolute equilibrium of these forces, in which the one always cancels out the other, and neither allows the other to grow up to a particular degree. So if matter as such is to acquire qualitative properties, its forces will have to have a particular degree, i.e., they will have to depart from the generality of the relationship in which the mere understanding thinks of them—or more plainly—they will have to deviate from the equilibrium in which they are originally and necessarily conceived. (p. 216)

From this argument Schelling derives what he calls the “principle of dynamical chemistry” (p. 221): “All quality of matter rests wholly and solely on the intensity of its basic forces” (p. 216; cf. also p. 233). The qualities Schelling is referring to here are essentially those of elasticity and mass, where the former is associated with the repulsive force, and the latter with the attractive force (p. 253). Other properties, such as colour and temperature, are dependent on these primary qualities, especially on the quality of elasticity (cf. pp. 224–5 on the colour of light, and p. 226 on the heating of bodies).

Using this principle of dynamical chemistry, Schelling then goes on to give his account of chemical processes and chemical affinity. As one might expect, he rejects any attempt (e.g., by le Sage or Georges-Louis Leclerc, Comte de Buffon) to offer a Newtonian explanation of chemical affinities in terms of an ether or gravitational attraction (although he grants that these conceptions may have some value as hypotheses, insofar as they help to turn chemistry into a mathematical science [p. 210]). Instead he argues that chemical affinity occurs between bodies with opposite degrees of basic forces (i.e., a high degree of repulsive force and a low degree of attractive force on the one hand, and a low degree of repulsive force and a high degree of attractive force on the other); such bodies, he maintains, will enter into chemical reactions in order to restore their imbalance of basic forces to an equilibrium (cf. p. 264). Schelling goes on to argue that as a result the way to set a chemical reaction into motion is to upset this equilibrium between the basic forces of two bodies, so that they are forced into combination if a balance of forces is to be restored (pp. 253–4). The chemical product that results from this combination will be a median of the basic forces of the two opposed bodies (p. 255). (It has to be said that this
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conception of the chemical process led Schelling into some strange views: For example, he seems to have held that the paradigm of a chemical reaction is that between a solid and a fluid body, where the former has a high degree of attractive force, and the latter has a high degree of repulsive force [cf. pp. 133, 254 and 268]. Nonetheless, though the terms and concepts he employs are rather different, Schelling’s account is in some respects closer than that of the Newtonians to an account of chemical affinity in terms of opposed electrical charge.)

Now that we have seen how for Schelling matter only enters into chemical interaction when the balance of attractive and repulsive forces within “dead matter” is disturbed, we can look more profitably at Book I of the Ideas, where he discusses combustion, light, air, electricity and magnetism.

Schelling’s theory of heat and combustion rests on his dynamic conception of matter. On the one hand, he rejects absolutely the caloric theory of heat, which treats heat as an imponderable fluid that enters into chemical combination with the body when it is warmed: Schelling observes that “to postulate a heat-matter as the cause of heat is not to explain the situation, but to pay oneself with words” (p. 228; cf. also p. 4). On the other hand, although he appears to go along with the kinetic theory in accepting that heat is a “mere modification of matter as such” (p. 231), he still rejects any mechanical explanation of the expansion of a heated body as being caused by vibrating atoms that push one another apart (p. 246). In opposition to both these current explanations of heat, Schelling develops a theory more in line with his dynamical explanation of matter, arguing that heat is simply a particular degree of repulsive or expansive force possessed by a heated body, which may be communicated to another body until equilibrium is restored (p. 226). Nonetheless, although Schelling insists that heat itself does not enter into chemical combination with the heated body (pp. 228 and 263), he argues that heat may be the cause of chemical combinations, as occurs, for example, in combustion: In increasing the degree of repulsive force within the body, heating enables it to combine chemically with oxygen, which is “charged” with the opposite attractive force.

In his treatment of light, Schelling is also unwilling to allow the existence of a special “light-stuff” or substance, which can enter into chemical combinations with other forms of matter (although he allows that this view of light may have some value as a scientific fiction) (p. 78; cf. also pp. 75–4). Rather, he argues that light is nothing more than “the highest degree known to us of the expansive force” (p. 224); it differs from heat in that whereas any state of matter (gas, liquid or
solid) can possess that degree of expansibility or repulsive force felt as heat, only air is capable of that degree of expansive force required in order to be a medium for light (cf. pp. 226–8).

Air interests Schelling, however, not simply because it is the “medium that conducts to earth the higher forces (light and heat)” (p. 133) but also because the atmosphere displays an equilibrium and interaction of opposed moments. Air is therefore an important instance of the balance of polarity in nature, where the vital air (oxygen) given off by the vegetable kingdom is balanced by the exhalation into the atmosphere of “mephitic gas” (carbon dioxide) by the animal kingdom: “The collectively uniform distribution of substances, which dispenses ever new materials in nicely calculated proportions into the atmospheric cycle, never lets it reach the point where a perfectly pure air would exhaust our vital forces, or a mephitic gas would stifle all seeds of life” (p. 88). Atmospheric air also displays a polar opposition of life-giving oxygen on the one hand, and azotic air (nitrogen) on the other, which in contrast to the former is damaging to all living beings. Schelling rejects absolutely the suggestion of Christoph Girtanner that the elements of atmospheric air are separated into layers, and argues strongly that they must be chemically mixed (pp. 88–9).

From this account of the duality of air Schelling moves on in the next chapter to a discussion of that polar phenomenon par excellence, that favourite of all the Romantics and Naturphilosophen, which so excited the popular and scientific imagination throughout the period: electricity. Given that Schelling’s philosophy of nature as a whole places such an emphasis on polarity and the basic forces of attraction and repulsion, it is not really surprising that electricity so fascinated him, and his account of it is very much determined by his general dynamic conception of matter as I have analysed it. This conception leads him to reject Benjamin Franklin’s picture of electricity as a subtle elastic fluid, arguing that the postulation of such a fluid is nothing but a “lazy Philosophy of Nature, which believes it has explained everything if it postulates the causes of phenomena as basic materials in the bodies, from which they then emerge (tamquam Deus ex machina) only when needed to explain some phenomenon in the shortest and most convenient way” (p. 101). Instead Schelling argues that positive electricity is the result of the elasticity of matter, while negative electricity is the result of its cohesion. He then goes on to suggest that this cohesion of matter is caused by oxygen, which he characterizes as a

6The etymology of azote is ἀ (without) and ζωή (life).
“cohesion-intensifying principle” (p. 67). Schelling brings together both these points in the second-edition supplement to this chapter.

We can accordingly state the general law of the electrical relation of bodies thus: That one of the two which enhances its cohesion in opposition to the other will have to appear negatively electric, and that one which diminishes its cohesion, positively electric. It is evident from this how the electricity of every body is determined, not only by its own quality, but equally by that of the other. As is shown in the foregoing chapter, though very incompletely, the bearing which the electric relationship of bodies has upon that of their oxidizability is intelligible, since this too is determined by cohesion-relationships. (p. 118)

This account of oxygen as causing cohesion in matter, and thereby giving rise to negative electricity, explains Schelling’s curious-looking claim in the first edition that “the basis of negative electrical matter is either oxygen itself or some other basic substance wholly homogeneous with it” (p. 102). Given this account of oxygen, Schelling is able to arrive at a dynamical picture of electricity, explaining the negative pole in terms of an increased attractive force caused by oxidation, while at the same time being able to dispense with a unique electrical matter or fluid to account for the presence of this negative electrical charge.

Schelling displays a similar reluctance to allow the existence of imponderable fluids in his discussion of magnetism. While he grants that the one-fluid theory of Franz Aepinus has considerable value as a hypothesis, he does not accept that this magnetic fluid is any more than “a (scientific) fiction, on which to base experiments and observations (as regulative), but not explanations and hypotheses (as principle). For if we speak of a magnetic matter, we have in fact said nothing more by this than what we knew anyway, namely, that there has to be something which makes the magnet magnetic” (p. 125). In the case of magnetism, however, Schelling offers little by way of an alternative explanation of the magnetic properties of bodies, although he hints that a chemical explanation may be the most fruitful path to follow (p. 127).

Now there is no doubt that one major reason for Schelling’s hostility towards the postulation of special fluids and matters to account for phenomena like light, heat, electricity and magnetism in Book I of the Ideas is his conception of matter as essentially constructed from the polar opposition of dynamical forces, forces that can be used to account for these phenomena, and which need no further explanation in terms of matters and fluids. The only explanation that Schelling feels can be offered for this polarity of basic forces cannot in fact be given at the level of empirical science at all, but rather must come from outside our possible experience; “we are therefore obliged to ascend to philo-
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sophical axioms” (p. 172), to the “higher science” of philosophical explanation.

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In the first edition of the Ideas, by a philosophical explanation of the
dynamic polarity of nature Schelling primarily means a transcendental
account, which like Kant’s should be based on an examination of the
possibility of our experience (cf. pp. 155–6). Thus, in Chapter 4 of
Book II Schelling sets out to show that “these concepts of universal
attraction and repulsion” must be “conditions for the possibility of all
objective knowledge” (p. 171); thereby he hopes to demonstrate, as
the title of this chapter claims, the “First Origin of the Concept of
Matter, from the Nature of Perception and the Human Mind.”

However, Schelling’s transcendental deduction of the forces of
attraction and repulsion, and with them matter, departs considerably
from the Kantian picture, as developed by the latter in the Critique of
Pure Reason, of a transcendental ego which employs the categories to
synthesize and structure an atomistic manifold given to it by the trans-
scendental object. Schelling rejects this Kantian picture quite force-
fully in the Introduction to the Ideas, on the grounds that it rests on a
mistaken form-matter distinction,7 that it requires the dogmatic postu-
lation of the nonsensical things-in-themselves, and that it cannot explain
how the postulated things-in-themselves cause representations in us (pp. 25–7).

Rather than base his transcendental deduction of the basic forces
and matter on this Kantian conception, therefore, Schelling develops
his deduction along more Fichtean lines, as set out by the latter in his
Foundations of the Entire Science of Knowledge (1794).8 Schelling did not
work out the full details of this Fichtean deduction until his System of
Transcendental Idealism of 1800,9 but the beginnings of such an attempt
can be seen in the first edition of the Ideas.

Fichte had begun his Science of Knowledge with the aim of discovering
the “primordial, absolutely unconditioned first principle of all

7 Donald Davidson has more recently attacked the clearly Kantian doctrine of “concep-
tual schemes” on similar grounds, arguing that the “dualism of scheme and
content, of organizing system and something waiting to be organized, cannot be
made intelligible and defensible” (D. Davidson, “On the Very Idea of a Conceptual
8 English translation in J. G. Fichte, The Science of Knowledge, with the First and Second
Introductions, translated by P. Heath and J. Lachs (Cambridge, 1982).
9 F. W. J. Schelling, System of Transcendental Idealism, translated by P. Heath, with an
introduction by M. Vater (Charlottesville, Va., 1978).
human knowledge.”\textsuperscript{10} Taking as his starting point the “perfectly certain and established”\textsuperscript{11} proposition \(A\) is \(A\), or \(A = A\), he then argues that this proposition requires a necessary connection or bond (which he calls \(X\)) between \(A\) as subject and \(A\) as predicate. Fichte then argues that this connection must be present in the judging self, along with the \(A\) that forms the subject and predicate of the judgement. Finally, just as Kant had argued that all connection of the manifold by the understanding rests on the original unity of the “I think” or consciousness,\textsuperscript{12} so Fichte argues that this connecting link (\(X\)) between the two sides of the judgment of identity also requires the unity of the self that makes the judgment: He thereby arrives at the principle \(I\) am \(I\), or \(I = I\). The unity and identity of self-consciousness therefore form the “absolutely unconditioned first principle of all human knowledge,”\textsuperscript{13} as all knowledge must fall under the rule \(A = A\), and this rule itself rests on that unity of consciousness which Fichte has deduced.

He then moves on to a second “perfectly certain and established” proposition: that “not-\(A\) is not equal to \(A\)”\textsuperscript{14} This positing of not-\(A\), Fichte argues, requires the original positing of \(A\), and is therefore materially conditioned by this original positing. At the same time he argues that the act of counterposing rests on the second principle of human knowledge, which states that a not-self must be opposed to the self; and just as the not-\(A\) was conditioned by the original positing of the \(A\), so the not-self must be conditioned by the original positing of the self.\textsuperscript{14}

Fichte next goes on to argue that this counterposing of the not-self by the self in fact leads into contradiction as it stands. For if the not-self is posited, the self is negated; but on the other hand, the not-self can only come to be if it is posited by the self; so if the former is to be posited, the latter cannot be negated. A way must therefore be found whereby the positing of the not-self does not absolutely negate and eliminate the self, and vice versa. The question therefore is, “How can \(A\) and not-\(A\), being and non-being, reality and negation, be thought

\textsuperscript{10} Fichte, \textit{The Science of Knowledge}, p. 93.
\textsuperscript{11} \textit{Ibid.}, p. 94.
\textsuperscript{13} Fichte, \textit{The Science of Knowledge}, p. 102.
\textsuperscript{14} “As surely as the absolute certainty of the proposition ‘not-\(A\) is not equal to \(A\)’ is unconditionally admitted among the facts of empirical consciousness, \textit{so surely is a not-self opposed absolutely to the self}. Now all that we have just said concerning opposition in general is derived from this original opposition, and thus holds good of it from the start; it is thus absolutely unconditioned in form, but conditioned as to matter. And with this we have also discovered the second basic principle of all human knowledge” (\textit{Ibid.}, p. 104).
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together without mutual elimination and destruction?" The answer Fichte gives is that "they will mutually limit one another," where "to limit something is to abolish its reality, but not wholly but in part only, by negation." Thus, he argues, the only way in which the contradictory nature of the second principle of human knowledge can be overcome is in the following third principle: "In the self I oppose a divisible not-self to the divisible self." In this way Fichte arrives at a pair of opposed moments that nonetheless require one another for their determination, and which can therefore be conjoined in a synthesis.

The way in which Fichte came to this unity of apparently absolutely opposed moments is of the utmost importance as a foreshadowing of Hegel's later development of the dialectic, and the similarity between the two is clear: Just as Fichte begins from the one-sided identity of the self, so Hegel's dialectic of categories begins from the simply self-identical categories of the understanding; and just as Fichte proceeded to deduce from this the necessity of a not-self, so for Hegel the one-sided categories pass over into their opposite or other; and just as for Fichte this apparently absolute opposition of self and not-self can in fact be unified in a higher synthesis once the mutual determination of the apparent opposites is seen, so for Hegel the opposition of categories must be overcome by reason, while their difference is preserved.

It is also clear that in his early writings, and in the first edition of the Ideas, this Fichtean dialectic of the self and the not-self had a great influence on Schelling. For example, in his work of 1795, Of the I as the Principle of Philosophy, or On the Unconditional in Human Knowledge, Schelling begins like Fichte with an absolutely self-identical I, which is then opposed by a not-I which stands outside it. Also like Fichte, Schelling then argues that this absolute oppositig must be overcome, and that the two opposed moments must in fact mutually determine each other through negation, so that in the final synthesis a finite I is limited by a finite not-I:

15 Ibid., p. 108.
16 Ibid., p. 110.
17 Fichte's argument here rests on Spinoza's dictum "determinatio negatio est" ("determination is negation"). Hegel also made extensive use of this principle in constructing his dialectic.
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The absolute I describes an infinite sphere which includes all reality. Counter to that another infinite sphere is set up (not only excluded) which includes all negation (absolute not-I). . . . The absolute sphere of the not-I, if it were simply posited absolutely, would have to cancel the I altogether, because one infinite sphere does not tolerate another. On the other hand, the sphere of the I would cancel the sphere of the not-I, insofar as the latter is posited as infinite. And yet both are supposed to be posited. There is no remedy but the striving of the I to draw into its own sphere the sphere of the not-I, for the latter is to be posited, and positing is possible only in the I. But this possibility is denied by the negation which is the nature of the sphere of the not-I. Consequently, this latter negation can be posited only in contrast to the sphere of the I. If it is to be posited inside the sphere of reality, the infinite sphere of negation turns into a finite sphere of reality, i.e., it can be posited only as reality necessarily connected with negation. And by that the I becomes restricted.\footnote{Ibid., p. 92, footnote in the first edition.}

This “progression from thesis to antithesis and from there to synthesis”\footnote{Ibid., p. 90, footnote.} clearly has the character of Fichte’s dialectic of self and not-self.

It is this dialectic that forms the background of Schelling’s transcendental deduction of the basic forces of matter as it is presented in Chapter 4 of Book II in the first edition of the Ideas. Schelling begins this deduction by arguing that insofar as matter is real, it must be given to us in intuition. In contrast to much empiricist psychology, however, he maintains that intuition cannot be a merely passive reception of impressions, for otherwise no explanation can be offered of the consciousness we have of these impressions (p. 173).\footnote{Schelling makes a similar point in the System of Transcendental Idealism, pp. 61–2.} Schelling argues instead that the apparent passivity of intuition is in fact nothing more than a limitation of a primary activity, in contrast to which the passivity is determined. This pure activity is for Schelling (as it was for Fichte) the essential attribute of the self, and it is only in dialectical contrast to this activity that the passivity induced in us by the intuition of the not-self can arise; conversely, only through this opposition of the not-self can the activity of the self be determined, making the dialectical dependence of these apparent opposites complete:

All thinking and presentation in us is therefore necessarily preceded by an original activity, which, because it precedes all thinking, is to that extent absolutely undetermined and unconfined. Only once an opposing element is present does it become restricted, and for that very reason a determinate (thinkable) activity. If this activity of our mind were originally restricted (as is imagined by the philosophers who reduce everything to thinking and presentation), the mind could never feel itself to be confined. It feels its confinement only insofar as it feels at the same time its original lack of confinement.
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Now upon this original activity there works (or so at least it seems to us, from the standpoint we here occupy) an activity opposed to it, which has hitherto been no less completely undetermined, and thus we have two mutually contradictory activities, as necessary conditions for the possibility of an intuition. (p. 175)

Now, from this dialectical account of the mutual dependence of the unrestricted and restricted activities of the self, and thus of the self and the not-self, Schelling argues that “the product of intuition is necessarily a finite one, which proceeds from opposing, mutually restricting activities” (p. 177). In other words, the object of intuition must itself be constructed from the opposition of forces that make possible the consciousness of this object. In this way, Schelling claims to have derived the polarity of forces within matter from the transcendental polarity of self and not-self, by giving a transcendental deduction of the opposition of basic forces in the object, beginning from the original dialectic of opposed activities within the knowing mind. According to Schelling, it is this dialectic that makes experience of the object possible, but which itself can only be grounded at the transcendental level, not at the level of experience.

In the object, however, those opposing activities, from which it emerged in intuition, have at the same time become permanent. The mental origin of the object lies beyond consciousness. For with it consciousness first arose. It therefore appears as something that exists quite independently of our freedom. So those opposing activities, which intuition has united in it, appear as forces attaching to the object in itself, without any reference to a possible cognition. For the understanding they are something merely excogitated and found by inference. But it presupposes them to be real, since they necessarily proceed from the nature of our mind, and of intuition itself. (p. 182)

Schelling’s philosophical thought, though not without a degree of continuity, is nonetheless notoriously protean, and his outlook changed a good deal between the two editions of the Ideas. By 1803 Schelling had worked out his so-called philosophy of identity, most notably in his Exhibition of My System of Philosophy (1801) and Further Exhibitions from the System of Philosophy (1802), as well as in his dialogue Bruno, or Concerning the Divine and Natural Principle of Things (1802). In these writings Schelling no longer explained the fundamental phenomenon of difference and polarity in the Fichtean way, as the dialectical positing by a one-sided moment of its opposite; rather, Schelling’s philosophy now encompassed the absolute, and duality was now understood as the division of a primordial neo-Platonic unity. Thus, whereas in
the first edition of the Ideas Schelling’s deduction of the polarity of nature had been purely dialectical—as the transition of one moment into its opposite or other—in the second edition this polarity is conceived as the unfolding into difference of an original unity. This new conception is neatly summed up in the following passage from Giordano Bruno, which Schelling presents as giving the “creed of true philosophy” towards the end of his eponymous dialogue: “To penetrate into the deepest secrets of nature, one must not tire of inquiring into the opposed and antagonistic extremes or end points of things. To discover their point of union is not the greatest task, but to do this and then develop elements out of their point of union, this is the genuine and deepest secret of art.”98

The point of union from which Schelling’s identity philosophy begins is the absolute, which is utterly homogeneous and undifferentiated, a Parmenidean One. Now, whereas on a purely dialectical approach this empty absolute would inevitably give rise to its opposite,44 thereby introducing duality and opposition into the picture, Schelling’s identity philosophy is not dialectical in this way; rather, he posits duality as arising within the absolute itself; as a “self-division of the undivided absoluteness into subject and object” (p. 47), opposites that must then be brought back to unity, while preserving their difference. This movement gives rise to Schelling’s doctrine of three levels or potencies (die Potenzen),95 as a hierarchy of structures that must be repeated by each finite thing or class of things. The first potency is that of relative identity, which involves the transition of unity into difference; the second potency is that of relative difference, which involves the opposite and complementary movement of difference into unity; and both these potencies are encompassed by a third potency of absolute identity, which is the identity of identity and difference. Schelling insists, however, that this third potency, of absolute identity, is in fact primary (cf. pp. 180–1), and that the other two emerge from it only after the “eternal self-division of the absolute into subject and object” (p. 150), which brings about the introduction of difference into this unity.

In the supplementary Introduction he wrote for the second edition of the Ideas, Schelling presents these three levels or potencies using the scholastic terminology of form and essence:

94 As occurs, for example, in Hegel’s well-known dialectic of Pure Being, Not-Being, and Becoming; see Hegel, Logic, §§§86–88, pp. 124–33.
95 This term was first used in print by Schelling’s fellow Naturphilosoph Karl Eschenmayer, and was taken from the theory of powers in mathematics.
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In this absoluteness and in the eternal act, it [the absolute] is utterly one, and yet, in this unity, again immediately a totality of the three unities, namely, that in which the essence is absolutely shaped into form, that in which the form is absolutely shaped into essence, and that in which both these absolutenesses are again one absoluteness. (p. 48)

Schelling does nothing to explain his use of this terminology here, but a fuller (though by no means unproblematic) account is given by the character called Alexander in the Bruno. From this account it is clear that Schelling conceives of a thing’s essence as infinite and undifferentiated, whereas its form constitutes the element of limitation and determination; and the absolute, as the form of all forms, unifies this limitation and finiteness with the infinite essence, thereby bringing together both unity and multiplicity in an absolute unity. Moreover, even when in the Ideas Schelling uses the different terminology of universal and particular (p. 48) and infinite and finite (p. 49), the point he is making is basically the same: The absolute is the unity of the twofold movement of unity into difference (or universal into particular, or infinite into finite) and difference into unity (or particular into universal, or finite into infinite).

From this Schelling argues that there must be three levels or potencies in Nature-philosophy (pp. 51 and 137–9). The first potency is the movement of the infinite into the finite, in which the unity of the former gives rise to the spatially differentiated material bodies that make up the world. The second level is made up of the “reverse embodiment of the particular into the universal or essence” (p. 51), in which the universal is given its highest expression in the phenomenon of light. Finally, both these movements are brought together in the primary unity of the third potency, which is represented in the natural world by the organism, as the “perfect mirror-image of the absolute in Nature and for Nature” (p. 51).

In addition, Schelling not only uses this doctrine of potencies to give an account of magnetism (as the transition of identity into difference), electricity (as the transition of difference into unity) and chemistry (as the union of this twofold movement) (cf. pp. 137 and 268); he also deduces from it the construction of matter that he puts forward in the second edition of the Ideas. As in the first edition, he constructs matter from the opposed basic forces of attraction and repulsion; but instead of deducing these forces dialectically, as opposites requiring each other in order to come into being, he now simply derives them from the twofold movement of the absolute, as an

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original unity that produces difference out of unity and unity out of

difference (cf. pp. 158 and 192).#7

It should now be clear how in the second edition Schelling’s whole

philosophy of nature has been rethought against the background of his

identity philosophy, in the context of his neo-Platonic meditations on

the relation of the one to the many. As a result, nature’s polarity is no

longer seen as a purely dialectical positing of contraries, but rather as

the division of an original unity. “Matter, too, like everything that ex-

ists, streams out from the eternal essence, and represents in appear-

ance an effect, albeit indirect and mediate only, of the eternal dichoto-
mizing into subject and object, and of the fashioning of its infinite unity

into finitude and multiplicity” (p. 179). With this new philosophy of

nature Schelling incorporated the dialectic of contraries into his ac-

count of the transition of the one into the many; he thereby succeeded

in making the dialectic part of his neo-Platonic conception of reality, an

aspect of the dialectic that was only really lost when Hegel managed to

break away from Schelling’s doctrine of the absolute.#8

IV

Schelling’s Ideas for a Philosophy of Nature is a work of considerable

historical interest: It offers many insights into the development of

Schelling’s thought and of post-Kantian German idealism, into the

history and philosophy of science of the period, and into the whole

intellectual phenomenon of Naturphilosophie, which is represented

here by one of its most forceful and influential proponents. More-

over, the Ideas is of more than merely historical interest. The view

of nature, of philosophy and of empirical science that it puts forward

is both daring and all-embracing, and as such it should be admired as

one of the most startling and original attempts of human speculation

to provide us with a total account of the nature of what is.

ROBERT STERN

#7 Schelling also departs from the first edition by adding gravity to attraction and

repulsion as the third principle of the construction of matter which brings to-

gether the other two.

#8 In his early works Hegel was clearly greatly influenced by Schelling’s doctrine of

the absolute, and therefore followed him in viewing dialectical opposition as the

division of an original unity: “An authentic speculation, even when it does not

succeed in constructing itself completely into a system, necessarily begins from the

absolute identity. The dichotomy of the absolute identity into subjective and objec-
tive is a production by [or of] the Absolute” (G. W. F. Hegel, The Difference between

Fichte’s and Schelling’s System of Philosophy, translated by H. S. Harris and W. Cerf

[Albany, N.Y., 1977], pp. 114–15). Only later, when he had rejected Schelling’s

neo-Platonic absolute, did Hegel return to a more Fichtean model of the dialectic,

as the transition from a one-sided moment into its other, through which the

former is determined. Hegel makes this contrast clear in G. W. F. Hegel, Lectures

on the History of Philosophy, translated by E. S. Haldane and F. H. Simson, 3 vols.

Translators’ Note

The text of this translation is that of the second edition, of 1803, in which often quite lengthy, if at times arcane, supplements were added to each chapter. Their purpose was not so much to update the scientific matter under discussion but rather to bring the original content into line with the latest developments in the author’s own philosophical views. There were also some changes of wording between the first and second editions, reported in the Collected Edition of K. F. A. Schelling (1856ff.), and in most of its successors. These have been incorporated, in square brackets, in the footnotes to each chapter, the rest of which are virtually all by Schelling himself. In addition, we have provided, in the Appendix, some biographical details of the numerous but now little-remembered scientific writers of the period, to whom Schelling frequently refers. The aim here is merely to identify these figures, not to give any full account of their work. Under the circumstances, it seemed otiose to include such familiar names as those of Descartes, Spinoza, Newton, Bacon, or Kant; but we have in fact made room for some others equally famous—Franklin, Lavoisier and Volta, for example—where it seemed not unlikely that the reader might welcome a brief reminder of what they are famous for.

The translation of Book I has been made in the first instance by Harris; Book II, and the rest of the editorial matter, are attributable to Heath. Each, however, has revised the work of the other, not only to eliminate errors but also to secure a measure of uniformity in the rendering of technical terms. Our preferred versions are recorded in the Glossary; but where more than one option is given there, it should not be supposed that this reflects unreconciled disagreement between the translators. It is simply that—as we see it—the same German word cannot always be suitably—or even intelligibly—translated by a single English equivalent. Our aim, in other words, has been to provide, so far as possible, a clear and idiomatic translation which is nevertheless as close to the original as we can make it. It goes without saying that we may not always have succeeded, and that others, more perceptive or
Translators' Note

better informed, may be able to set us right. Corrections or suggestions will therefore be welcome, and will be duly acknowledged and adopted, should there be any later opportunity for improving the text.

PLH
EEH
### Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Anschauung</td>
<td>Intuition, perception</td>
</tr>
<tr>
<td>Atmosphärische Luft</td>
<td>Atmospheric air</td>
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<tr>
<td>Aufheben</td>
<td>Remove, abolish, cancel</td>
</tr>
<tr>
<td>Auflösung</td>
<td>Dissolution</td>
</tr>
<tr>
<td>Azotische Luft</td>
<td>Azotic air, azote (nitrogen)</td>
</tr>
<tr>
<td>Begriff</td>
<td>Concept, notion</td>
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<tr>
<td>Beschaffenheit</td>
<td>Constitution, characteristic</td>
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<tr>
<td>Bestimmen</td>
<td>Determine, define, specify</td>
</tr>
<tr>
<td>Brennbare Luft</td>
<td>Inflammable air (hydrogen)</td>
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<tr>
<td>Darstellung</td>
<td>Presentation, account</td>
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<tr>
<td>Differenz</td>
<td>Difference</td>
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<tr>
<td>Eigenschaft</td>
<td>Property, attribute</td>
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<tr>
<td>Einbildung</td>
<td>Embodiment</td>
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<td>Element</td>
<td>Element</td>
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<td>Erregung</td>
<td>Excitation</td>
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<tr>
<td>Erscheinung</td>
<td>Phenomenon, appearance</td>
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<tr>
<td>Gegensatz</td>
<td>Opposite, contrary</td>
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<tr>
<td>Gleichgewicht</td>
<td>Equilibrium</td>
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<tr>
<td>Grundstoff</td>
<td>Basic material, basic substance</td>
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<tr>
<td>Hervorbringen</td>
<td>Produce, engender, create</td>
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<tr>
<td>Idee</td>
<td>Idea</td>
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<tr>
<td>Indifferenzierung</td>
<td>Indifferencing</td>
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<tr>
<td>Kapazität</td>
<td>Capacity (heat, etc.)</td>
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<tr>
<td>Körper</td>
<td>Body, substance</td>
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<tr>
<td>Lebensluft</td>
<td>Vital air (oxygen)</td>
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<td>Luft</td>
<td>Air</td>
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<td>Materie</td>
<td>Matter</td>
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<td>Organisation</td>
<td>Organism, organization</td>
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<tr>
<td>Potenz</td>
<td>Potency, power</td>
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<tr>
<td>Salpeterluft</td>
<td>Nitrous air, nitrogen</td>
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<tr>
<td>Sauerstoff-gas</td>
<td>Oxygen</td>
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<tr>
<td>Stoff</td>
<td>Substance, stuff, material</td>
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<tr>
<td>Subject-objectivierung</td>
<td>Division into subject and object</td>
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<tr>
<td>Trennung</td>
<td>Separation</td>
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<tr>
<td>Verbindung</td>
<td>Combination, bonding</td>
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<tr>
<td>Verbrennung</td>
<td>Combustion</td>
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<tr>
<td>Verhältnis</td>
<td>Relationship, proportion, ratio</td>
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<tr>
<td>Vorstellung</td>
<td>Idea, presentation, conception</td>
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<tr>
<td>Wärmestoff</td>
<td>Heat-stuff, caloric</td>
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<td>Wirksamkeit</td>
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