

# Romanticism and technology

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Romanticism and technology are often regarded as inherently at odds with each other, one supposedly relying upon a desire to get in touch with a nature in us and outside us which the modern 'technologized' world risks losing sight of altogether, the other upon the domination of external nature for human purposes. However, the term 'Romanticism' (leaving aside the term 'technology', to which I shall come later) is now used in such divergent ways, being attributed to modes of thought and artistic currents which often entail contrary assumptions, that productive discussion of 'Romanticism and Technology' might seem impossible. What I want to claim, then, is that the ideas presented here are simply better than many ideas which others term Romantic, and, more importantly, are superior to many philosophical alternatives, 'Romantic' or not. Historically the matter is much simpler: I am concerned with an admittedly 'ideal-type' 'early Romanticism', and not with later manifestations of 'Romanticism'. Given the notorious fate of many ideas termed 'Romantic',<sup>1</sup> it is vital that this restriction be clear from the outset. Romanticism has often been seen as one of the great intellectual and political failures of modernity: I want, however, to argue that what I mean by Romanticism may not yet have had its historical chance.

The first part of the following passage by Novalis appeared recently in the London Underground, as part of the advertising for cultural events running under the heading of 'Deutsche Romantik'. The reversal in the second half of the passage was, characteristically, omitted:

By giving the commonplace a higher sense, the usual a mysterious appearance, the known the dignity of the unknown, the finite an infinite appearance, I romanticize it – The operation is the other way round for the higher, the unknown, the mystical, the infinite – it is logorhythmized by this connection – It gains an everyday expression.<sup>2</sup>

Novalis, remember, was a mining engineer. His neologism 'logorhythmized', which combines the ideas of rational ordering, verbalization and mathematical progression with the idea of the music inherent in the use of everyday language, points to the central issues in early Romantic philosophy. In this sense the music of Beethoven, with its unparalleled combination of rigorous order and free invention, is the perfect metaphor for such Romantic thinking. The fact is that Novalis's two-way movement between the everyday and the imaginative, the cognitive and the aesthetic, which is characteristic of Romanticism's relationship to the natural sciences and technology, has too often been reduced to a one-way movement between the aesthetic and the cognitive. Most of the ideas at issue here initially developed somewhere between 1794 and 1801, particularly in Jena, in the work of Novalis, the earlier Friedrich Schlegel, and parts of the work of Schelling and Schleiermacher, as a response to Kant's critical philosophy, and were apparently finally laid to rest by the middle of the nineteenth century by materialist critics, following the demise of Hegelianism. That Romantic philosophy could really be laid to rest in this way is, given its predominant concerns, very unlikely: the issue which lies at the heart of Romantic philosophy is the status given to reason in the light of the modern demand to establish a ground for rationality without recourse to a divinity.

A recent example of issues which were central to Romantic philosophy can indicate what may be at stake in any contemporary revival of Romantic concerns. In the debate between sociologists and historians of science, and a variety of scientific realists, concerning whether science is a 'social construct', one of the realists treated us to the assertion that 'Somewhere buried in the awesome complexity of Nature, lies the truth. It is the task of science to disclose that truth ...'<sup>3</sup> Another informed us that taking tribal beliefs about the moon as just as true as our own beliefs was 'deeply silly ... when you ask practical questions'.<sup>4</sup> He did not trouble to ask

what 'true' might mean, having decided it meant correspondence to the 'ready-made' facts, thereby ignoring the fact that this was not necessarily even compatible with his own assertion about truth and practicality. Seeing the moon as a calabash (his example) could, presumably, be perfectly practical for some purposes within a traditional society, and whether you think going to the moon is practical or not rather depends upon who you are and what you think is valuable. The rational response to all this was to say, as some respondents did, that sciences are, of course, social constructs, if by that you mean they would not exist if societies did not construct them, but that this was no warrant for saying we must validate the practical and theoretical claims of a science merely in terms of analysis of the society that constructs it. We don't entrust the building of our aircraft to sociologists of science, but, of course, neither do we regard aircraft builders as the final arbiters of the scientific, social, economic and political significance of what they get up to. The fact is that much of this battle is really about understanding what it is that needs evaluation. The answer has something important to do with what 'Romanticism' has been understood to mean, which is why we now need an alternative account

of Romantic philosophy.

One simple answer to the question of what generates so much heat and so little light in this context is that some of the realists – those whom Hilary Putnam terms 'metaphysical realists' – want to think science is 'absolutely true' of the 'ready-made world'. The problem with this position is actually quite easy to show, and Romantic philosophy was very good at showing it: how does anyone *know* that the truth is there hidden in nature for science to find if they have not either already found the truth or presupposed that whatever it is that their science finds out is, or is on the way to being, the final truth? Would it not be more philosophically tactful, for example, to understand the sciences as constituting just one of the dominant ways in which we now respond to the world?<sup>5</sup> Such responses also involve aesthetic, practical and contemplative approaches, which themselves feed into scientific praxis, and vice versa. Inescapable circles loom in every direction if we wish to make the stronger claim that 'science represents the truth'. The Romantic conception of truth is not least interesting in this respect because it suggests what is problematic about the very idea of the ready-made world. Friedrich Schlegel maintains in 'On Incomprehensibility'

of 1800: 'In truth you would be distressed if the whole world, as you demand, were for once seriously to become completely comprehensible';<sup>6</sup> elsewhere he asserts: 'If absolute truth were found then the business of spirit would be completed and it would have to cease to be, since it only exists in activity.'<sup>7</sup> Importantly, Schlegel does not further specify what this activity is grounded in, because, as we shall see, this would lay claim to something which Romantic philosophy was perhaps the first to renounce.

As opposed to the realists the suspect fraction of the relativist sociology camp looks, in a way Schlegel does not, for a big story which will explain science as really something else – as driven, for example, by the will to power or the will to knowledge, or as Heidegger's 'enframing', the manifestation, most visible in modern technology, of Western metaphysics' grounding of all truth in the subject as 'lord and master of nature'. The unappealing alternative between hard-line realism and this latter kind of relativism – which in fact often appeals to a hidden absolute like the 'will to power' – offers us another instance of what has often been termed the debate between positivism and Romanticism.<sup>8</sup>

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## Jacobi and romantic philosophy

Let us now therefore try to establish a few vital historical and philosophical points of orientation, of the kind that too rarely get discussed when looking at 'Romanticism' in relation to 'positivism'. The underlying issue raised by the debate just referred to is the question of what makes something true. As is well known, in 1781 Kant tried to overcome his crisis concerning this question, occasioned by Hume's arguments on causality, by suggesting that our thinking was what made things true, not the world as it was 'in itself'. Kant maintained that we had no right to assert that anything was true beyond the bounds of what we could judge to be true by applying prior conditions of thought to what was presented to us in 'intuition'. He was thereby understood as opening up a rift between thinking and the world, which his philosophical contemporaries and successors then tried to bridge, and which he himself clearly did not think was the last word on our relationship to nature. Kant toyed with ways of trying to reunite mind and nature in the *Critique of Judgement*, which was vital to Romantic philosophy, but he kept the links he thought most significant in the realm of orienting fictions. The rift Kant's position can be seen as establishing creates precisely the space in which a debate like the one just cited can arise. If Kant's way of grounding knowledge in the subject turns out to be a failure there are two main possibilities. One will be to say, especially given the evident problem-solving success of modern science and technology, that knowledge is objective in a pre-Kantian manner. This is the position of the metaphysical realists, who regard what science, particularly physics, tells us as offering an 'absolute conception' untainted by the interference of subjectivity. The other is to maintain both that knowledge is only intelligible within frameworks of the kind exemplified in the – probably flawed – concept of the transcendental subject, and that we have no necessary access to a pre-existing 'framework of frameworks' which would ground all the various ways of understanding what knowledge is, though we may, pragmatically or ethically, wish to try to converge towards such a framework. In this sense there is no 'science of knowledge'. This leaves open the door for sociologies and histories of science, critiques of science as ideology, hermeneutics and the rest, all of which deal with some aspect of the conditions of possibility of whatever is now meant by 'science', and all of which derive directly or indirectly from Romantic philosophy.

'Science of knowledge' is, importantly, the way in which the title of the *Wissenschaftslehre*, in which Fichte tried to establish the absolute foundation Kant failed to provide, has often been translated into English.

The very problem of self-reference implicit in this translation – does such philosophy not consist in the attempt to gain 'knowledge of knowledge', thereby leading to the need for a special kind of prior 'knowledge'? – is one of the vital issues that have been at the centre of much subsequent philosophy. Romantic philosophy is formed in relation to some of the alternatives which appeared in key responses to Kant's philosophy like that of Fichte: in this sense Romantic philosophy is the first manifestation of what happens when transcendental philosophy realizes how problematic foundationalism can become.<sup>9</sup> Its relationship to what we now term 'technology' can be understood by looking at some of the responses to Kantian problems.

The seriousness of the objections to Kant's dualism can be gauged from F. H. Jacobi's response in 'On Transcendental Idealism' of 1787:<sup>10</sup>

For even if according to [Kantian philosophy] it can be *admitted* that a transcendental something *may* correspond as *cause* to these merely subjective beings (*Wesen* [by which he means 'appearances']), which are only determinations *of our own being*, it yet remains hidden in the deepest obscurity *where* this cause and what the nature of the relation it has to its effect is.<sup>11</sup>

In this view there is nothing we can *know* which could show how it is that we hold things to be true, given that Kant had shown how previous explanations in terms of the world 'in itself' were invalid because they claimed more than they could ever prove. The Romantic answers to the problems in Kant's dualism suggested by Jacobi lead us rapidly in the direction of issues to do with technology. This is evident in Schelling's assertion in the 1797 *Ideas Towards a Philosophy of Nature* that:

one can push as many transitory materials as one wants, which become finer and finer, between mind and matter, but sometime the point must come where mind and matter are One, or where the great leap that we so long wished to avoid becomes inevitable.<sup>12</sup>

Schelling thinks of the difference of mind and matter as only ever a relative difference within a totality which encompasses both, rather than, as the materialist version of an apparently similar naturalistic philosophy does, privileging one – matter – over the other. The vital problem with this kind of monism was that it could be construed as leading to the most controversial philosophy in this period: Spinozism. Schelling himself will spend most of his philosophical career in an overt and covert dialogue with Spinozism, in which many of the

subsequent issues concerning technology associated with Heidegger, the Frankfurt School, and even such thinkers as Daniel Dennett, are already adumbrated. The tension between the Spinozist aspects of the thinking of this period and the attempted alternatives to Spinozism can provide a model which reveals how the relationship between Romanticism and technology can be understood.

The totality which encompasses mind and matter was referred to in this period as the 'Absolute' or the 'unconditioned', terms which are generally misunderstood. Discussion of 'the Absolute' in the English-speaking world has tended to move in one of two directions, neither of which owes much to the Romantic conception. In the first because it is beyond anything we can know discursively, and can therefore only be 'known' 'intuitively', the Absolute is regarded as a mystical issue for theologians: this is often, wrongly, assumed to be the Romantic position. In the second, the Absolute has been thought of as the account of the world which is uncontaminated by the relative ways the human subject 'sees' it within particular local interpretations: truth here is the final correspondence of 'objective' scientific knowledge to the ready-made world. Bernard Williams, who in this respect (though not in others) is thoroughly in line with a Spinozist conception, has approvingly termed this version of truth the 'absolute conception'.

The issue for Romantics that leads to questions about the Absolute is how to come to terms with the relativity of particular claims to knowledge without becoming trapped by the paradoxes of relativism and the regresses we are about to consider. The continuing significance for contemporary theory of what is involved in the Romantics' reflections derives from their attempt to sustain an orientation towards truth, even as they renounce the idea that specific truths can be epistemologically grounded. In an argument whose echoes are evident both in Nietzsche's view, in *The Birth of Tragedy* and in other texts, of modern science as leading to the abyss of 'nihilism', and in Heidegger's work on the principle of sufficient reason and on technology, Jacobi first showed, thereby actually bringing the world 'nihilism' into wider currency, why the 'unconditioned' was to remain such an issue for modern thought.<sup>13</sup> Jacobi's contributions to the 'Pantheism controversy' that began in 1783 – the controversy over whether G. E. Lessing, the central figure of the German Enlightenment, was a Spinozist and thus to all intents and purposes an atheist – revealed a regress which, in various forms, both bedevils attempts at systematic philosophy in the modern period, and prevents metaphysical realist positions being

philosophically defensible. Jacobi convincingly shows why foundational philosophy leads to problems philosophy cannot solve: it is this insight that is so significant for the Romantics and for a perception of technology which can be developed via Romantic thought.

The key fact about Spinozism in this context was its establishing of a system on the basis of 'all determination is negation'. This aspect of Spinozism can be linked to a model of technology which is still very current in contemporary debate.<sup>14</sup> In Spinozism every aspect of being gains its identity via its 'negative' relations to other aspects, not via anything intrinsic to itself. Spinoza's thought can, as such, be construed as already mapping out the basis of digital technologies, in which the most divergent information is rendered equivalent by an encoding that gives each element its identity or function via its relations to the other elements, and not via anything inherent to the element itself. The totality of the dependent aspects of being is Spinoza's God, who, as Henry Allison says, 'functions ... as the logical ground of things. The latter follow from his nature in precisely the same way as the conclusion of a valid argument follows from its premises'.<sup>15</sup> In line with the Kantian suspicion of dogmatism, Jacobi suggests that if all our knowledge of what things are depends on the principle of sufficient reason, which both he and Kant understand in terms of the subject seeking the 'conditions' of that which it would explain, then all our explanations depend merely upon whatever we began with, leaving a problem of circularity which must be overcome if the explanation is to be grounded in any final manner. If everything is itself both conditioned and the condition of something else, what about the totality of conditions – which Jacobi comes to call 'being' – that cannot be of the same order as what we construct in the differential operations of our thinking? Is being also to be explained, as it is in Spinozism, by the principle of sufficient reason?<sup>16</sup> Jacobi's main worry concerned the effects of Spinozism on theology, because it turned God, and thus the existence of the world, into something which excluded anything beyond what he termed the 'mechanical'. Though this side of Jacobi's argument may no longer be of any concern to those not bothered about theology, Jacobi's insight does have serious philosophical consequences, which relate to real consequences for the world in which the effects of the natural sciences become so dominant.

The problem Jacobi reveals is that we have no ultimate way of philosophically explaining either what we think truth is, or of explaining our very awareness of a world which gives rise to questions of truth. If each



particular belief we hold true is dependent upon other beliefs, none of these 'conditioned' beliefs can ever show why anything is held true at all, nor can it explain how it is we are *aware* of the world of conditions that constitutes what we claim to know. For this reason Jacobi insists on the need for a conception of 'belief', which he defines as 'holding as true' (*Fürwahrhalten*), and which is prior even to axiomatic truths, because the possibility of truth cannot itself be demonstrated. Something like this view has been recently echoed, of course, by Donald Davidson, who talks of our 'general and pre-analytic notion of truth', and of an 'intuitive grasp we have of the concept'.<sup>17</sup> For Davidson, as for Jacobi, we cannot finally give a theoretical description of truth, because we always already rely upon it in order to describe or understand anything at all. The need for the assumption of what is 'unconditioned' seems therefore inescapable if there is to be a philosophically groundable account of truth, but the unconditioned itself seems philosophically inarticulable.

In the 1787 Preface to the first *Critique*, Kant maintains that, while reason most postulate the 'unconditioned ... in all things in themselves for everything conditioned, so that the series of conditions should thus become complete',<sup>18</sup> by restricting *knowledge* to appearances rather than 'things in themselves', the contradiction of seeking 'conditions of the unconditioned' can be avoided. This did not solve the real problem, however, as Fichte realized when he

maintained that the subject, the condition of possibility of appearances, must therefore itself have an unconditioned status: 'It is ... the ground of explanation of all facts of empirical consciousness that before all positing in the I the I itself must previously be posited.'<sup>19</sup> The I cannot be posited in the same terms as that which it is to explain, because this would lead to another vicious circle of self-reference, or to a regress: how does the I explicate itself as the ground of knowledge, if it already has to presuppose its own existence as spontaneous 'non-object' before it can explain anything objective? As such the I became a self-caused 'deed-action' (*Tathandlung*) for Fichte, not another conditioned 'fact' in the knowable world. In one sense Fichte's I thereby echoed Spinoza's God, which is also 'cause of itself'. Fichte's position therefore leads Jacobi in 1799 to claim in his published letter *Jacobi to Fichte* that

*A pure, that is a thoroughly immanent philosophy; a philosophy made only of One piece; true system of reason is only possible in the Fichtean manner. Obviously everything must only be given in and through reason, in the I as I, in egoity, and already be contained in it, if pure reason alone should be able to deduce everything from out of itself alone.*<sup>20</sup>

Because he thought this position entailed an indefensible omnipotence on the part of the I, which consequently remains trapped in a kind of narcissistic self-enclosure – what now usually gets termed, for example by Derrida,

'self-presence' – this meant that philosophy could not be finally grounded. Jacobi therefore referred to his own position as '*Unphilosophie*', thereby already initiating the question as to what might come 'after philosophy', in a manner not so far from the later Heidegger's attempts to overcome metaphysics. Even more importantly, in our present context, Jacobi maintains that *both* Spinozism and Fichtean philosophy have essentially the same consequences.

This last contention is the key to the Romantic move against foundationalism. Jacobi claims that Fichte's transcendental idealism is in fact an 'inverted Spinozism'.<sup>21</sup> Each aspect of the Spinozist system gains its identity from its relationships to the other aspects within the whole, just as in structuralism the signifier gains its identity via its relations to other signifiers, or as information is digitally encoded. The vital question lies in how these systems are grounded. Whereas Fichte's transcendental idealist position establishes its system via the absolute 'positing' of the I, the Spinozist system establishes it on the basis of the 'substance', which, Jacobi asserts, is, like Fichte's I, 'nothing but the unintuitable [in Kant's sense of 'intuition', meaning that it is not empirically accessible] absolute identity of subject and object ... upon which the system of the new philosophy, *of the independent philosophy of intelligence* [thus of the 'I' in Fichte's sense] is grounded'.<sup>22</sup> The point is that both theories circumscribe the truth in an internally grounded system of relationships which is founded in what is both subject and object – the 'I' or Spinoza's substance – and is thus, in the last analysis, supposed to be fully transparent to itself. Whether this is conceived of in idealist or materialist terms makes no difference, as the net result is a totality which is ultimately transparent in itself, like the world of metaphysical realist science.

Now this sort of argument ought to sound familiar to anyone who has considered accounts of the relationship of 'Western metaphysics' to the growth of the domination of technology in the modern world, and who is familiar with Derrida's deconstructions of Hegel and Husserl. Given Spinoza's relationship to Cartesianism, and Fichte's subjectivism, we have a version of the link between philosophies of the subject and modern technology's subjectification of being by its overcoming the Other in the name of the Same, which is also the argument Heidegger uses against Nietzsche's 'will to power' as the culmination of the subjectivist tradition of Western metaphysics. Is this, however, an adequate account of the philosophical options on offer in this constellation? As we shall see, the Romantics offered important alternatives here, which are still relevant to the contemporary versions of these debates.

## Metaphysics and technology

At this point it is worth becoming shamelessly metaphorical, by very briefly taking aspects of these positions as models for some of the contemporary debate over the new technologies, artificial intelligence, and artificial life. Claus Emmeche has recently contended, for example, in relation to the issue of 'artificial life', that 'If natural processes are essentially computational ones, we can also study them by producing the same or similar processes in a computer'. Reviewing Emmeche's book, Anson Rabinbach concludes that:

If our understanding of technology pre-emptively dissolves the difference between original and copy, life and syntax, nature and its mimesis, the products of the age of digital reproduction become mere components of a self-referential universe ... the danger is that the computer can all too easily become a substitute reality, a 'magical black box' endowed with infinite wisdom and knowledge of nature. Like Laplace's demon, such a computer would have to be identical with the universe itself.<sup>23</sup>

This seems to me to map pretty exactly onto what is at issue in the constellation that I have just outlined. The computer identical with the universe is the Spinozist God, as understood by Jacobi, in which the totality of conditions was to be made potentially accessible to philosophy by constructing a necessitated system of internal relations. The real problem is how such a totality can ground itself in a manner that we find intelligible, which is why Jacobi's objections are so important.

'Re-producing' life computationally involves the reproduction of life *as known*, as otherwise one could not claim to have 're-produced' life: what makes the second product identical with that which is to be reproduced, unless this identity is somehow presupposed from the outset? In this sense one requires an account of that which knows, which leads to another regress: what knows must presumably already be alive and must know what being alive *is* if it is to re-produce life. Much the same argument can be applied to the problem of self-consciousness in relation to artificial intelligence: how does one differentially reproduce the condition – intelligence – which enables differences to be *intelligible* as differences in the first place? Computers can clearly register and record differences and identities in, say, linguistic elements, but this does not mean that syntax can computationally become semantics: rules of combination, which rely upon differentiation, have to be *understood* if they are to give rise to meanings. In short, how does one artificially reproduce intelligence without

*already* presupposing what intelligence is, and without thereby merely presupposing a ground which, as Jacobi's argument suggested, would lead to a merely arbitrary circularity if one wanted to claim absolute status for that ground? The kind of knowledge required to ground intelligence absolutely cannot be of the same order as the functions of which artificial intelligence consists: otherwise we end up with another regress of functions for functions, which could never account for the consciousness of what a function *means*. It is this latter problem that gives legitimacy to those aspects of Fichte's position which insisted on the impossibility of objectifying subjectivity, which were developed in Romanticism, as well as to Jacobi's contentions about the necessarily intuitive aspect of truth. The question is again the problem of the Absolute, which must, as both Fichte and the Romantics realized, include an account of self-consciousness.

The Fichtean and Romantic reason why the Absolute must also include consideration of self-consciousness, rather than be thought of in merely 'Spinozist' terms, has, significantly, reappeared in Hilary Putnam's – in this sense at least – 'Fichtean' arguments against Bernard Williams's 'Spinozist' absolute conception: 'It cannot be the case that scientific knowledge (future fundamental physics) is absolute and nothing else is; for fundamental physics cannot explain the possibility of referring to or stating anything, including fundamental physics itself.'<sup>24</sup> Putnam's argument raises problems of self-reference which are analogous to those which occurred in the Romantic attempt to understand the Absolute. The problem of self-reference is, crudely, the problem of how to gain the external perspective – which would allow one to assert that the universe is 'really "x"' (e.g. 'law-bound matter', 'computational functions') – without leaving the place from which that assertion is made outside what is presumed to be the grounding reality.

An obvious consequence of the way this problem manifests itself has been shown by Herbert Schnädelbach, in a discussion of answers to the question 'What is humankind?' – which inherently requires an answer to 'What is nature?' Canonical recent answers to the question of humankind are, Schnädelbach suggests:

A highly complex organism; a whim of evolution; an intrusive special case in the biosystem of the earth; a historical configuration; a nexus of the social ensemble – and it is always noticeable that such explanations are simply applications of what the particular explanatory sciences (biology, evolutionary theory, ecology, history, social science) know more exactly in their particular core area.<sup>25</sup>

All these approaches exemplify Jacobi's key insight into the circularity of epistemological grounding and thereby always already raise questions about any attempt scientifically to ground an absolute position.<sup>26</sup>

The awareness of the dangers of a scientifically conceived absolute is crucial to early Romantic philosophy and forms the real substance of what has often falsely been assumed to be a generalized antipathy to natural science on the part of Romanticism as a whole. The vital fact about the Romantic view is that it does not conceive of truth as ground or origin in any philosophically definable sense. Novalis puts the issue concerning any knowable absolute ground as follows: 'There is no absolute beginning – it belongs in the category of imaginary thoughts.'<sup>27</sup> Any beginning must always be relative to what succeeds it for it to be known to be a beginning at all, rather than something completely indeterminate. Because of this dependence any beginning will always, if one tries to make it absolute, land one in the kind of circle or the kind of regress we have been considering. This is the source of Romantic anti-realism and of the concern with those modes of articulation, like art, which subvert final grounding or final interpretations. Such ideas clearly also feed into the development of a modern hermeneutic approach to truth.

The essential Romantic move is, then, a rejection of a 'ready-made world' – the notion of which is already implied by Novalis's 'absolute beginning' – a rejection which also informs much recent anti-realist philosophy. Schlegel claims in the *Notebooks on Philosophy* from 1805 that

there is only one inherited fundamental mistake – the fundamentally wrong concept of the thing – which takes merely relative *finitude* [the particular transient object] as absolute and abstracts the *shadow concept* of BEING from life – *Being* is merely apparent, finitive only relative. Being = life, without life, being = appearance.<sup>28</sup>

The Romantic world is not a world of things but a world of relationships whose determinacy depends upon our interaction with them, an interaction which therefore has no final foundation either in the subject or the object. The early Schelling sees scientific experiments as follows:

Every experiment is a question addressed to nature that nature is forced to answer. But every question contains a hidden a priori judgement; every experiment which is an experiment is prophesy; experimentation is itself a production of the phenomena.<sup>29</sup>

In this way, judgements about the kind of experiment to

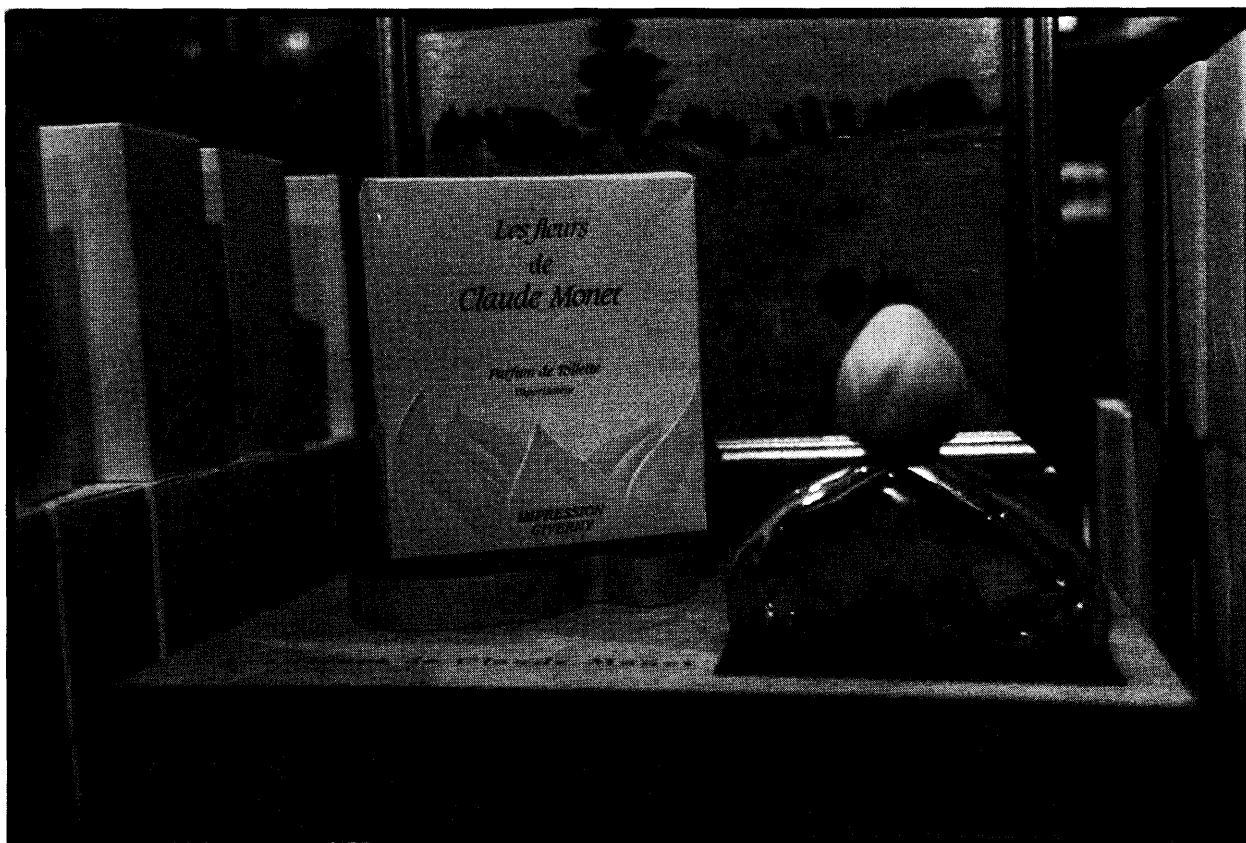


be undertaken become the central philosophical issue: there will always be some kind of result, whatever one does to nature, including to ourselves, and the modern period has enough examples of this that do not bear thinking about. Any attempt on our part to ground the activity of experimentation can only lie in an ethical and hermeneutic approach to what we disclose in nature, not in the idea that we are contributing to the 'final truth'. In the Romantic sense it is incoherent to think that a complete account of the world in terms of scientific laws is absolute, unless self-consciousness, the fact of intelligibility, and our ethical sense itself could be explained in a completely law-bound manner. It is this aspect of Romantic philosophy which is most relevant to the question of technology, not a vague aversion to the damage done by science to an innocent nature.

The problem that forms the core of Romantic philosophy is that any *explanation*, including of subjectivity, must be of the kind used to explain a phenomenon of nature like any other, but the whole point of transcendental philosophy, which Fichte first saw more clearly than anyone, is that the condition of possibility of explaining natural phenomena via laws cannot itself be of the same status as those phenomena, on pain of another regress. To this extent we cannot finally draw a line between nature and consciousness and are compelled to confront the consequences of consciousness's inability finally to ground itself. We must at the same time, though, take account of self-

consciousness's undeniable familiarity with itself. If consciousness is to explain itself *qua* object it must already be unquestionably familiar in a non-objectified manner with what is to be explained: otherwise it would have no criterion for knowing that it had explained *itself*. The prior condition of my seeing myself *as myself*, rather than as a random object, in a mirror is that I must be already familiar with myself in some way which does not require a mirror. This awareness is of a different order from the awareness I have of the 'not-I', the appearing deterministic object world of natural science. As Novalis puts it in the *Fichte Studies*: 'Can I look for a schema [as that which enables one to identify objects] for myself, if I am that which schematizes?'<sup>30</sup> Consciousness's inherent familiarity with itself is, furthermore, even different from the cognitive objectified account it may give of itself once it has questioned its own status in transcendental reflection upon the conditions of possibility of knowledge. Novalis maintains in this respect that 'What reflection *finds*, *seems* already to be *there*'.<sup>31</sup> The already existing I must in fact be prior to the ways the I of reflection attempts to describe itself in transcendental philosophy, and can never be scientifically determined by something which actually depends upon it as its – thus never ultimately knowable – ground.

Novalis's at first sight abstract metaphysical point connects much more directly to technology than it might seem. The reference to 'schematism' concerns that aspect





of Kant which Heidegger will later question in analogous ways with respect to the Romantics. Kant understood 'schematism' to be the aspect of judgement which overcame the regress that would ensue if we tried to ground the rules we use for subsuming images under concepts, which would lead to the need for rules for the application of rules, and so on. The 'talent' required to prevent a regress of rules for rules in judgement depends on a 'hidden art in the depths of the human soul' which will, Kant maintains, probably remain inaccessible to us: this 'art' is 'schematism'. In line with dominant assumptions about modern technology Novalis says of the schema, in 1795–96, that it 'renders the treatment of a single case more easy, because it teaches me to apply the universal laws of the class (*Gattung*) of these cases and thus spares me the effort of again looking for the laws of this case'.<sup>32</sup> Schematism thus plays a central role in the constitution of a world of determinate truth and of objects which can be instrumentally manipulated. As such, though, the ground of truth becomes a 'technique', but not in the sense of something governed by rules, but precisely in terms of a '*techne*', an 'art' which requires judgement on the part of the subject. This argument obviously goes very deep, and it links the Romantic concern with aesthetics to vital questions of epistemology and truth. Much of the debate concerning technology is in these terms a debate over what '*techne*' actually signifies. The Romantics evidently do not regard it as something algorithmic, and it therefore involves aspects of ourselves which do not fit a 'Spinozist' model.

### Romantic nature

The way the technologies develop this point again leads in directions which are now central to contemporary philosophy. Schelling and Schleiermacher claim that language itself also depends upon the 'art' of schematism. Even though, for Schleiermacher, there is a 'grammatical', rule-bound side to interpreting language, there is also a 'technical' non-rule-bound side, without which language could never be understood in real-life situations. In the *System of Transcendental Idealism* of 1800, written while he was in close contact with Schlegel and Novalis in Jena, Schelling says of Kant's schema: 'The schema ... is not an idea [*Vorstellung*] that is determined on all sides, but an intuition of the rule according to which a particular object can be produced.'<sup>33</sup> As *intuition* of a rule, thus as immediate access to the rule, the schema cannot itself be determined: for that, as Kant has shown, intuitions need logically prior concepts. There can, then, be no further grounding of this intuition beyond the fact of its own functioning, which is what renders the world intelligible. Schelling further maintains

that 'From this necessity of schematism we can infer that the whole mechanism of language must rest upon schematism':<sup>34</sup> for words to have iterable significances – indeed, for words to *mean* anything at all – they must depend upon some ground of identity which both makes manifest and, so to speak, 'holds steady' what is meant, while the actual data of empirical reality continually change. This ground is, though, not a stable quantity. If one is to learn the rules for using language appropriately, one must, in order to be able to understand the same utterance in differing situations, understand in a manner which cannot be further grounded by the notional rules of language: otherwise a regress of rules for rules ensues once again.<sup>35</sup> The proximity to Davidson should again be apparent here: the Romantic idea is exactly what leads Davidson to say that language has no 'rules in any strict sense'.<sup>36</sup>

The Romantic understanding of schematism makes it clear that this 'hidden art' plays an important role in understanding our relationship to the natural world. The vital question for a contemporary approach to Romanticism is to understand this role appropriately. Schematism essentially plays the role of the 'as-structure' in Heidegger, the structure which makes a world intelligible. The danger often seen in schematism is that it reduces the inherent diversity of intuitions to repeatable forms of identity, so that, as Nietzsche put it, 'overlooking the individual and the real gives us the concept'.<sup>37</sup> Within the story common in various forms to Nietzsche, Horkheimer and Adorno, and Heidegger, the danger lies in the way modern science is seen as the product of the subject's attempt to dominate its Other. What, though, *is* the Other, if, as we have seen, the divide between nature and consciousness cannot finally be determined? This does not mean that the issue of schematism should be dismissed, but rather than we need to rethink the position from which criticism of technology can be advanced.

One Romantic way of considering the dangers of schematism's reduction of difference was to suggest that if the schema is the key function of the productive imagination, which Fichte makes the centre of a philosophy grounded in practical reason, then nature becomes reduced to what concepts generated via schematism and the goals demanded by the subject's attempt to bring nature in line with practical reason demand. In 1806 Schelling therefore contends against Fichte:

in the last analysis what is the essence of his whole opinion of nature? It is this: that nature should be used ... and that it is there for nothing more than to be used; his principle, according to which he looks at nature, is the economic teleological principle.<sup>38</sup>

The underlying structure of this argument reappears in the reflections upon alienation and commodity structure in the early Marx (who knew Schelling's work), which are central for the early Lukács and the Frankfurt School. Implicit in the idea of schematism and its relationship to the principle of equivalence is the idea of the domination of the Other in the name of the Same, which has become a central issue in the analysis of the pathologies of capitalist modernity. A philosophically effective approach to this issue must adequately confront the complexities it involves.

We cannot simply step outside of the forms of equivalence entailed in schematism, and the attempt to suggest we could has done great damage to many progressive approaches to these problems. As such we must be sure what is really at issue here. A crucial short circuit in many of the arguments concerning technology and subjectivity has been to claim the two are necessarily linked, in the manner Schelling fairly justifiably suggests is the case in Fichte. In this perspective the sort of identity suggested by Jacobi between Spinozism and Fichte, which is based upon an internally grounded system of relationships, is supposed to take up all the philosophical space for reflection upon technology. This is one way of understanding the impetus behind the later Heidegger's attempt to overcome metaphysics as the 'subjectification' of being. The attempt to criticize the Heideggerian position is these days too often regarded as requiring the adoption of an invalidly external 'metaphysical' position in defence of subjectivity or humanism, which repeats the domination on the part of the subject in another form. Schnädelbach has shown how mistaken this assumption is, in an essentially Romantic argument *against* the kind of scientism which I cited at the beginning of this paper, which is implicit in many of the current arguments about artificial intelligence and artificial life. Schnädelbach's contention is, however, also valid against that side of Heideggerian thought which in fact sees the subject's relationship to itself as constituted solely in terms of its relation to the world:

Philosophy is the articulation in thought of our theoretical *and* practical relation to ourselves, which is admittedly located in a relationship to the world, but does not disclose itself – as scientism maintains – from the relation to the world: Instead we can, on the contrary, rather illuminate and understand our relations to the world via our relation to ourselves.<sup>39</sup>

This relation is developed not just via what we think we determinately know of ourselves, but also in aesthetic

modes of exploring our self-understanding. The key Romantic insight lies in the refusal to reduce our relation to ourselves to what we can determinately know about our relation to the world, and it is this position which a revival of Romantic philosophy needs to develop.

Such a position is exemplified in the following long passage from Novalis's *Remarks on Physics and Medicine* of 1799–1800. The text is in line with Schnädelbach's contentions, thereby suggesting that we may only now be arriving at the truth of the Romantic position. In the text Novalis addresses some of the structures I have tried to elucidate in this paper, as well as giving the lie to the idea of Romanticism as a movement concerned with mystical access to the Absolute. He does so with the kind of literary talent which all the efforts to reduce our relationship to ourselves to objectifiable relations to the world will never come even near to understanding. He begins with the Spinozist world, but then takes us in very different directions:

253. No force, no phenomenon can be explained by itself in nature – e.g. gravity. All forces are what they are – by division into chains. One is what the other is – only modified by its location, by its neighbourhood.

254. Universal assertions are not valid in natural science. They must be presented *practically, technically, really* – developing step by step – constructing like the description of a technical work.

Contemporary physics is very meagre – Our physics speaks only of the universal elements of nature – of the universal *effective concepts* – or the forces of nature – it is a real [largely in the sense of 'materialist'] metaphysics or logic. Plants, animals, stars, human beings are already synthetic products of nature – higher natures. Nature is a church of infinite natures. Everything is limited, even human science is to be determined according to time and place. Humankind cannot reach any higher than to see what knowledge is appropriate for its particular stage – for the duration and constitution of its life – and to see that it does not pathologically favour the drive for knowledge – that it leaves it in harmony with its other powers and dispositions.

Humankind is not destined for science alone – a human being must be *human* – destined to be a human being – a tendency to universality is indispensable for the real scholar. But human beings must never, like a fantasist, seek something

indeterminate – a child of fantasy – an ideal – They should only proceed from determinate task to determinate task. An unknown beloved admittedly has a magical charm. Striving for the Unknown – the indeterminate is extremely dangerous and disadvantageous. One cannot produce revelations by force.

The truly idealist path of the physicist is not to explain the composite, the compound, by the simple, the disintegrated, but the other way round. A state [*Staat*] will never emerge out of a state of nature – but a state of nature can result from a state[.] Nature arose by degeneration [*Ausartung*, with the sense of moving out of a genus, an ‘*Art*’, thereby into new genera, *not* in the now usual sense of degeneration]. Gravity is explained by sensibility – sensibility is not explained by gravity – electricity etc. The emergence of gravity is explained by thoughts. The first chapter in physics belongs to the realm of mind. Nature cannot stand still, it can only *progressively* – be declared to be morality.

Eventually there is not supposed to be any nature any more – It is gradually to make the transition into a world of the mind. If the unchangeable laws of nature are not to be an illusion – not to be extremely unnatural.

Everything works according to laws, nothing works according to laws.

A law is a simple relationship which it is easy to overlook.

We look for laws for the sake of convenience.  
Has nature a determinate will- or no will at all? I believe both – It is all things to all men.<sup>40</sup>

I shall make only a few comments on a highly complex text: to do otherwise here would be to lose some of the point of any attempt to initiate a new exploration of Romantic modes of thought. I do not mean to suggest by this that one should take the passage’s meaning to be merely indeterminate, but rather that it contains possibilities which can only emerge by putting it into context with other Romantic texts, as well as with more recent attempts to confront these questions.

Novalis’s text is a piece of communicative action, which both opens up issues and undermines the attempt to reduce what is said to a series of propositions: in this sense it exemplifies that the Romantics meant by ‘*Poesie*’, ‘literature’, in the sense of art which has truth potential. The vital factor lies in the way the text puts the meaningfulness of the world and ourselves first, without this leading to advocacy of scientific domination over the Other of nature. However much the methods of

modern science may rely on breaking the world down into determinable elements, the point of science in the Romantic view is to help make more sense of the world as something already intelligible, hence natural science’s role as only one of the forms of our self-understanding. Clearly one can reduce the world to the *elements* of its intelligibility, or to computational functions, and this plays a necessary role in the modern scientifically oriented relation to the world – including in dangerous and destructive manners. But this gives no way of approaching the world’s very intelligibility itself, an intelligibility which is in the Romantic view made most apparent in aesthetic products and aesthetic activity, but which is also revealed in the need for the holistic approach to science suggested by Novalis.

Schlegel illuminates the essential Romantic approach in the following wonderful fragment: ‘If the chemist thinks a thing is not a whole because he can dissect it, that is just the same as what bad critics do to literature – Didn’t the world emerge from *slime*?’<sup>41</sup> It is in aesthetic products which can be associated with the ideas of early Romanticism – such, most notably, as the music of Beethoven and Schubert – that we can perhaps still glimpse what can be produced by a combination of the technical ‘Spinozist’ demands of modern rationality with a Romantic sense of the other meanings of ‘*techne*’. Romanticism in this sense can now be understood as a vital philosophical reminder from the beginning of modernity of how the separation of moral and aesthetic achievement from technical advance is one of the greatest threats to emerge from the new possibilities offered by modernity.

## Notes

The original version of this paper was given at the conference on ‘Technology and Subjectivity’ at the University of Middlesex, 29 October 1994.

1. This fate is perhaps most graphically and eclectically explored in Thomas Mann’s *Doktor Faustus*.
2. Novalis, *Novalis Band 2 Das philosophisch-theoretische Werk*, edited by Hans-Joachim Mähl, Munich and Vienna, Hanser, 1978, p. 334. All translations from this and other German texts are my own.
3. Peter Atkins, *Times Higher*, 30 September 1994, p. 19.
4. Richard Dawkins, *ibid*.
5. Even leaving apart the question as to whether all forms of natural science have equivalent cognitive status.
6. Friedrich Schlegel, *Kritische Schriften und Fragmente* (6 vols), Vol. 2, Paderborn, Ferdinand Schöningh, 1988, p. 240.
7. Friedrich Schlegel, *Transcendentalphilosophie*, edited by Michael Elsässer, Hamburg, Meiner, 1991, p. 93.
8. See, e.g., my review of Ernst Tugendhat’s *Philosophische Aufsätze* in the *European Journal of Philosophy*, vol. 2, no. 3, December 1994. Tugendhat uses the division as a way of characterizing the difference between analytical

- and hermeneutic approaches to philosophy, which usefully suggests how the philosophical and the scientific issues can be seen as interrelated.
9. Walter Benjamin's 1919 Ph.D. thesis, *The Concept of Art Critique in German Romanticism*, was until very recently one of the few texts to begin to appreciate what was really at issue in Romantic philosophy in this respect.
  10. Jacobi himself could not be termed a Romantic, but without the responses to his arguments there would be no Romantic philosophy in the sense intended here.
  11. Friedrich Heinrich Jacobi, *David Hume über den Glauben oder Idealismus und Realismus ein Gespräch*, Breslau, Gottl. Löwe, 1787, p. 224.
  12. Schelling references are to Friedrich Wilhelm Joseph Schelling's *Sämmtliche Werke*, edited by K. F. A. Schelling, I Abtheilung Vols 1-10, II Abtheilung Bde. 1-4, Stuttgart, 1856-61: here I/2, p. 53.
  13. I have dealt with this issue in detail in 'Rethinking the History of the Subject: Jacobi, Schelling and Heidegger', in Peter Dews and Simon Critchley, eds, *Deconstructive Subjectivities*, New York, SUNY Press, 1995.
  14. Whether these arguments are actually fair to Spinoza cannot concern us here: the main point here is what he was understood to mean, not a philosophically adequate assessment of his arguments.
  15. Henry E. Allison, *Benedict de Spinoza: An Introduction*, New Haven and London, Yale University Press, 1987, p. 64.
  16. The proximity of aspects of these arguments to those of the later Heidegger in particular is striking: I suspect the link is via a certain reading of Kant and via the later Schelling, who owed more to Jacobi than he usually admitted. Heidegger, of course, borrowed much from Schelling (see my *Schelling and Modern European Philosophy*, London, Routledge, 1993; and my translation of Schelling's *On the History of Modern Philosophy*, Cambridge, Cambridge University Press, 1994).
  17. Donald Davidson, *Inquiries into Truth and Interpretation*, Oxford, Oxford University Press, 1984, pp. 223, 267. The parallels of Davidson's holist approach to semantics with key aspects of Romantic philosophy are substantial, and I consider them in more detail in my forthcoming *From Romanticism to Critical Theory: A Philosophical Introduction to German Hermeneutics and Literary Theory*, London, Routledge, 1996.
  18. *Immanuel Kant's Critique of Pure Reason*, trans. Norman Kemp Smith, London and Basingstoke, Macmillan, 1933, Bxx, p. 24; translation amended.
  19. G. J. Fichte, *Werke I*, Berlin, de Gruyter, 1971, p. 95.
  20. Friedrich Heinrich Jacobi, *Jacobi an Fichte*, Hamburg, Friedrich Perthes, 1799, p. 14.
  21. *Ibid.*, p. 4.
  22. *Ibid.*, p. 3.
  23. *Times Literary Supplement*, 9 September 1994, p. 4.
  24. Hilary Putnam, *Realism with a Human Face*, Cambridge, Mass. and London, Harvard University Press, 1990, p. 176.
  25. Herbert Schnädelbach, *Zur Rehabilitierung des 'animale rationale'*, Frankfurt am Main, Suhrkamp, 1992, p. 281.
  26. The crassest version of such a grounding is, of course, socio-biology, the nature of which will, I suspect, only become finally transparent in the wake of the demise of the politics which underlies it.
  27. Novalis, p. 699.
  28. Schlegel, *Kritische Schriften und Fragmente*, Vol. 5, p. 108.
  29. Schelling, I, Vol. 3, p. 276.
  30. Novalis, p. 162.
  31. *Ibid.*, p. 17.
  32. *Ibid.*, p. 160.
  33. Schelling, I, Vol. 3, p. 508.
  34. *Ibid.*, p. 509.
  35. The probably insoluble problems artificial intelligence has with 'background knowledge' confirm the importance of this approach.
  36. Donald Davidson, *Truth and Interpretation*, edited by E. LePore, Oxford, Blackwell, 1986, p. 446.
  37. Friedrich Nietzsche, *Sämmtliche Werke*, Vol. 1, edited by Colli and Montinari, Munich, Berlin and New York, dtv, 1980, p. 880.
  38. Schelling, I, Vol. 7, p. 17.
  39. Schnädelbach, p. 320.
  40. Novalis, pp. 793-4.
  41. Schlegel, *Kritische Schriften und Fragmente*, Vol. 5, p. 48.

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