

CIPHERS OF TRANSCENDENCE: COGNITIVE AESTHETICS IN SCIENCE

ANDREW N. HUNT

The University of Liverpool, UK

Modern epistemology is reluctant to presume the objectivity of a mental event. Because a valid theory of knowledge is subjected to objective standards of rationality, the invocation of a transcendent ground of existence termed ‘god’ is deemed extra-systematic. This reference lacks warrant because it fails to satisfy the impartial criteria methodologically basic to contemporary paradigms of knowledge. Still the biochemist Arthur Peacocke (1924–2006) claimed defensible public truth for an ultimate reality based on the ‘supremely’ rational nature of existence; it is the further contention of this paper that there are intelligible patterns to the universe whose discovery is incapable of ‘objective’ explanation. By failing to meet these criteria, however, they do not fall into irrationality, still less do they disqualify or exclude themselves from public consideration; quite the opposite. There are perhaps depths to human experience then, including science, to which an existentialist epistemology is appropriate. In this connection the philosophy of Karl Jaspers (1883–1969) provides a compelling account of the transition of scientific research into aesthetics and theological discourse.

I. OBJECTS AND THE PROBLEM OF TRANSCENDENT ‘BEING’

The first thing is to tell the truth. Responding to reality and doing so accurately is a moral imperative: ‘it is necessary and proper to be attentive and responsive to things as they actually are’.¹ The conscious ‘intentionality’ of the average person is ‘the feature by which our mental states are directed at, or about, or refer to, or are of objects and states of affairs in the world other than themselves’.² The result that arises from contact with objects and states of affairs is invariably a duality in a particular field of view. On the one hand there is the ‘knower’, and on the other *something* ‘over there’ that is known. As Daniel Dennett remarked ‘in crashing obviousness lies objectivity’.³ In apt poetic illustration there are:

the stars themselves
gyring down to a point
in the mind; the mind also
from that same point spiralling
outward to take in space.⁴

Or as Stephen Clark has suggested, that there *are* stars with their own properties independent of us 'is as close to being an axiom as any'.⁵ The human person consequently takes his bearings in an objective physical environment: 'I am'- to exist is clearly to be thrown into knowing the world, as accurately as is humanly possible. The human existent must act within his discovered context to become conscious of it: the human 'cogito' presupposes a refractory environment, on there being something 'over there' which is not 'me'. In this perspective the essence of human consciousness is, through sensory perception, object-oriented.⁶ An active mind 'exteriorises itself, in history and language, in actions and speech. Human being is being (out) there'.⁷ As Brian O'Shaughnessy proposes:

the most fundamental characteristic of consciousness is the closeness of its links with the World. Indeed, since representation is essential to consciousness, consciousness could be said to be born of the World or Reality, and even in its image . . . Consciousness might be compared to a window, through which for the one and only time we actually catch sight of Reality.⁸

In the most immediate sense, then, things that are 'real' are material things of ordinary size.⁹ As the American linguist Noam Chomsky observed, when we happen to comprehend anything, we call it a 'thing', 'we call it "physical"'.¹⁰ Envisaging reality in these terms assumes that 'the entities which we conjecture to be real should be able to exert causal effect upon the *prima facie* real things; that is, upon material things of ordinary size: that we can explain changes in the ordinary material world of things by the causal effects of entities conjectured to be real'.¹¹ It follows quite naturally that 'solid material bodies are the paradigms of reality'.¹² From this general conception of reality as 'thinghood', we extrapolate 'realness' in the large scale towards mountains and stars, and regressively into the minutia of particles in the microscopic world. Attending to the primordial units, realness is extended to liquids and air, to gases, molecules and atoms.¹³ These constitute the several objects confronting human intelligence. In Jaspers' summation:

How do we get to the object? By intending it and entering into relation with it, handling tangible objects, turning intellectual objects over and over in our minds. How does the object get to us? By our being bodily affected by it, by our grasping it as it presents itself to us, by our producing it as a thought structure which has cogency for us. Is the object there *per se*? We intend it as one which is there, and which we can get to. We call it a something, a thing, a fact, an object.¹⁴

In staggeringly diffuse plurality, life 'pours out to me in endless variety and infinite abundance; it means the world I can get to know',¹⁵ and that I cannot realistically doubt. Without digressing into a justification of the world along Roy Bhaskar's lucid critical realist lines, or those of Alistair McGrath or John Searle, we can say that a world independent of the observer is not a theoretical conjecture. As part of the human cognitive

background it is the *cause* of any observation, or its attempted refutation. It is a *presupposition* that is confirmed repeatedly by the basic facts of ordinary human experience.¹⁶ Nobody actually lives an antirealist position. Through exceptional forms of human cerebration, the advance of science is similarly dependent on a somewhat knowable world. As Hilary Putnam put it, external realism is the only approach that does not ‘make the success of science a miracle’.¹⁷ Indeed, few deny the reality of the world as an inescapable empirical presupposition, independent and knowable within the limits of human finitude.¹⁸ Hence Searle’s argument, condensing a broad literature, that reality exists in an observer-independent way, and further that statements about reality are true or false depending on the accuracy of their representation.¹⁹ Such a world is autonomous and would continue to exist without any intelligent life to formulate questions about it. In confronting objects of knowledge a fundamental commitment to ontology is made.²⁰ The question then arises: what is the ultimate nature of this existence? In positing the notion of an ‘ultimate reality’, a ‘One’ behind the ‘Many’, Peacocke argues this reality must be transcendent:

*the self-existent Ground of Being; one, but a diversity-in-unity, a Being of unfathomable richness; supremely and unsurpassedly rational . . . In English the name of this existent is ‘God’, with all its cognates in the other languages of the monotheistic religions.*²¹

This is not a casual or adventitious speculation. Questions concerning the absolute or the final meaning of life have been a perennial philosophic concern. As Aristotle put it: ‘the question which was raised of old and is raised now and always, and is ever the subject of doubt is, what is Being’.²² The Canadian Jesuit Bernard Lonergan described Being as the ‘supreme heuristic notion. Prior to every content, it is the notion of the to-be-known through that content’.²³ In Karl Rahner’s terminology, all objects are encountered within a *horizon*. The notion of an absolute is therefore spontaneously operative, but is in no way unique to philosophy and theology. This point was observed by Pope Benedict XVI in his academic seminar at Regensburg in 2006, ‘The Breadth of the Logos’. Noting the strong Platonic element in scientific discourse, the Pope questioned the intellectual prejudice of the secular West that only positivistic reason can produce valid philosophy, pointing out that a positivist like Jacques Monod declared himself a Platonist. Modern scientific reason can be shown to share at least tacitly this Platonic dimension. Richard Dawkins makes a similar concession, invoking a ‘mysterious-beyond-present-comprehension physics of the future’.²⁴ Dawkins followed up his statement that this theory would cast theology into the shade with the agreement that an appropriate word to describe it would be ‘transcendent’.

The question of Absolute Being is inescapable. Arguably in *any* transcendent enquiry, implicitly in 'secular' wonder or explicitly where experience is interpreted in traditional theological language, speculation entails reference to an ultimate, to a supremely and unsurpassably rational ground of existence. As Jaspers succinctly remarked in the final volume of his trilogy *Philosophy*:

Everywhere in thought, so to speak, there is a place where something will be directly posited as absolute, because I cannot exist and think without the appearance of an absolute . . . In the endless flux of things that are, I cannot escape from my pursuit of being, nor from seizing it either in true or in deceptive forms. I can, therefore, neither conceive this absolute being nor give up trying to conceive it.²⁵

Raising the question of 'ultimate reality' poses an epistemological conundrum. However adroit the human ability to generate knowledge within the subject-object dichotomy, the information it yields only heightens the need for a unified theory to account for it, that is, further speculation. What can I know? Certainly not Transcendence,²⁶ for 'God', said Hegel, 'does not offer himself for observation'.²⁷ And if it is axiomatic to a certain classical strand of theology that existence, this 'creation', is *not* God, then one cannot proceed directly from empirical data about the natural world to a transempirical reality, at least with the conventional apparatus of human rationality. As Nicholas Lash has argued, since:

spectatorial empiricism supposes all objects of knowledge to be known (namely, by constructing mental representations of them), it is certain that whatever is thus known could not be God . . . I am simply protesting against the fatuous illusion that we could ever discover or come across God as a fact about the world.²⁸

The notion of a 'self-existent Ground of Being' does not, therefore, refer to an object with properties that enter the inventory of the known. It is not another entity awaiting description. Is the question of a transcendent ground underwriting sensible reality in space-time therefore not a proper question? It is at least one that is not easy to fathom. After all, it would represent theorizing at the limit of the human mind, either for abstract physical theory, or theology. How does the human animal with a finite sensory and cognitive constitution, with all the limits such a predicament implies, approach the question of transcendent meaning? As Jaspers affirmed, in similarly apophatic tones to Lash, this transcendent ground, if indeed a 'One' can meaningfully be said to exist, is 'beyond all form. We ascertain the philosophical idea of God as thinking fails us, and what we grasp in this failure is *that* there is a deity, not *what* it is'.²⁹ How, then, within the brief contours of this sketch, may scientific engagement of the contingent, material and theoretical world talk intelligibly about a transcendent depth to the universe, if it is to do so at all?

II. CONTINGENCY AND THE INFERENCE TO THEISM

One theoretical route of explanation is to *infer* from the foregoing ‘doctrine of immanence’ its dependence upon a non-objective transcendent ground. According to Peacocke ‘inference to the best explanation’ (IBE) is an epistemology through which ‘we infer what would, if true, provide the best of the competing explanations of the data we can generate’.³⁰ This is supposedly a strategy that will lead to public truth about God. The stability, elegance and design of the variety and abundance confronting human rationality, while not irrefutably proving the existence of a transcendent ground, makes it epistemologically satisfying to affirm its likelihood – the claim that God exists as the ultimate cause. Must this inference be accepted? John Hick, as one among many with a competing theory, suggests that the ‘catalogue of providential arrangements’ gleaned from the ‘presently observed and deduced facts concerning the universe’s expansion are religiously ambivalent’.³¹ The objective data of the world is theistically ambiguous, in which case a variety of explanations for its origin and nature are possible. Indeed, in a brief antithetical argument it is noted that IBE ‘is predicated on the idea that frequently there is indeed such a thing as “the best explanation”’.³² And doubtless an elegant literature can be found to describe theism as a candidate for the stability, pattern and fecundity of the world-process. But it is not necessarily true that an inference needs to be made that carries religious significance. As Alan Goldman argues:

an inference to the best explanation defeats the sceptic only if we can defend the principle that underlies such inference against sceptical challenge. We must be able to show that what appears to us to be a best explanation is likely to be true. In general, the most difficult part of any anti-sceptical epistemology will be to defend the fundamental principles of reasoning or the basic sources through which we seek knowledge.³³

Does a person deploying IBE within a theistic framework not thereby introduce the existence of God on distinct and comparatively non-objective grounds? Is the belief in its appropriateness at least to some degree then not the result of a prior existential conviction? As an epistemological procedure IBE is specifically most doubtful when deployed in support of *theoretical* entities:

– that is, about entities that are unobservable in principle. The basic concern seems to be that theory is underdetermined by evidence: if you can formulate one theory about unobservables to account for a body of evidence, you can formulate indefinitely many others . . . How, though, are we ever to verify that this choice is in fact the correct one? The candidate theories agree in the observations they predict, so no evidence we can collect will settle the matter.³⁴

It does not follow, in other words, that because ‘God’ for a religiously sensitive scientist is the best explanation for the elements of the universe

available to human rationality, that some notions of ‘God’ are actually true. No doubt there are assumptions brought to *any* act of observation where the objects and their nature are epistemologically neutral.³⁵ Inference-based theory is understood to reflect the particular interests of the observer, for whom an array of data may or may not be theistically compelling. This is an observation that seems to fit the historical fact of atheism or agnosticism in science, as well as a variety of recognizably theistic responses. Peter Lipton expresses similar concerns in identifying a subjective element in inference-based strategies:

The role of subjunctive reasoning is partially captured by the familiar observation about the ‘priority of theory over data’. Induction does not, in general, work by first gathering all the relevant data and only then considering the hypotheses to which they apply, since we often need to entertain a hypothesis first in order to determine what evidence is relevant to it.³⁶

What can I know? For if the universe is systematically ambiguous in respect of the insights of natural science, then ‘key terms in the reconstruction of nature, such as “mechanism”, “law”, “power”, “conservation”, natural “selection”, and many more, are metaphors susceptible of competing meanings – some theistic, some entirely naturalistic’.³⁷ Peacocke argues for the significance of an aggregation of those features of contingent existence that ‘severally cooperate’ in favour of the conclusion’ that ‘God exists’. Along with Hick, however, the historians of science John Brooke and Geoffrey Cantor have suggested the available evidence is probably systematically ambiguous, and so cannot settle the question between theism and naturalism.³⁸ If this is true, then it is important that IBE-based strategies are ‘explanationist’; they are ‘simulacra *just because* they do not describe. Thus they belong far to the unificationist end of the explanatory continuum’.³⁹ Clearly if there is a meaningful reference to transcendent value gleaned from the objective presentation of existence, it is neither obvious nor inferable in any compelling way, at least so as to persuade the sceptic. If it were, an atheistic or agnostic scientific community would abandon its world-view as a matter of integrity. But at present another theory can accommodate the available data (or more accurately, the expectation of a unified theory, which may or may not be forthcoming). As much as Peacocke might want to meet the demands of universally objective standards of knowledge to enhance the life of theology in the modern academic world, it must also be noted:

There is a way of talking about God that simply projects on to him what we cannot achieve – a systematic vision of the world as a necessarily inter-related whole. Trust in such a God is merely deferred confidence in the possibility of exhaustive explanation and justification . . .⁴⁰

Jaspers’ immediate rejoinder to an intellectual strategy of this kind would be that no such steps should be taken. The attempt to ‘infer’ the depth-

phenomena implicated in the question of transcendent meaning represents an ‘*anti-existentialist* craving for objective certainty’.⁴¹ As *Philosophy* consistently argues, ‘I must not define transcendence by any predicate, must not objectify it in any idea, must not conceive of it by any inference’.⁴² Jaspers is able to advance this claim because, as was suggested above, he believes there are non-objective patterns of experience that reveal something more of existence than object-based ratiocination. This is a philosophical step founded on Jaspers’ contention that factual cognition of ‘things’ gives only their *appearance*⁴³; therefore empiricism is only one mode of experience. There is a further depth to be encountered in a well rounded science of existence. While preserving the critical aspects of the subject-object dichotomy, Jaspers thus affirms the reality of a Transcendence that surpasses these limits.⁴⁴ As a fine interpreter of Jaspers proposes, we ‘know Being only as it manifests itself in object-beings. It seems that, in order to grasp the Whole, consciousness should somehow overcome its own definiteness and envelop the scissions which itself creates’.⁴⁵ On this basis Jaspers’ critique of science argues that Transcendence can be experienced as the background of particular objects:

our grasp on being cannot be an instance of knowledge, since the latter is confined to the region of objects. We cannot *know* being as such, even though we may be able to use reason to apprehend it in some non-objective and non-knowing way.⁴⁶

III. A CIPHER THEORY OF TRANSCENDENCE

What is this ‘non-objective non-knowing way’? It is the cipher. To pose the problem in its simplest terms, the referential character of knowing, intimated in Section I, reaches a limit at the boundary marked by cogent and accurate knowledge. It is Jaspers’ contention, however, that a process of ‘disobjectivation’ allows objects to ‘float’, in his parlance, to become *evanescent*.⁴⁷ Synonyms for evanescent include fleeting, passing, temporary, short-lived, transient and ephemeral. The self must permit a certain suspension of its critical faculties, and float or hover amid its various objects. Relating *existentially* to an objective environment allows Transcendence to be glimpsed. This is the cipher event: simultaneous contact between the knower and the depth dimensions of existence beyond fixity of thought.⁴⁸ As objects are allowed to become evanescent, their transcendent ground is alleged somehow to ‘shine’ through them:

‘Becoming transparent’ is a well-known concept of Jaspers. It implies the view that empirical being can let Transcendence ‘shine through,’ as a screen transmits rays, so that individual entities turn into code entities, ciphers for Being.⁴⁹

Here, Jaspers claims, is an utterly compelling experience which no science can approach, the ‘*increasing lucidity of a sense of being* totally different

from all determinate knowledge'.⁵⁰ Ciphers communicate this deeper notion that all of existence is enveloped, encompassed by a Transcendence which becomes experientially evident at rare moments. The ciphers speak. Hence Jaspers' intriguing view that the transcendent ground of Being, partly conjectured by Peacocke, can be *experienced*, while also preserving the subject-object dichotomy.⁵¹ Herein lies its epistemological relevance to the science-and-religion debate:

If empirical consciousness and its world are, so to speak, the surface of the one Transcendence, then it is truly omnipresent. Jaspers holds accordingly that this presence of Transcendence in different entities can be experienced as their background.⁵²

Cognition is initially a factor in ciphers, but beyond communicable ratiocination, one might say beyond syllogistically appropriating object-existence and quietly winning steps from endlessness, there is something more that is 'known', where tightly focused thought reaches its limit. In the presence of otherwise normal cognition is a further depth, an ephemeral language that is somewhat descriptive, but more generally 'announces' the world of Transcendence. The basic conjecture can be stated in these terms: 'discourse *about* Transcendence sacrifices the overplus of meaning intrinsic to the experience *of* Transcendence'.⁵³ For Jaspers a theory of ciphers provides the 'language' of this otherwise inexpressible ground to existence. It will not do so, however, in accord with rigid intellectual predispositions. As he claims in his 1967 *Philosophical Faith and Revelation*:

The great step in which man transforms himself occurs when the supposed corporeality of Transcendence is given up as deceptive and the ambiguous cipher language is heard instead – when the contents that have been conceived and visualised are stripped of objective reality. Instead of tangibles there remain ciphers open to infinitely varied interpretation.⁵⁴

Ciphers are the 'generally illegible, existentiality deciphered handwriting of something else',⁵⁵ and therefore preclude spectatorial modes of knowledge. In other words, the reading of ciphers of Transcendence depends on a certain existential openness on the part of the person. The appearance of Transcendence becomes a reality when encountered *only* by the existential self, not in abstraction, or in a fashion that could be 'publicly' demonstrated, so as to persuade the doubter. It does not follow, however, that they are subjectivist in a pejorative sense. As Jaspers argues, the 'significations which cannot be annulled by equating them with the object signified we call ciphers. They signify, but they do not signify a specific thing. The content is only in the cipher and does not exist outside it'.⁵⁶ Ciphers are not human inventions. They convey the variable jolts and harmonies felt in consciousness when we grasp a new depth to existence. An openness of consciousness in its contacts with the world and

an intuitive and participatory hermeneutic therefore point beyond the aims of a confined deployment of reason. As David Law argues in an adjacent context:

Nor is the interpretation of ciphers concerned with establishing their 'valid' meaning, for this would entail the objectification of the ciphers through the attempt to translate them into philosophically acceptable concepts. The attempt to establish the 'validity' of ciphers imposes objectifying thinking upon them and thereby drags the ciphers down into the distorting context of the subject-object dichotomy. All attempts to prove or explain the ciphers destroys them, for such attempts annihilate precisely that which allows the ciphers to come alive for human beings and open the way to Transcendence, namely, existential participation.⁵⁷

IV. AESTHETICS IN SCIENCE

Recall the initial contention that human life is oriented to an objective environment, but one which also entails a Platonic frame of reference. To clarify the argument it might be helpful to consider briefly a neighbouring but relevant discourse on aesthetic value in art, as a prelude to considering aesthetic value in science. In the following quote Anthony O'Hear is summarizing Iris Murdoch's discussion of transcendent value:

One possible interpretation of the objectivity of aesthetic value would be to see it in terms of a background of value, such as Iris Murdoch postulates, of standards to which our judgements ought to conform. The hard idea of truth against which we compare our judgements of Homer, Beethoven, Turner, and the rest would be a metaphysical fabric of value, something in or behind the empirical universe, and which our own aesthetic creations and perceptions occasionally and fleetingly reveal.⁵⁸

Elsewhere it has been claimed that good art is closer to God and somehow emulates a 'prior ethereal existence'.⁵⁹ Without digressing, a more modest position would be to say, as Lonergan does, that art liberates human intelligence from 'the wearying constraints of mathematical proofs, scientific verifications, and commonsense factualness'.⁶⁰ But the argument in at least a plausible theory of art is that it does so only in experiential contact with these 'Platonic' absolutes to which creative endeavour corresponds or falls short of imitating. Assuming this for the sake of argument, the key point is that human consciousness of existence has broader dimensions than are strictly verifiable, but these experiences are not therefore irrational for failing to meet the standards of an objective epistemology. What evidence is there for this existential participation that reveals something veiled to routine patterns of thought? To answer this one would need to look for reports of a connection between the practising scientist and a wider reality in excess of experience and theory that terminates in an inference. It would need to be

something compelling, a unity in which object-knowledge is transcended by a deeper 'awareness' – perhaps an 'accord' in which the relationship of subject to objects is best described in terms of 'presence'. Or a sense in which a 'disclosure' has taken place, a glimpse of the image of the universe in human reason.

As complex as this piece of epistemology undoubtedly appears, there are intimations of it in reports of working scientists. The physicist Frank Close once remarked, perhaps in support of the notion of a 'background of value', that his most profound moment of research was "the first time an experiment confirmed my theory and I felt humbled by having "caught Nature at it". The fact that Nature 'knew' about *his* equations was 'an eerie and mystical experience'.⁶¹ If Jaspers' insight is not sophistry, then clearly an experience of reality as a functioning presence will stretch human language and imagination. A further intriguing example of human intuition in search of the absolute can be found in the dialogue between Walter Heisenberg and Wolfgang Pauli. When asked by Pauli in 1952 'Do you believe in a personal God?' Heisenberg gave this intriguing reply:

'May I rephrase your question? I myself would prefer the following formulation: Can you, or anyone else, reach the central order of things or events, whose existence seems beyond doubt, as directly as you can reach the soul of another human being? I am using the term "soul" quite deliberately so as not to be misunderstood. If you put your question like that, I would say yes'. . . . 'Why did you use the word "soul" and not simply speak of another person?' 'Precisely because the word 'soul' refers to the central order, to the inner core of a being whose outer manifestations may be highly diverse and pass our understanding.'⁶²

The theological science embodied in the first citation of this paper, to be attentive and responsive to existence, anticipated a new way of thinking. Torrance wanted to move to a position that could reflect the indefinite range of intelligibility encountered within the spontaneity and open-structured order of the universe.⁶³ With these Platonic allusions and a theory of ciphers in mind, it can also be noted that an aspect of the world that fails to live up to the criteria of positive knowledge is its inherent aesthetic character and harmony. It is a considerable strength of critical realism to validate a wide variety of perspectives and a plurality of epistemologies with which to engage the world. Furthermore this is exactly in line with the assessment of any scientific object.⁶⁴ Assuming it is valid to be a realist about beauty, and that beauty is a genuine aspect of Being – part of its *a priori* intelligibility – it would follow that aesthetic discoveries should find a place in theistic discourse. Given a multitude of perspectives, such themes would be recurrent and variable.⁶⁵ The following foreground the apparently *supervening* nature of aesthetic depth encountered in advanced human enquiry.

Physicist Steven Weinberg has commented on the intrinsic beauty 'that we are finding in the rules that govern matter that mirrors something that

is built into the logical structure of the universe at a very deep level',⁶⁶ while likening the perfect simplicity of beauty in physical theory to that found in Greek tragedies.⁶⁷ Likewise the French mathematician Paul Dirac was quite clear it was a '*keen sense of beauty* that enabled him to divine his equation for the electron ... while others had searched in vain'.⁶⁸ In the thought of Johannes Kepler:

A beautiful theory may be discarded as fantasy, only to be replaced by another in which an unexpected beauty gleams. With what reluctance did Kepler abandon circular motion for the planets. To lose the music of the spheres was an intolerable deprivation. Playing with oval curves for the planetary orbits Kepler compared them to a cart-load of 'dung'. And yet he could not believe that nature was so foul. In due course he was rewarded with the elegance of the ellipse – new music to his ears and a new music of the spheres.⁶⁹

Alternatively, we can see the 'excitement at the disclosure of a hidden beauty'⁷⁰ in Nicolaus Copernicus. Nor were aesthetic reflections emanating from theism trivial to Isaac Newton.⁷¹ Hendrik Lorentz commented on Einstein's theory of general relativity as having 'the very highest degree of aesthetic merit: every lover of the beautiful must wish it to be true'.⁷² Further, Eugene Wigner observed that the 'miracle of the appropriateness of the language of mathematics for the formulation of the laws of physics is a wonderful gift that we neither understand nor deserve'.⁷³ And, recalling his notion of the 'inner core of a being', Heisenberg:

spoke of a spirit of humility in which one had to accept the gift of 'an incredible degree of simplicity' in the mathematical abstractions of physical theory. These beautiful interrelationships could not be invented: 'they have been there since the creation of the world'. His wife recorded that he had once said to her: 'I was lucky enough to look over the good Lord's shoulder while He was at work'.⁷⁴

Across a wide spectrum of research, aesthetic motives have illuminated the quest for a unified theory.⁷⁵ In existentialist terms, these are *transcendental identifications* over and above strict ratiocination based on object-knowledge – instances of the 'evanescence' central to Jaspers' philosophy of ciphers, in which the strictly determinable character of objects collapses and the depth dimensions of existence are opened up.⁷⁶ It is often aesthetic considerations that have been the most fruitful elements in theory formation. Under certain conditions in which object-existence is being fathomed by the natural scientist, a transcendental attribute of Being is fleetingly manifest. At such moments 'the entire theory might suddenly shift and become a code entity for the magnificence of divine wisdom',⁷⁷ to reposition the semantic resonance from the philosophical into the theological register. What can I know? I can know that Transcendence shines through the limited whole of the world as it confronts consciousness, and that the 'propellant' within scientific theory formation is in part a cipher-like aesthetic appreciation, witnessed in the apparently indeterminable sense for the encompassing

and comprehensive beauty of physical and theoretical existence. In Jaspers' schematic, these depth experiences are evidence of ciphers of the unrestricted intelligibility of the universe, perhaps generating impulses and discoveries in the scientific quest that might not otherwise have been disclosed.⁷⁸ A cipher philosophy is at least a candidate theory to account for the theistic references as cognitive faculties play within the intuition of the beautiful. It is a challenge to the idealistic notion of an inert objectivity.

V. CIPHERS AND COGNITIVE SPONTANEITY

Why, more precisely, is such a claim akin to cipher-theory? Because it calls for a participatory hermeneutic in which cogent thought is an understudy to wider existential interests. The transcendent illumination is not the result of a *syllogism*; it resides in something not strictly cogent. Without case by case scrutiny the claims of an inevitably tenuous epistemology must be tempered, but an aesthetic perception is not an 'automatic response to a generalizable stimulus'.⁷⁹ An existential experience of beauty appears, in the accounts provided, to be supervening upon conventional cognition, and this is characteristic of a cipher. At such moments, human thought is encompassed within a horizon that self-consciously transcends the subject-object dichotomy. In the sublime atmosphere something more is at work than formal intellection. It is legitimate to read these accounts as an encounter with Transcendence, experienced as the background of the various entities. With striking similarity Bhaskar's recent work on the philosophy of science refers to the notion of 'spontaneous right cognition'⁸⁰ as the moment in which transcendent truth is realised:

You might say this burst from nowhere is actually the kind of alethic self-revelation of some deeper being that knows it all – or just is the reality he is investigating, or that it is already present, implicit in him, waiting to be explicated in his conscious experience.⁸¹

Here, he continues, is a 'union between something already enfolded within the discovering agent, brought up to consciousness by a moment of Platonic anamnesis or recall, with the alethic self-revelation of the being known, existing outside him'.⁸² This cipher-like non-algorithmic depth to human knowing accounts for the further and equally intriguing similarities described by Roger Penrose. The notion there is 'something essential in human understanding that is not possible to simulate by any computational means'.⁸³ For example, in generating theories to explain phenomenon 'x', there is typically an 'unconscious putting-up-process', in which an experiential non-algorithmic covalence between the knower and the known spontaneously manifests the appropriateness of 'this particular theory'; only after this is there a 'shooting-down'⁸⁴ process, or judgment of the theory's adequacy. Argumentation *follows* the insight;

and the insight is not the result of more exacting thought. For example, Penrose has commented that a mathematician ‘must “see” the truth of a mathematical argument to be convinced of its validity’.⁸⁵ Thus it is only retrospectively that an algorithm is used to check the theory. Indeed, as Penrose suggests, ‘algorithms, in themselves, *never* ascertain truth!’⁸⁶ The revelation of knowledge cannot be simulated computationally; it is distinct to the special abilities of human consciousness. Hence it seems possible to undergo an abrupt and unpredictable realization of truth that somehow outstrips the staple conventions of subjects relating to objects in a predictable way, or more concisely, there are ‘instantaneous judgments of inspiration’.⁸⁷

In the present theory these events manifest the subliminal character of Transcendence to which consciousness somehow *reacts*, no doubt triggered by a foundation of exceptional thinking, but that yields a momentary and oblique contact with a universe grounded in a level of intelligibility that is aesthetically complex beyond rational formulation. The idea of an ‘irruption of a transcendent cause onto immanently well prepared ground’⁸⁸ has obvious existential resonances; both suggest there is an integrity and coherence to existence that defies comprehension, but is nonetheless ephemerally realised. The critical point of conjecture is that even in the presence of large or complete data-sets constructed in hard won experimental science, in which all relevant data for judgment is present, ‘the process of formulating the appropriate judgment, by extracting what is needed from the morass of data, may be something for which no clear algorithmic process exists – or even where there is one, it may not be a practical one’.⁸⁹ As Penrose goes on to say about the intellectual intuition, ‘non-algorithmic selection ought to have a role within the physical world of very considerable importance’.⁹⁰ If it is this apparent ‘ability to divine (or “intuit”) truth from falsity (and beauty from ugliness!), in appropriate circumstances, that is the hallmark of consciousness’,⁹¹ then there can be no reason to dismiss the notion of methodological aestheticism,⁹² that is clearly evident in the exigencies of high-level thought. Aesthetics at the limit of rational discourse bears more than a passing resemblance to Jaspers’ cipher theory of Transcendence. Both seem to share the same conviction:

This moment is not a call for a more determined application of the exigencies of empirical consciousness. The person cannot encounter Being in a more profound way by simply applying himself to empirical experience with deeper commitment. What occurs here is a real awareness of the limits inherent within empirical consciousness itself. This awareness is made possible by the presence of existential consciousness as its transcendental encompassing.⁹³

These reports can never be objectified in the sense of conveying their content algorithmically, serially, or in syllogisms, as ‘the truer our grasp of transcendent being, the more decisively will its objective supports be destroyed’.⁹⁴ Here, arguably, is evidence for a ‘One’ conditioning the

'Many', the aesthetic dimensions of Transcendence supervening upon cognition. Though an agnostic interpretation of the 'One' may still be reached, it is sufficient to note the similarities between Jaspers' theory and the actual experience of experimental science.

CONCLUDING THOUGHTS

What can I know? I can know that truth is more complicated than a schematic arrangement of everything known. A dependence on the objective environment is apparent, be that upon 'mysterious-beyond-present-comprehension physics of the future', or upon 'Transcendence'. Further, aesthetic considerations seem to be normative in shaping the human relation to it. If it is an 'energetic stillness of attention'⁹⁵ that characterizes objectivity, then perhaps this additional existential qualification has a serious contribution to make. God is not an object; indeed the notion of Transcendence or 'Being' that Peacocke sought to infer from world-process is not a noun, but the present participle of the verb 'to be'.⁹⁶ Human experience entails a predictable and a dynamic, open-ended frame of reference that goes beyond the static mirroring of physical reality. If it is possible to experience a conciliatory sympathy that underwrites the space-time process, however, this experience is not easy to express. Francis Galton, referring to hard won and clear discoveries in his work, said that 'when I try to express them in language I feel that I must begin by putting myself upon quite another intellectual plane'.⁹⁷ Is there an extra-linguistic dimension to reality? Even Einstein spoke of the laborious search for words and signs as a secondary abstraction.⁹⁸

Although accounts involving a cipher theory of Transcendence are not independent of the knowing subject, they are not therefore automatically false. If the various reports are to be trusted, and intellectual intuition of this kind is conceived as bearing some kind of reference, then no doubt it is a mystical experience to have intuited the deep structures that bind and unify the universe. Needless to say, there are competing explanations for the genesis in consciousness of the freely deployed metaphors of the type presented in this argument. Doubtless also, a cipher theory of Transcendence has considerably less epistemological reliability than many would be willing to critically accept. After all, could not any poetic quasi-religious metaphor substantiate such a claim? The critique of perspectivism poses challenges to this approach; but the very search for appropriate language speaks volumes. And as Thomas Nagel has commented, wanting to arrive at an absolute conception of reality untouched by particular perspectives is to try to achieve a description of existence as it would be without human life. It would require a departure from the specifically human, sentient viewpoint in space and time.⁹⁹

By adopting a pluriform view of truth, a positivist methodology and monistic philosophy are both simultaneously rejected. Perhaps it is

possible to endure existentially at the limit of immanent thought and experience a momentary 'leap beyond all objectivity'.¹⁰⁰ In Jaspers' eloquent words, the only apparent problem with ciphers occurs when 'historical or psychological collectors and tabulators neutralize the ciphers into noncommittal random data'.¹⁰¹ But as long as struggle, personal involvement, creative imagination and aesthetic experience are central to science,¹⁰² and so long as it is through Platonic 'absolutes' that consciousness gains its essential strength,¹⁰³ then, to return to the Regensburg polemic, perhaps rationality does indeed shine through material creation. If theology is correct to affirm the qualification of an immanent array by a transcendent condition and depth, it then follows that scientific activity of the type discussed here will, from time to time, submerge beneath the crests of sensation and description. There are no formulas of reduplication for an intuition of this kind as science hints at doxology. The fleeting isomorphism of the knower and the known is not a predictable or containable or apparently very describable reality. The contention remains that within the variable ciphers 'something is heard'¹⁰⁴ that comes to meet us: the refined ordering of cerebration and silence, of Logos and life?

Notes

- 1 A. E. McGrath, *A Scientific Theology: Nature*, (Edinburgh: T&T Clark, 2001), p. 77. McGrath is discussing the development of a theological science by T. F. Torrance.
- 2 J. Searle, cited in T. E. Feinberg, 'Why the Mind is Not a Radically Emergent Feature of the Brain', in A. Freeman, ed., *The Emergence of Consciousness*, (Thorverton: Imprint Academic, 2001), p. 143.
- 3 D. C. Dennett, *Consciousness Explained*, (London: Penguin Books, 1991), p. 80.
- 4 R. S. Thomas, *Collected Poems, 1945–1990*, (London: Phoenix, 1993), p. 478.
- 5 S. Clark, 'Nothing without Mind', in J. H. Fetzer, ed., *Consciousness Evolving*, Advances in Consciousness Research, Vol. 34, (Amsterdam: John Benjamins, 2002), pp. 139–60.
- 6 K. Jaspers, *Philosophy*, Vol. 1, (London: University of Chicago Press, 1969), p. 49.
- 7 A. Grøn, 'The Embodied Self, Reformulating the Existential Difference in Kierkegaard', in *Journal of Consciousness*, Vol. 11: No. 10–11 2004, p. 27.
- 8 B. O'Shaughnessy, *Consciousness and the World*, (Oxford: Clarendon Press, 2000), p. 681.
- 9 K. Popper & J. Eccles, *The Self and Its Brain*, (London: Springer International, 1977), p. 9.
- 10 Cited in J. Searle, *The Rediscovery of the Mind*, (London: MIT Press, 1999), p. 25.
- 11 Popper & Eccles, *The Self and Its Brain*, p. 9.
- 12 *Ibid.*, p. 10.
- 13 *Ibid.*, p. 9.
- 14 K. Jaspers, *Philosophy is for Everyman: A Short Course in Philosophical Thinking*, (London: Hutchinson, 1969), pp. 22–23.
- 15 Jaspers, *Philosophy*, Vol. 1, p. 48.
- 16 J. Searle, *Mind, Language and Society: Philosophy in the Real World*, (London: Phoenix, 2000), p. 32.
- 17 Cited in A. E. McGrath, *A Scientific Theology: Reality*, (Edinburgh: T&T Clark, 2002), p. 124.
- 18 W. B. Drees, *Religion, Science and Naturalism*, (Cambridge: CUP, 1998), pp. 139–140.
- 19 Searle, *Mind, Language and Society*, p. 134.
- 20 R. Bhaskar, *From Science to Emancipation: Alienation and the Actuality of Enlightenment*, (London: Sage, 2002), p. 10.

- 21 A. Peacocke, *Paths from Science Towards God: The End of All our Exploring*, (Oxford: One World, 2001), p. 43.
- 22 Aristotle's *Metaphysics*, 1028b, cited in K. Jaspers, *Reason and Existenz: Five Lectures*, (London: Routledge, 1956), p. 53.
- 23 M. D. Morelli & E. A. Morelli, eds., *The Lonergan Reader*, (Toronto: University of Toronto Press, 1997), p. 207.
- 24 In this regard, see the interview with Ruth Gledhill 'God . . . in other words', in *Times 2*, *The Times*, Thursday, May 10, 2007.
- 25 K. Jaspers, *Philosophy*, Vol. 3, (London: The University of Chicago Press, 1971), p. 34.
- 26 'Transcendence' and 'Being' are capitalized to denote, in the context of this paper, the 'definition' of God provided by Peacocke.
- 27 G. W. F. Hegel, *Lectures on the Philosophy of Religion, Vol. I: Introduction and The Concept of Religion*, (London: University of California Press, 1984), p. 258.
- 28 N. Lash, *The Beginning and the End of 'Religion'*, (Cambridge: CUP, 1996), p. 86.
- 29 Jaspers, *Philosophy*, Vol. 3, p. 35.
- 30 Peacocke, *Paths from Science Towards God*, p. 27.
- 31 J. Hick, *An Interpretation of Religion: Human Responses to the Transcendent*, (London: Macmillan, 1989), p. 86.
- 32 N. Rescher, *Philosophical Reasoning: A Study in the Methodology of Philosophizing*, (Oxford: Blackwell, 2001), p. 137.
- 33 A. Goldman, 'Epistemology', in J. Shand, ed., *Fundamentals of Philosophy*, (London: Routledge, 2003), p. 28.
- 34 J. Vogel, Entry for 'Inference to the best explanation', in E. Craig, ed., *Routledge Encyclopedia of Philosophy*, Vol. 4, (London: Routledge, 1998), p. 768.
- 35 McGrath, *A Scientific Theology: Nature*, p. 298.
- 36 P. Lipton, *Inference to the Best Explanation*, (London: Routledge, 1991), p. 67.
- 37 J. Brooke & G. Cantor, *Reconstructing Nature: The Engagement of Science and Religion*, (Edinburgh: T&T Clark, 1998), p. 233.
- 38 Brooke & Cantor, *Reconstructing Nature*, p. 235.
- 39 G. J. Cooper, *The Science of the Struggle for Existence: On the Foundations of Ecology*, (Cambridge: CUP, 2003), p. 264.
- 40 R. Williams, *On Christian Theology*, (Oxford: Blackwell, 2000), p. 155.
- 41 K. Jaspers, *Philosophy*, Vol. 2, (London: University of Chicago Press, 1970), p. 20.
- 42 Jaspers, *Philosophy*, Vol. 3, p. 35.
- 43 J. Thyssen, 'The Concept of "Foundering" in Jaspers' Philosophy', in P. A. Schilpp, ed., *The Philosophy of Karl Jaspers*, (New York: Tudor Publishing Company, 1957), p. 299.
- 44 A. M. Olson, *Transcendence and Hermeneutics: An Interpretation of the Philosophy of Karl Jaspers*, (The Hague: Martinus Nijhoff, 1979), p. 108.
- 45 S. Samay, *Reason Revisited: The Philosophy of Karl Jaspers*, (Dublin: Gill & MacMillan, 1971), p. 14.
- 46 J. Collins, 'Jaspers on Science and Philosophy', in P. A. Schilpp, ed., *The Philosophy of Karl Jaspers*, (New York: Tudor Publishing Company, 1957), p. 130.
- 47 Samay, *Reason Revisited*, p. 175.
- 48 B. F. O'Connor, *A Dialogue Between Philosophy and Religion: The Perspective of Karl Jaspers*, (London: UAP, 1988), p. 22.
- 49 Thyssen, 'The Concept of "Foundering" in Jaspers' Philosophy', p. 306.
- 50 K. Jaspers, *Philosophy of Existence*, (Oxford: Basil Blackwell, 1971), p. 19.
- 51 Olson, *Transcendence and Hermeneutics*, p. 103.
- 52 Thyssen, 'The Concept of "Foundering" in Jaspers' Philosophy', p. 307.
- 53 Olson, *Transcendence and Hermeneutics*, p. x.
- 54 K. Jaspers, *Philosophical Faith and Revelation*, (London: Collins, 1967), p. 92.
- 55 Jaspers, *Philosophy*, Vol. 1, p. 73.
- 56 Jaspers, *Philosophy is for Everyman*, p. 93.
- 57 D. Law, *Inspiration*, (London: Continuum, 2001), p. 175.
- 58 A. O'Hear, *Beyond Evolution: Human Nature and the Limits of Evolutionary Explanation*, (Oxford: Clarendon Press, 1997), p. 192.
- 59 R. Penrose, *The Emperor's New Mind: Concerning Computers, Minds and The Laws of Physics*, (Vintage: London, 1990), p. 127.
- 60 Morelli & Morelli, eds., *The Lonergan Reader*, p. 109.
- 61 Brooke & Cantor, *Reconstructing Nature*, p. 227.

- 62 J. C. Eccles, *The Human Psyche*, The Gifford Lectures 1978–79, (London: Routledge, 1992), p. 244.
- 63 *Ibid.*, p. 245.
- 64 Bhaskar, *From Science to Emancipation*, p. 31.
- 65 Brooke & Cantor, *Reconstructing Nature*, p. 226.
- 66 Cited in D. Alexander, *Rebuilding the Matrix: Science and Faith in the 21st Century*, (Oxford: Lion, 2001), p. 249.
- 67 Cited in A. E. McGrath, *The Foundations of Dialogue in Science and Religion*, (Oxford: Blackwell, 1998), p. 76.
- 68 Penrose, *The Emperor's New Mind*, p. 545.
- 69 Brooke & Cantor, *Reconstructing Nature*, p. 209.
- 70 *Ibid.*, p. 215.
- 71 *Ibid.*, p. 220.
- 72 McGrath, *The Foundations of Dialogue in Science and Religion*, p. 77.
- 73 E. P. Wigner, cited in Brooke & Cantor, *Reconstructing Nature*, p. 227.
- 74 *Ibid.*, p. 228.
- 75 *Ibid.*, p. 230.
- 76 O'Connor, *A Dialogue Between Philosophy and Religion*, p. 20.
- 77 *Ibid.*, p. 21.
- 78 Jaspers, *Philosophical Faith and Revelation*, p. 184.
- 79 O'Hear, *Beyond Evolution*, p. 189.
- 80 R. Bhaskar, *Reflections on Meta Reality: Transcendence, Emancipation and Everyday Life*, (London: Sage, 2002), p. 99.
- 81 Bhaskar, *From Science to Emancipation*, p. 35.
- 82 *Ibid.*, p. xii.
- 83 R. Penrose, *Shadows of the Mind: A Search for the Missing Science of Consciousness*, (Oxford: OUP, 1994), p. 201.
- 84 Penrose, *The Emperor's New Mind*, p. 547.
- 85 *Ibid.*, p. 540.
- 86 *Ibid.*, p. 533.
- 87 *Ibid.*, p. 545.
- 88 Bhaskar, *From Science to Emancipation*, p. 234.
- 89 Penrose, *The Emperor's New Mind*, p. 533.
- 90 *Ibid.*, p. 557.
- 91 *Ibid.*, p. 533.
- 92 Brooke & Cantor, *Reconstructing Nature*, p. 230.
- 93 O'Connor, *A Dialogue Between Philosophy and Religion*, p. 30.
- 94 Jaspers, *Philosophy*, Vol. 3, p. 17.
- 95 Lash, *The Beginning and the End of 'Religion'*, p. 85.
- 96 M. Okrent, Entry for 'Being', in E. Craig, ed., *Routledge Encyclopedia of Philosophy*, Vol. 1, (London: Routledge, 1998), p. 699.
- 97 Penrose, *The Emperor's New Mind*, p. 548.
- 98 *Ibid.*
- 99 T. Nagel, cited in F. Kerr, 'The Modern Philosophy of Self in Recent Theology', in R. J. Russell *et al.*, eds., *Neurosciences and the Person: Scientific Perspectives on Divine Action*, (Vatican City State: Vatican Observatory Publications & Berkeley: Centre for Theology and the Natural Sciences, 2002), p. 38.
- 100 Jaspers, *Philosophy*, Vol. 1, p. 314.
- 101 Jaspers, *Philosophical Faith and Revelation*, p. 184.
- 102 Brooke & Cantor, *Reconstructing Nature*, p. 212.
- 103 Penrose, *Shadows of the Mind*, p. 401.
- 104 Jaspers, *Philosophy is for Everyman*, p. 93.