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# The European enlightenment and the age of reason

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## Abstract

*The Enlightenment is often described as the Age of Reason, but in fact it often (in David Hume, for instance) limited the role of Reason to being the slave of the passions. Secularism is largely the consequence of this limitation, and might more properly be called strong evidentialism, the axiom that all beliefs must be proportioned to available empirical evidence. Reason was given a more positive role in theologians like Anselm, and in philosophers like Hegel. For them, it was an objective intelligibility and beauty discernible by intellect. Empirical evidence is always necessary, but never sufficient, for the construction of a rational worldview. This paper argues against strong evidentialism, and for a stronger view of reason as the creative construction of a coherent, comprehensive, and plausible metaphysics. The intelligible cosmos disclosed by science is part of such a metaphysics. But equally important is the axiological dimension of value, purpose and meaning, found in distinctively personal experience. When this is taken into account, so I argue, religion can assume a proper and rational place in a comprehensive metaphysics of human experience. My paper will attempt to locate science, as a rational enterprise, within a broader notion of reason that also allows for rationality in morals, value-theory and religion — and which may in turn illuminate the scientific concept of reason also.*

## 1. Reason, critical enquiry, and new knowledge

The Eighteenth Century in Europe is sometimes known as The Age of Reason. In France between 1751 and 1772 the Encyclopedie was published in twenty eight volumes. It spread the philosophical and scientific ideas of the Enlightenment. Diderot and Voltaire appealed to human reason to challenge traditional assumptions about the Church, monarchy and social institutions.

There had certainly been times in France when the Church had opposed reason. The Bishop of Paris in 1277 condemned 210 views allegedly propounded by some academics in the University of Paris, including some by Thomas Aquinas. These included the proposition that man should not be content with authority alone as a means of acquiring certainty, and that we should believe nothing that is not known in itelf or cannot be explained by known principles.

Any religion with a supposedly revealed text is liable to claim that the propositions of that text should be received on authority alone, and not questioned. Yet Thomas Aquinas, who for a while was banned from teaching in the University, very shortly became the canonical philosopher-theologian of the Roman Catholic Church. And though he certainly accepted the authority of Scripture, he did not hold that such authority should be blindly accepted. On the contrary, he propounded a number of arguments purporting to show that it was eminently reasonable to believe in God, and to believe that God had revealed the divine nature in the Bible. Moreover, in common with the tradition of the Catholic Church, he held that the interpretation of Scripture was a difficult and arcane matter, requiring much learning and skill, that is, much reasoning, to undertake.

None of that will satisfy someone who thinks that reason cannot show that God exists, or that the Bible is inspired by God, or that the Catholic Church alone has the authority to interpret the Bible. Atheists, Muslims, and Protestants, respectively, would deny such claims, and there are enough highly intelligent and moral atheists, Muslims, and Protestants in the world to establish to most peoples satisfaction that no claim to possess divinely revealed truth can be theoretically certain (where certain means beyond reasonable doubt).

It is not, however, some special faculty of Reason that has made this clear in the modern world. It is acceptance that free and informed critical enquiry shows that the foundations of moral, religious and philosophical belief are disputed and that basic differences in such beliefs are irresolvable by reasoning. Reasoning does not show the revealed claims of religion to be false. It shows that reason cannot resolve some of the deepest intellectual problems about the human understanding of reality. Greater and less prejudiced knowledge of world religions shows that there are intelligent and devout believers in other Scriptures, who are as certain of their views as Christians are. And better knowledge of the Scriptures and of science reveals further disputes about interpreting ancient texts that inevitably put older and more traditional interpretations in doubt.

It is the growth of knowledge that shows traditional claims to certainty to be too restricted. In a similar way, better knowledge of human needs and abilities leads to questioning traditional, hierarchical patterns of society, that exclude able people from powerful social roles, and often leave government in the hands of the incompetent or corrupt.

There was certainly a revolution in eighteenth century France. But it was not a new discovery of reason, whereas all before had been irrational. It was a rapid growth of knowledge about the world and about human needs and desires, which put in question traditional practices and beliefs. Some old traditions (not actually all that old), like the institution of an absolute monarchy and corrupt aristocracy, were seen to be inequitable and repressive. So the Revolutionaries presented the situation as a war between reason and tradition. Their aim was to destroy old traditions, and make all things conform simply to reason. By reason what

was actually meant was an open-ness to critical enquiry and to new knowledge. But in the rhetoric of the day reason came to represent opposition to all tradition and authority.

## 2. Some negative consequences of reason

Accordingly, in November, 1793, the cathedral of Notre Dame de Paris was re-named the Temple of Reason, and to celebrate the triumph of rationality many art-works in the Cathedral were destroyed.

The rule of Reason was rather short-lived, and was quickly overtaken by the Rule of Terror and the rise of Napoleon. For in opposing all tradition and authority, Reason came to have an almost wholly negative and critical role. As such, it almost inevitably came to be negative and critical about its own authority. Weakened by self-doubt, it proved unable to withstand the claim that the appeal to reason was in fact an appeal to prudence, which was in turn a disguised appeal to power. Reason became the watch-word of that large but oppressed majority that rebelled against the entrenched social hierarchies and privileges of traditional authority.

One result of this rebellion was the rejection of any claim to supernatural revelation. One should believe only what can be established by reason, operating without the aid of revelation. In this way what was perceived as the repressive hierarchy of the Church was rejected. A second strand was the rejection of the authority of custom or tradition. All moral and political beliefs should be justifiable by reasons that all could accept. The aristocracy and monarchy were thereby challenged. And a third strand was the methodology of the new science, a methodology of close observation and experiment, backed up by the development of rigorous mathematical techniques. There seems little wrong with that. But it led to an insistence that all knowledge is empirical, observationally established knowledge, to a view of the universe as a machine to be dissected, controlled, and improved, and to a view of humans as parts of that machine, who could be manipulated in the name of greater efficiency, or sent to the guillotine if they stood in the way of a more rational ordering of the social machine.

Rene Descartes was one of the intellectual originators of the idea of the universe as a machine. In his Discourse on Method, published in 1637, he set out an ideal model of reason for the new age. Nothing should be admitted to the realm of knowledge except that which could be evidently known and stated clearly and distinctly. All knowledge should be divided into its distinct constituent parts, which should be clearly arranged to demonstrate how complex elements arise from simple constituents, by processes that can be clearly and completely enumerated. Descartes thought that reason by itself could contribute some clear and distinct ideas to the edifice of human knowledge, such as the immortality of the soul and the existence of God. Ironically, it turned out that the very things he thought most clear and distinct —the existence of the soul and of God— were thought by many to be not at all clear, and even to

be incoherent.

Observation and experiment were soon taken to be the only reliable means of obtaining reliable knowledge, and it became clear that this would lead to setting aside some traditional received ideas about the world.

Some religious ideas were likely to come into conflict with the conclusions of the new science (Galileo had been condemned by the Inquisition in 1633). The evidence for divine revelation (which Descartes himself said he accepted) hardly seemed strong enough to provide absolute certainty that one and just one alleged revelation was wholly correct. Religious beliefs would soon be excluded from the commonwealth of established knowledge.

If morality and politics are concerned with natural human inclinations and their fulfilment, as medieval Christian theologians had taught, we might well find that many accepted opinions, even if backed by the full force of long tradition (opinions like the subjugation of women and peasants), could not be intelligibly related to a dispassionate analysis of human nature. Indeed, when the new science effectively undermined the authority of Aristotle and his doctrine of essential natures, the traditional assumption that there were purposes in nature that should not be trustrated was put in question. Moral principles, for many, could no longer be derived from an analysis of the essential nature of human beings. They related simply to human desires and their greatest possible fulfillment. Morality became a more fragmented and diverse matter of pursuing conflicting human desires as effectively as possible.

So the new rational method had explosive religious and social implications, which were to come to the fore in the French revolution. Ancient authorities in religion, politics and morality were challenged and set aside. They were challenged in the name of Reason, but Reason was now seen not as a divinely implanted faculty for the discernment of intelligible truth and objective value, but as the servant of sense-observation and desire. Thus the Enlightenment, at least in its French form, did not in fact divinise Reason. On the contrary, Reason was reduced to the formal role of systematising data drawn from the wholly contingent and non-rational occurrence of perceptions and feelings.

## 3. Reason as the slave of the passions

The Scottish Enlightenment was very different from the French, and not in general opposed either to religion or to all authority and tradition. But David Hume, usually agreed to be the greatest Scottish philosopher of the eighteenth century, followed the French model. He wrote that Reason is the slave of the passions, and argued that reason was unable to establish any truths at all without observation and experience. Reason is confined to the world of possible sense-experiences, and cannot hope to establish any truths (like the existence of God or the ultimate nature of reality) beyond the reach of the senses.

The role of reason is accordingly the modest one of testing empirical observations and moderating widespread human desires by the standards of consistency, impartiality, and logical rigour. If that is done, the social privileges of absolute monarchy and religious hierarchy will, some thought (though not very plausibly), be seen to be indefensible. Thus, while reason lost its metaphysical competence, it had a revolutionary social impact.

Reason, in other words, was the tool of social criticism. The claim that reason was the possession of every person, and that all had, in principle, equal access to the truth, led to the democratic principle that each person was to count as one, and no-one as more than one, in a social system within which the rational decision would be one that everyone could freely agree upon.

The paradox was, however, that the exercise of reason seemed to be very rare. David Hume regarded most of the worlds inhabitants as ignorant savages, and dismissed the religious opinions of most people of his day as "sick mens dreams". When Kant set forth the Categorical Imperative as a method for finding moral principles upon which all people could agree, he seemed to think that all humans would agree that they should do what an impartial and rational spectator of the human scene would decree. Yet he also knew that human lives are characterized by what he called radical evil, which makes the desire for personal pleasure and preference for ones friends and family seem a more reasonable course of action than devotion to an abstract principle of strict impartiality.

The paradox is, then, that those who spoke most strongly of the rule of universal benevolence and impartial reason knew very well that few human beings are, or are ever likely to be, universally benevolent and impartially rational. Is it really rational to maintain that society should be run on general principles that the vast majority do not accept? The principles of impartial reason come to seem irrational in a world in which reason is seen to be confined to categorizing sense-experiences and legislating among competing desires. For in such a world, reason is and ought to be the slave of passion and prudence. Reason can tell me how to get what I want more efficiently. It can tell me that human existence is a competitive struggle for survival, so that the exercise of the will to power is the most reasonable way to survive. And it can tell me that human beliefs and values are so diverse and conflicting that there is no one agreed rational way of resolving the deepest human disputes.

It is not surprising that the French Cult of Reason was one of the shortest-lived religions in history, and that it was immediately succeeded by the naked exercise of the will to power and by the imperial nationalism of Napoleonic France. That is quite a rational policy for groups of lustful and aggressive primates locked into a deadly competition for survival.

## 4. Three ideas of reason

My point is that there are two ideas of reason that are at work here, and they are quite distinct. One is the idea of reason as an impartial power that legislates completely general principles from a wholly dispassionate point of view. The data it has to work on are sense-observations and desires. What it does is to limit factual beliefs to those for which good public and testable evidence can be found, and recommend actions that will fulfill as many human desires as possible for the greatest number of human beings (the greatest happiness of the greatest number).

The other idea of reason accepts the starting-point of testable observations and actual human desires. But precisely by reflection on such data it concludes that humans are nothing but by-products of millions of evolutionary accidents, and such beings are unlikely to be capable of discovering anything like universal truths. Reason is simply the prudential faculty of discerning efficient means to fulfilling whatever desires one happens to have. Humans are not unembodied and wholly impartial animals, and it is unreasonable to act as though they were. Reason is the slave of the passions, and its proper job is to find the best way for me to fulfill my passions — and let others to the same if they can, though I may well, and quite reasonably, try to stop them.

This all seems rather disheartening. I suggest that this is because these two Enlightenment ideas of reason have lost their anchorage in a deeper idea that is central to the Christian religious vision that they were in process of abandoning. The core of this third idea can be brought out by recalling the centrality of wisdom (Chokmah) to much Jewish thought, and the idea of the Logos, Word or Wisdom of God that prefaces the Christian Gospel of John. The idea is also found in Judaism (Philo used Logos as a key term in his writings) and in Islam, for which God is supremely wise. But for Enlightenment writers, Christianity was the religion to which they were reacting.

For this religious tradition, wisdom or reason is a principal attribute of God. Through wisdom the cosmos was created. The New Testament letters to the Ephesians and the Colossians identify divine wisdom simply with Christ, which becomes a shorthand term for the eternal wisdom of God that was, Christians believe, fully embodied in the person of Jesus.

Here is an idea of reason as an objective reality, a property of the supremely perfect creator of the universe. It is not an abstract principle of impartiality, and it is certainly not a principle of prudence for aggressive animals in a dangerous world. It is rather a creative principle of intellectual beauty and intelligibility that underlies the structure of the universe itself.

If humans are made in the image of God, they have the capacity to share in this objective reason, in the creative capacity for discerning and creating intellectual beauty and harmony

in the world. In the notion of the creative discernment of beauty and goodness there is a much richer and more fruitful idea of reason. That idea was present in medieval thinkers like Anselm and Aquinas, and it is expounded in a rather different form by Hegel and later Idealist philosophers.

## 5. Reason and Christian faith

The Christian faith, from very early times, had been concerned to work out a theology, a systematic and rationally ordered set of beliefs about the universe and the place of humans within it. This was, I think, because of the fundamental belief, stated at the beginning of the Gospel of John, that Jesus in some way was the earthly embodiment, the incarnation, of the eternal Wisdom of God. This licensed the view that divine wisdom is not some arcane other-worldly mystery that can only be approached by a long process of secret initiations and rituals, as in some Gnostic thought. Divine Wisdom is incarnate in the universe, in flesh and blood, in the very structure of matter.

Moreover, Christianity developed in an age when the Greek philosophers, and especially Plato and Aristotle, were the leading intellectual influences. It was far from being the case that the Christian churches called for blind and unquestioning acceptance of absurd beliefs. On the contrary, they claimed to carry on and complete the work of the Greek philosophers. If there were divine mysteries that humans could not work out for themselves, like the Trinity and the Incarnation, it was nevertheless the case that such doctrines could be seen to be completely rational.

Human reason may need to be corrected and completed by some disclosure of divine wisdom. But that itself is a deeply reasonable idea. For if there is a wise Creator of the universe, it is only reasonable to think that the Creator would disclose the divine nature and purpose – data that only the Creator would know with certainty. It might even be said that a monotheistic religion without any revelation is relatively irrational, since it posits a Creator who cares for creation, but does not bother to tell finite beings who God is or what God wants them to do.

As I have noted, there is always a danger that those who accept revelation may oppose it to human reason, regarding reason as corrupted or unreliable. But that has not been the tenor of mainstream Christian theology, which has accepted that humans are created in the image of God, so that human minds are created in the image of the divine mind, and are intrinsically capable of understanding the intelligible structure of the created cosmos.

If the Catholic church is to be accused of anything, it will be that it is too rationalistic, that it relies too much on reason, not too little. Anselm was confident that he could demonstrate why God had to become incarnate to redeem humanity. Richard of St. Victor deduced that God has to be Trinitarian from an analysis of the nature of love. And Aquinas claimed to

demonstrate the main characteristics of the divine nature without reference to revelation.

One of the consequences of the Enlightenment is that we are now less confident of what Reason can do. Having seen the history of rational thought since the sixteenth century, we can see that there are fundamental disagreements about the nature of human persons, about freedom and determinism, about the place of consciousness in the material universe, about the principles that morality requires, and about how society should be organised. Reason does not seem to be able to arbitrate between these deeply disputed views, for there are equally rational people who take different sides in each dispute.

That does not make reason less important. It is good that we should seek to make our knowledge as comprehensive as possible, make our beliefs consistent and compatible with the best available knowledge, and be prepared to justify those beliefs in some intelligible way. What we cannot do is pretend that reason alone can resolve all the really deep questions – questions, especially, of the nature of ultimate reality, of the nature of the human person, and of how to live well.

No informed person could now claim to know and be able to establish beyond reasonable doubt that God exists and has revealed the divine nature in Jesus Christ. But nor could any informed person claim that such beliefs can be readily refuted, or in some way be shown to be irrational.

This does not reduce the role of reason to that of being a slave of perception and desire. Indeed whether that is the proper role of reason is precisely one of the disputed questions reason is apparently unable to resolve. But it does suggest some important elements that must be present in a rational approach to human knowledge and experience. I will suggest seven elements of such an approach.

## 6. Reason and empathy

First, careful attention and sensitivity is needed. In the study of physical phenomena, close observation and repeated experimentation is essential. The natural sciences have built up a cumulative body of knowledge that is well-established and firmly founded. The natural sciences tend to ignore all questions of value, as lying outside their purview. Since the idea of purpose is the idea of processes aiming at states of value, purpose is inevitably excluded along with value. And the fact of consciousness, of subjective experience, which desires and enjoys values and appears freely to create purposes and goals, remains a problem for natural science. Natural scientists may rarely be Cartesian dualists. But there is no satisfactory scientific way of explaining the fact and nature of consciousness in terms of publicly observed brain-states or behavior.

So there is a basic problem in modern science about the status of value, purpose and consciousness. Philosophers in the twentieth century oscillated between phenomenalism, making physical objects constructs out of private perceptions; materialism, making consciousness a virtually superfluous by-product of brains; and idealism, making consciousness the ultimate reality, with matter as the manifestation of some form of Absolute Consciousness.

I doubt whether one of these fundamental viewpoints is more obviously rational than the others. Yet humans rightly wish to adopt a rational view, and in that case reason must have a wider role to play than the instrumental role of rendering observations coherent. The deeper question is whether we can arrive at a simple, fruitful, comprehensive, elegant model that can integrate all the various aspects of human experience in a general interpretative scheme. It will be a scheme in which observation and desire, value and purpose, matter and consciousness, form an integrated, coherent, and plausible whole.

For some, like E. O. Wilson and Daniel Dennett, this ideal of consilience between what we may call the personal and the impersonal objects of human knowledge is to be achieved by reducing the personal to the impersonal. But that is far from being the only, or even the most plausible, option.

It is one of the functions of reason to enquire into the plausibility of that option and into the plausibility of its main alternatives. People disagree widely in their fundamental interpretations of reality. In order to pay careful attention to the interpretations of other people and cultures, we need first of all to try to see what leads them to such interpretations, and what it is like to see the world in terms of them. We need to be able to describe a variety of interpretations in a way that would be acceptable to those others who hold them. That does not involve agreement, but it does involve empathy, an initial attempt to see things from different viewpoints than our own.

Descartes had stressed clarity and distinctness as the marks of rational knowledge. But there are many aspects of human experience that resist clear description and analysis into distinct and isolatable parts. In the colorful and value-rich field of personal experience there are forms of understanding that require discernment, judgment, and empathy, rather than the dispassionate objectivity that is characteristic of experimental science. The methodology of the natural sciences may well turn out to be inadequate for the understanding of human consciousness. Yet both the material world and the world of consciousness require the use of reason, and that in turn requires that sensitivity as well as clarity should be involved in the use of reason.

## 7. Criteria of rationality

Second, it is a mark of rationality to classify and interpret our knowledge in clear and fruitful ways. The British philosopher John Wisdom talked of a connecting technique, by which we learn to make significant connections and discount insignificant ones. The way we classify and organize our knowledge is an important element in bringing rational order and clarity to experience. A clear example from the sciences is the way in which the construction of the Periodic Table by Mendeleev in 1869 proved to be enormously fruitful for the development of modern chemistry. Descartes insistence on careful analysis and the tracing of precise logical connections is important here, though we need to be aware of the differing general interpretations of experience that exist, and so of the differing sorts of classifications that are possible.

Third, we need to be aware of all relevant alternative interpretations. We need to listen carefully to what others say, and especially to criticisms of our views, so that we will not be limited to just our own perspective on the world.

Fourth, we need to be aware of the strong and weak points in our own arguments and beliefs. All sets of beliefs have strong and weak points, and to admit them is to have a better sense of the distinctive perspective from which we see the world, its advantages and limitations.

Fifth, we need to have a keen sense of logical acuteness, knowing how to deduce or infer conclusions from premises, and being aware of the mistakes and ambiguities that can easily arise in human thinking, as we deal with complex and often confusing sets of data.

Sixth, a truly rational person will have a strong imaginative sense, which is able to frame new hypotheses, put data in a new light, and explain phenomena in a new way. When scientists invent new experimental techniques, new mathematical formulae, or new models for explaining why things behave as they do, they exercise an imaginative creativity which is deeply rational, but which cannot be described in any algorithm, and does not lie in the application of any rule.

Seventh, a rational view will aim at an ultimate integration of many different areas of thought and experience, ideally of all areas of human experience. Such integrating ideals may be superficial and over-simple, or unduly complex and obscure. The final integration may well lie forever beyond human reach. But it is a mark of rationality to seek the greatest integration possible of the widest set of available data, and to be aware of where integrating attempts fail.

If these are marks of rationality, it is clear that they virtually all involve personal capacities of judgment and discrimination, which vary hugely between people, and can take many different

forms. It is not just a matter of being consistent and impartial, or of being prudent, though these things play an essential part. Reason is much wider in scope, and involves sensitive discernment, imaginative vision, and a continuing development of ideas through cumulative social interaction, through mutual criticism and debate, and the cultivation of an accurate historical sense. That is why free critical enquiry and the attempt to arrive at an unbiased statement of differing views is an essential part of rationality. It may have to renounce claims to absolute certainty. But it will seek a basis strong enough for firm practical commitment.

## 8. Instrumental and objective reason

A purely instrumental view of Reason sees it as receiving data from observations and desires, and seeking to order these as clearly and systematically as possible. Reason is a formal principle of order, and its key values are those of clarity and logical consistency. Yet even this etiolated concept of reason is not value-free. It is based on values, and important ones. Reason is ordered to truth, for the careful recording of data and its logical ordering is conducive to a grasp of truth. Reason is ordered to beauty, for there is intellectual beauty in the clarity and order of logic and mathematics. Reason is ordered to goodness, for it requires the setting aside of prejudices and attention to what is the case, whatever we would like to be the case. And it requires the co-operation of others in a community of trust, bound together in seeking truth.

But there are questions to ask of this concept of reason. Is it true that all acceptable data must be publicly observable, repeatable and measurable? The data of personal experience, of thought and interpretation, of evaluation and intention, seem to be real, though others cannot observe them, and though we can never repeat or measure them. They cannot usually be analyzed into simple component parts that can be precisely described and placed in clear logical relationships. All attempts to do so in a quasi-scientific way have ended in failure.

Values themselves, the values of truth, beauty and goodness, are not publicly observable data. Nor are they universal human objects of desire, since many care little for them. The fact that such values seem to exert a moral pressure upon the most austere scientists speaks of a deeper level of reality that includes objective values and goals as more than matters of subjective preference or desire.

Our thoughts, values and purposes can be reasonable or unreasonable. But if we ask what makes them reasonable, it does not seem to be a matter of deriving conclusions by clearly specified rules from a basic set of simple, clear and distinct ideas. It might even seem irrational to apply such a rigidly specified structure to human thoughts, experiences, and values. For precisely what is in question is the structure that is best suited to the assessment of such experiential data.

Instrumental reason, being essentially a normative notion, retains the sense that truth, beauty and goodness are values. But it has lost the sense of the objectivity of these values, the sense that truth, beauty and goodness are qualities of objective reality, that can only be apprehended by sensitive discrimination, creative imagination, and participation in a developing social tradition — with adequate recognition of the place of other traditions that interpret the world in different ways.

Reason, for believers in a creator God, is a dynamic, imaginative and creative aptitude that enables us to understand and appreciate the created universe. If this is so, it may turn out that Notre Dame de Paris, not as it briefly was in 1793, but as it is now, is indeed a Temple of Reason, though not in the sense of confining beliefs to what can be publicly tested, or aiming at fulfilling the greatest number of desires of the greatest number of people. It may be a Temple of the objective reason of the cosmos, and of the sensitive, imaginative, developing discernment by human beings of that cosmic beauty and intelligibility.

## 9. Reason and faith

Sometimes reason has been opposed to faith, as though reason always confined itself strictly to evidence, whereas faith is blind acceptance of authority. But no one should be deluded by such a travesty of the facts. Science is driven by a strong faith in reason, in the capacity of mathematics, for example, to disclose the structure of the physical cosmos, and in the capacity of human minds to unravel the laws of nature. The faith of the scientist is a faith in the intelligibility and beauty of the natural world, and in the capacity of the human mind to understand that intelligible beauty.

Aristotle noted that one of the marks of a rational person is that they know what the limits of reason are. On the whole, there is a strong sense in modern science that there are limits to human understanding. The quantum physicist Bernard dEspagnat speaks of the veiled reality of the quantum world, which our mathematical models probe, but which we cannot fully represent to outselves as it really is. Paul Dirac has said that there are many factors, like the exact time of the decay of sub-atomic particles, that seem to lie beyond the limits of science. I am not taking a defeatist line that science will never solve those sorts of presently unresolved problems that are proper to it. I am suggesting rather that the very nature of science places some subjects beyond its reach. All intellectual pursuits are limited in the sorts of things they study. No science studies every aspect of everything. So a historian is concerned with the actions of people and nations in history. History has no concern with the radioactive decay of uranium. A psychologist does not investigate the movements of protons in a particle accelerator. Each science has its own proper area of investigation.

So the natural sciences investigate those parts of reality that can be publicly observed, mathematically described, and experimentally confirmed by repeated and controlled observations.

If there are other parts of reality, not publicly observable, mathematically describable, or experimentally controllable, then the natural sciences do not study them. But the sciences need not deny they exist.

If there is a God, who has no physical body, then there is not much hope of publicly observing God. Divine actions will not conform to universal laws that can be formulated in differential equations. And an omnipotent God might object to being experimented upon. For these simple and obvious reasons, the being and actions of God are beyond the scope of natural science. But that does not mean that belief in God is just a matter of faith, in the sense of some arbitrarily adopted belief.

There might be very good reasons for thinking that there is a supreme mind underlying the physical universe as its ultimate cause, having a purpose of great value for the universe. Most of the great classical philosophers in the Western tradition have thought there are good reasons, and their philosophical works give the reasons for their belief.

Naturally, the observations of the natural sciences are relevant to theistic belief. The beauty and intelligibility of nature tend to confirm it. The suffering and seemingly prodigal wastefulness of nature tend to disconfirm it. The situation is not as clear-cut as it has seemed to some. Yet belief in God is not, as Bertrand Russell once suggested, like belief in an invisible intangible teapot circling the sun. There is nothing to be said for asserting the existence of invisible flying teapots. There is very much to be said for the belief that ultimate reality has the nature of mind. And while the belief is, like most very basic beliefs, disputable, its rationality is evidenced by most of the major works of Western philosophy.

Religious faith, at least in its major Christian incarnation, shares this belief that the cosmos is created through reason or wisdom, and that human minds share in that reason. Religion adds to this a vital element of personal commitment and trust, by which the Cosmic Reason of the universe is believed to be apprehended in personal experience, and in moments of disclosure that believers call revelation. But this is a deeply rational apprehension, and its object is the supreme objective Reason that underlies and sustains the natural world, which demands that we learn to understand that world as an intelligible unity, as what Plato beautifully called the moving image of eternity.

## 10. Kants critique of reason

For the Christian, it is the response to revelation and the experience of God as a present spiritual presence that gives force and vivacity to a purely rational belief in God. But even in the acceptance of such revelation reason is involved, in testing the consistency and coherence, the moral value and spiritual fruitfulness, of alleged revelations, or in deciding on particular interpretations of revelation.

It is not that reason stands in a neutral and superior position to all revelations, only accepting them insofar as they accord with the independent declarations of reason. Immanuel Kant helped to give this impression when he wrote Religion within the Bounds of Reason alone. In Kants case this was because he excluded any possible experience of God, divine grace, or revelation. God, for Kant, was a postulate of Reason, but not an apprehended spiritual reality.

This is part of Kants general claim that the noumenal world is completely beyond theoretical knowledge, and must simply be posited as a condition of the possibility of the world of experience. Kant shared the Humean limitation of theoretical knowledge to the sensorily perceptible. Obviously, if God is not perceptible by the senses, there can be no theoretical knowledge of God. So we have to rely on what Reason postulates, upon what is necessary to having knowledge, but not upon any direct experience.

The Kantian position is inherently unstable, for it relies upon the claim that we can, and indeed must, believe in a God of whom we can know nothing. Yet even belief involves a claim that things are as we think they are — or at least that they are more like that than they are like the opposite of what we think (this is a rather desperate attempt to convey what Kant means by asserting practical, but not theoretical, knowledge of God, freedom and immortality). That is still a claim to knowledge, though it cannot be established by observation.

Kant had been shaken by Humes argument that there can be no true knowledge without sense-experience. But Kant held onto a belief that there are some rational principles that do not derive from sense-experience — including the belief that every event has a cause, that the universe is intelligible, that we are free to do what we ought, that there are absolute demands of morality, and that the space-time world is a mind-constructed appearance of some unknown underlying reality.

Kant calls these beliefs regulative principles governing the use of human Understanding. But the argument that we must accept them simply because Reason promulgates them is unconvincing. There must be good theoretical reasons why we should accept them — and Kant seeks to provide such reasons in what he calls his transcendental deduction arguments, meant to show that the regulative principles are necessary conditions of the possibility of scientific knowledge and moral action.

As Hegel saw, it may be better to come clean and say that they are conditions of thinking that the universe is intelligible, founded on principles of ultimate rationality. Strictly empirical scientific knowledge does not need them, and most philosophers would think that many forms of morality do not need them either. Yet it may be true that belief in the intelligibility of the universe is a natural presupposition of scientific activity and of moral commitment. For

if the universe is not intelligible, how can we have confidence that mathematics will uncover an elegant deep structure of matter, or that morality is truly categorical, and that living in accordance with moral principles is rational?

But if the universe is intelligible, that will not be simply a matter of it having an elegant mathematical sub-structure and order. What would the point of that be? Rationality is connected with value, in that a process is rational if it is aimed at, or if it expresses, some state that is worth-while for its own sake.

Steven Weinberg apparently believes in an elegant mathematical structure for the universe, yet thinks that the whole thing is pointless. What use is the mathematics in the end? The answer to that question, of course, is that elegance, intellectual beauty, is of value for its own sake. Or, to be more precise, the appreciation of such elegance by a conscious being capable of appreciating it is a state of intrinsic value. If, as Aristotle said, the good is that at which a rational being aims, or which such a being desires, then the concept of goodness presupposes the concepts of consciousness, understanding and sentience. There must be a consciousness that can understand objects of possible desire, which can discriminate between desirable and undesirable states, and which can enjoy the desirable states.

In this way, the idea of truly objective intelligibility presupposes the idea of a knowing, discriminating, and sensitive consciousness. David Hume was right in claiming that reason must have, as its objects, data of knowledge and desires. But perhaps he was wrong in thinking that the objects of knowledge (which he thought were sensations) and desires are purely contingent, and have come to be as they are by random or unguided processes.

In a rational universe, there will be conceptual objects of consciousness (including, but not consisting solely of, mathematical objects). These might be the idea of all possible worlds, held in the mind of God. And there will be necessary and objectively desirable states of affairs — states of beauty, truth, goodness and happiness. Pure Reason will not be the slave of contingent passion. It will be the form of a consciousness that is aware of all possibilities, that discriminates those that are truly desirable, that creatively brings them to actuality and appreciates them in an appropriate way.

## 11. Reason and morality

With the aid of this analysis, we can see a clear connection between the three main ideas of reason that I have mentioned, that of impartiality, prudence, and of intelligible ordering to intrinsic good. With regard to the idea of universal impartiality, commentators have often pointed out that Kants allegedly purely formal method of obtaining moral principles cannot be guaranteed to produce the principles he wants. Kant uses the Categorical Imperative —act only on a general principle on which you could will all rational beings to act— to

produce a set of necessary principles of moral conduct. But when he sets out these principles in the Metaphysic of Morals, they turn out to fall under two main heads, the pursuit of the happiness of others, and the realization of human and intellectual virtues in oneself.

There are, in other words, rational goals of human conduct. Kant avoids the charge of basing morality on some sort of intuition of such goals only by arguing that the purely formal principle of universalisability necessarily produces them. But, most commentators point out, it does not do so.

It would be perfectly possible for an agent to act on a principle of never helping others at all, except when such help was calculated to evince some reciprocity that would in turn help the agent. An agent could accept that others could act on the same principle of reciprocal benevolence, sometimes called, in more recent game theory, the principle of tit for tat.

But this restricted principle is not at all what Kant has in mind. He wants the cultivation of intellectual dispositions to be a duty imposed on every rational human agent, and the pursuit of the happiness of others and of retributive justice to be absolutely binding, whatever the consequences. As he famously said, an agent should never lie under any circumstances, even to save a life. And if the world was about to end, a just man would hang the last personal who had been convicted of murder before it did. Whatever one thinks of these principles, they do not follow simply from a principle of complete impartiality.

Kant is in fact basing the moral principles of the Metaphysic of Morals, the systematic exposition of the universal and necessary principles of morality, on a suppressed supposition that there are categorical principles absolutely binding on human agents. These, the principles of non-prudential altruism and of the cultivation of all intellectual gifts and talents, are just the principles that a rational Creator of the universe might legislate. Love your neighbors by caring for their happiness, and Love yourself by realizing and developing to the fullest extent your personal virtues and capacities, are principles that a God who created all people to find happiness by the cultivation of self-discipline and self-development, might well promulgate. But take away such a God, and there is little reason why one should care for the happiness of people one will never meet, or for the cultivation of ones own rational nature, if one simply does not wish to do so.

The Kantian principle of impartiality, in other words, only produces categorical moral principles if it presupposes a principle that all rational agents should find true happiness in the cultivation of their rational capacities, and their free co-operation with and concern for other rational agents. Commitment to such a morality is fully rational only if such a happiness in accordance with virtue is a real possibility. And that is exactly Kants much-derided argument for God as a condition of the possibility of commitment to a categorical morality.

What Reason discerns is that there are necessary goals of rational action. They are necessary in that, if there is a reason for choosing anything, there is a reason for choosing these goods, because they make possible a more comprehensive and effective choice of any goods at all.

It is necessarily a good thing to have knowledge, a condition of knowing what there is to choose. It is good to have sufficient power to choose the goods that are desired. It is good to co-operate and share with others, since that enables a greater range of good things to be obtained. And it is good to be capable of happiness and to be able to avoid pointless suffering, since happiness consists largely in being content with the state you are in, and so is involved in the very idea of being able to choose to be in specific states.

These goods of knowledge, power, co-operation, and happiness are not the only goods. But they are things any wholly rational being would choose, if it was thought worth choosing anything. Moreover, they are in themselves intrinsically worthy of choice, and if it is good to possess them, it is even better to possess them to the fullest possible degree. To understand fully and sensitively, to be able to act creatively, to have rich and varied friendships, and to find happiness in the appreciation of many forms of beauty and experience, are intrinsically desirable capacities that a fully rational being, aware of all possibilities and able to evaluate them in an impartial (i.e. non-egoistic) way, would choose to have.

Impartiality alone is not enough. What is needed is knowledge of what is truly desirable, and the power to bring desirable states about. Objective values are rooted necessarily in the being of God, since God alone has complete knowledge and power, and is the impartial observer of all things, the only being capable of truly universal benevolence, because God is the creator and the final arbiter of the human world. Insofar as morality is concerned with the pursuit of objective value, it is the existence of God that makes the existence of such objective values intelligible, and their partial realisation in the finite world possible. So what is needed to make sense of Kants categorical imperative is, quite simply, God. Without God, there is no compelling rational incentive to act on purely impartial principles, and there is no compelling specification of the real goals of impartial human action.

David Hume realized more clearly than Kant that to reject God, the objective Reason of the cosmos, was to affect the idea of rational morality quite severely. Reason, for Hume, still enjoins the fullest possible knowledge and the most efficient and fruitful pursuit of what is desirable. But now all knowledge is confined to sensory experience, and desires are inclinations we just happen to have. There are no intrinsically desirable states, for human desires are diverse and subjective. There is no power that can ensure that allegedly intrinsically desirable states can be obtained by moral action. We just have to look at the desires we actually have, and see how best to obtain what we want, without bringing disadvantage or disaster on ourselves or on those we happen to love.

This will produce a morality, and in the hands of a moderate, humane, and cultivated man like Hume, it will not be an ignoble morality. But in the hands of those who are more passion-driven, ruthless, and sensual, the consequences will indeed be disastrous. And to oppose them there will be no driving hunger for goodness or sense of moral outrage. There will only be the calculation of what must be done to prevent social collapse, and, as Nietzsche said, the attempt of the timorous herd to reign in the passions of those mastered by the will to power.

Thus I think that both the appeal to universal impartiality and the appeal to prudence fail either to be wholly satisfactory bases for morality, or to provide an adequate account of the primary importance of reason. For such an adequate account, we need to find a principle of intelligible order, of objective intrinsic value, and of truly universal benevolence, in the structure of cosmic being itself. That is what Christian monotheism provided, and the gradual demise in Europe of Christian belief is not the triumph of Reason, but its gradual dissolution.

## 12. Reason and the enlightenment

Can we say, then, that the Enlightenment was the Age of Reason? Or was it an age in which Reason was progressively restricted to a more and more subsidiary role, until at the extreme it came to seem an ineffective appendage of the will to power?

I have argued that monotheism was always committed to the idea that there is an objective rationality at the basis of the cosmos. The universe is created through the wisdom of a God who knows all possible states, discriminates with absolute objectivity between good and bad, and creates the universe at least partly in order that good states should exist and be enjoyed and appreciated by finite rational agents. For Judaism and Christianity, humans are created in the image of God, and so have a capacity to understand the objective intelligibility of the universe. In late medieval Christianity the universe was understood to be an intelligible unity, and human reason, guided by revelation, could trace both the necessity of its rational structure and the goodness and value that are the ultimate reason for its existence.

But there were other forces at work in Christianity. Credulous appeals to the miraculous, insistence on submission to an authority regarded as beyond criticism, and a dogmatism that restricted the use of reason to one rather narrow system (that of Aristotle, largely), combined to oppose the full and free use of human reason in both scientific and moral spheres.

A truly reasonable attitude will be duly sceptical about many claims to paranormal experience (though it will not discount all of them in advance). It will insist upon the necessity of free critical enquiry (though it will not deny the possibility of revealed truth). And it will be keenly aware of the limits and fallibility of human judgments (though it will insist on the importance

of trying to construct the most comprehensive, coherent and fruitful understanding of the cosmos, however provisional that must be).

Within religion itself, Reason must fight for its proper place against the forces of credulity, authoritarianism, and misplaced certainty. That is just part of the human condition, and not something to do peculiarly with religion. The fact is that the monotheistic faiths claim that the cosmos is a work of divine wisdom, and so they are internally committed to giving reason a crucial place in religious belief, and to the fundamental assertion that reality itself is rational.

The seventeenth century Rationalist philosophers effectively demonstrated the limits of human reason when they virtually all came up with incompatible rational systems — Cartesian dualism, Leibnizian monadology, and Spinozistic monism, were all rational yet each was incompatible with the others. It was not so much that a newly discovered Reason was undermining the superstitious faith of the Church. It was rather that Reason alone was soon seen to be an unreliable guide to the nature of things.

What was needed, it came to be widely felt, was close observation and experiment, and the confinement of reliable knowledge to what could be observed, verified, and predicted. Reason had the more subsidiary task of classifying and systematizing sensorily based knowledge. That is the basic message of the Enlightenment — not that Reason replaced revelation as a sure guide to truth, but that Reason on its own is incapable of discovering truth, and must accept the humbler role of discovering and classifying the relations of ideas, as Hume put it.

But what was also happening was a growing denial that reality is founded on Reason at all. If Reason is confined to experience, as Kant saw, then no theoretical knowledge of the ultimate nature of Reality —of God, freedom and immortality— is possible. Kant argued that we can still have practical knowledge of reality-in-itself. Few were convinced. Perhaps there is no reality-in-itself. Perhaps reality consists of contingent perceptions and desires — or, it later came to be thought, even perceptions and desires may be by-products of material processes which originate by random fluctuations out of nothing. There is nothing rational, nothing goal-directed or intelligently formed, no cosmic consciousness in which Reason could exist.

This was never a wholly satisfactory view, since the success of science seems to show a deep mathematical elegance and integrated complexity in the cosmos. But the view persists nonetheless, and at its extreme it concludes that reason is a by-product of chance, and so has no binding authority or ultimate validity. In this form of extreme secularism, reason has been abandoned more completely that in any mainstream form of Christianity.

We are not, fortunately, forced to go to extremes. I have merely wished to suggest that the Enlightenment, while it was a great force for human freedom of thought and for social reform,

was not the triumph of Reason over blind faith. If it showed anything about Reason, it was that reason alone is an insufficient —though it may be a necessary— guide to truth. There remains a basic place for faith, in the sense of a commitment to the intellectually and morally best overall view we can obtain, even if it goes beyond strictly established facts. Faith is not theoretical certainty, but it requires firm practical commitment, and it is important to distinguish the two.

Religious faith is more than that. It is also a response to what is felt to be a divine initiative. It is the voice of the objective Reason of the cosmos disclosed in a finite time and space. If there is an objective Reason, it is probable that such a divine disclosure would occur. In view of this, Kants claim that any alleged divine revelation would be irrational collapses. And we might see that Reason can best be given a primary place in human life if we can root it in an objective Reason that discerns, because it is itself the basis of, intelligible order and objective goodness. The age which issued, intellectually, in the death of God, was not the Age of Reason. It was the age of free intellectual enquiry and criticism — a relatively new and vital value indeed, worth all the dangers that freedom can produce, but not an age in which reason is revered as the supreme determining principle of human and cosmic being. The real Age of Reason, of the human recognition of intelligible necessity and objective value, rooted in the essential nature of things, has yet to begin.