Values, Education and the Human World

Edited by John Haldane

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Values, Education and the Human World

Essays on Education, Culture, Politics, Religion and Science

Edited and Introduced by
John Haldane

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Notes on the Contributors

Bryan Appleyard has been a columnist on *The Times* and *The Independent* and currently writes for *The Sunday Times*. In 1986 he was 'Feature Writer of the Year' and in 1992 he was 'Commended Feature Writer'. His many books include *The Culture Club* (1984), *The Pleasures of Peace* (1989), *Understanding the Present — Science and the Soul of Modern Man* (1992) and *Brave New Worlds: Staying Human in the Genetic Future* (1998).

David Carr is Professor of Philosophy of Education in the University of Edinburgh. He is the author of *Educating the Virtues* (1991), *Professionalism and Ethical Issues in Teaching* (2000) and *Making Sense of Education* (2003). He is also editor of *Education, Knowledge and Truth* (1998) and co-editor of *Virtue, Ethics and Moral Education* (1999) and (with John Haldane) of *Spirituality, Philosophy and Education* (2003).

John Haldane is Professor of Philosophy in the University of St Andrews where he is also Director of the Centre for Ethics, Philosophy and Public Affairs. He has also held positions at other universities, including the Royden Davis Chair of Humanities at Georgetown University, DC. He is the author (with J.J.C. Smart) of *Atheism and Theism, Second Edition* (2003), *An Intelligent Person's Guide to Religion* (2003), *Faithful Reason* (2004), and editor of *Philosophy and Public Affairs* (2000) and other volumes.

Mary Midgley was a member of the philosophy department at the University of Newcastle but she is best known as a columnist and broadcaster and as the author of a number of books on various moral questions, including *Heart and Mind* (1981), *Evolution as a Religion* (1985), *Wisdom, Information and Wonder* (1989), *Science as Salvation* (1992), *Utopias, Dolphins and Computers* (1994), *Animals and Why They Matter* (1998) and *The Myths We Live By* (2003). The arguments presented in her Cook lectures are further developed in *Science and Poetry* (2001).

Anthony O'Hear was formerly Professor of Philosophy in the University of Bradford and is currently Weston Professor of Philosophy in the University of Buckingham. He is Director of the Royal Institute of Philosophy and editor of its journal *Philosophy*. His many books include *The Element of Fire: Science, Art and the Human World* (1988), *Introduction to the Philosophy of Science* (1989), *Beyond Evolution: Human Nature and the Limits of Evolutionary Explanation* (1997), *After Progress* (1999) and *Philosophy in the New Century* (2001).

Richard Pring is a Fellow of Green College and former Professor of Educational Studies and Director of the Department of Educational Studies, in the University of Oxford. He has also been editor of the *British Journal of Educational Studies*. His publications include the following: *Closing the Gap: Liberal Education and Vocational Preparation* (1995), *Knowledge and Schooling* (1976), *The New Curriculum* (1989), *Knowledge and Schooling* (1996), *Philosophy of Educational Research* (2000) and *The Philosophy of Education* (2004).

Anthony Quinton (Baron Quinton of Holywell) was a fellow of All Souls and New College before becoming President of Trinity College, Oxford. He has also been Chairman of the British Library. His many publications include *Utilitarian Ethics* (1974), *The Nature of Things* (1978), *The Politics of Imperfection* (1982), *Thoughts and Thinkers* (1982), *Hume* (1997) and *From Wodehouse to Wittgenstein* (1998).

Jonathan Sacks was the first holder of the Chair in Modern Jewish Thought at Jews College, London and subsequently became Principal of the College. In 1991 he was appointed Chief Rabbi of the United Hebrew Congregations of the Commonwealth. In 1990 he delivered the Reith Lectures on the theme of The Persistence of Faith. The arguments presented in his Cook lectures are further developed in *The Politics of Hope* (1997). His other books include *The Dignity of Difference: How to Avoid the Clash of Civilisations* (2002) and *From Optimism to Hope* (2004).

Stewart Sutherland (Lord Sutherland of Houndwood) has been Principal of King's College London, Vice-Chancellor of London University, HM Chief Inspector of Schools, and Principal and Vice-Chancellor of the University of Edinburgh. He is also President of the Royal Society of Edinburgh and Chairman of the Council of the Royal Institute of Philosophy. He was formerly editor of *Religious Studies* and co-edited *The Philosophical Frontiers of Christian Theology* (1982). His own publications include *Atheism and the Rejection of God* (1977), *Faith and Ambiguity* (1984), and *God, Jesus and Belief: The Legacy of Theism* (1984),

Mary Warnock (Baroness Warnock of Weeke in the City of Winchester) was formerly Mistress of Girton College, Cambridge and Headmistress of Oxford High School. Her many publications include *Ethics Since 1900 (*1960), *Sartre* (1963), *Existentialist Ethics* (1966), *Existentialism* (1970), *Imagination* (1976), *Schools of Thought* (1977), *Memory* (1987), *A Common Policy for Education* (1988), *Universities* (1989), *The Uses of Philosophy* (1992), *An Intelligent Person's Guide to Ethics* (1988), *Is There a Right to Have Children?* (2002) and *Nature and Morality* (2003).

Introduction

The chapters that follow were all written under the patronage of the Gordon Cook Foundation to which thanks and appreciation are due. Apart from the first two essays, which address very general issues about the nature of values and about the possibility of education in them, the chapters consist of revised versions of Victor Cook Memorial Lectures delivered in the universities of St Andrews, London (Kings College), Cambridge, Aberdeen, Oxford, Glasgow and Leeds.

Victor Cook died in his ninety-third year on 15th March 1990. He was born in the autumn of 1897 to a family associated with a successful engineering company in Aberdeen in the North East of Scotland. From an early age he wished to be a teacher, but the premature death of his father put an end to this ambition as it fell to him to carry on in the family business. He never married and in due course sold his interest in the firm and devoted the remainder of his life to promoting the cause of his intellectual child, *values education*. In 1974 he established an educational charity — *The Gordon Cook Foundation* — bearing the name of a brother who predeceased him. This creation has survived its founder's own death and continues the task of promoting values education.

Victor Cook's personal contribution to the aim of education in the field with which he was most concerned took two main forms: first, producing classroom material for young children in which values, particularly moral ones, might be developed; and second, lobbying politicians, administrators and educationalists in order to have programmes of this sort adopted within schools in Scotland and beyond. Unlike some recent theoretical approaches to the subject, Cook's idea of linking values and education was not that of purportedly uncommitted analysis.

There has been an interest within educational theory and schooling (originating in North America) in the practice of drawing chil-

dren's attention to the evaluative presuppositions of what they say and do. This activity of 'values clarification' is related to the post-enlightenment ideals of autonomy, positive freedom and empowerment. The assumption is that it is good, in some formal sense, to know what values you are committed to; but this does not extend to the claim that certain substantive values are good, or that some are better than others. Victor Cook, by contrast, clearly did think that some ways of going on are better than alternatives. Furthermore he believed that those whom society charges with the education of its children have a duty (not a mere permission) to introduce pupils into these ways of going on. In other words he favoured teaching *in* and *of* values rather than an agnostic study *about* them. Clearly a large number of conceptual and normative questions arise at this point, and it is to the credit of the trustees of the Foundation that Cook founded that they recognise the need for research into these questions and have been willing to support it.

The first two of the following chapters are intended to provide a general theoretical framework to which subsequent issues might be related. They derive from the suggestion made by Dr. William Gatherer, former Chairman of the Gordon Cook Foundation, that the authors write on basic philosophical aspects of values and values education in a style suitable for an interested public, be they educationalists, teachers, students or general readers. In 'The Nature of Values' it is argued that the widespread assumption that talk of values in no more than the expression of personal preferences reveals the influence of a philosophical perspective that is neither obligatory nor even compelling. On the contrary, a plausible view of the world and of the place of humankind within it shows values to be implicit in the natures of things. In 'Problems of Values Education' something of this defence of objectivity is assumed, and starting from the distinction between *instrumental* and *intrinsic* value various educational philosophies are expounded and evaluated. Central to this latter discussion is the question of liberalism, and it is made clear that a range of possible positions exists within a broad understanding of the liberal tradition, not all of which are equally viable.

The authors of these opening chapters (Haldane and Carr) share the same broad philosophical outlook so far as concerns the status of values and the possibility of grounding educational policy decisions in the evaluative facts of human nature. They do not suppose, however, that this makes the task of thinking clearly about educational aims an easy one. On the contrary the conclusion that there are rele-

vant facts about values imposes a discipline upon practical deliberations that is lacking if values are conceived of as no more than expressions of subjective preference.

The issues and arguments addressed by the various distinguished authors whose revised lecture texts comprise the remaining chapters will be more or less familiar to different readers. Philosophers, political and cultural theorists, historians of ideas, art critics, educationalists, and practitioners of other academic and cultural disciplines will all find things of interest and significance to them. But it is equally important that the general educated reader should engage with these discussions and they have been written with that purpose very much in mind. The lecturers selected their own topics for study, offered their analyses and made their cases. One could, therefore, read the several chapters independently. However, they also exhibit continuity of general theme and of broad outlook, as well as involving a movement in the direction of increasing specificity, which gives them a unity and an order.

Lord Quinton is concerned with 'radical' challenges to high culture as these direct themselves against the literary canon, the traditional intellectual values of enquiry and expression, and the idea of objective truth, and he considers the implications of this attack for education, before offering a robust defence of culture and its values. Following this, Anthony O'Hear takes up the central question for all philosophical discussions of value, asking whether something is good because we desire or approve of it or whether the assumption of the objectivity of goodness is necessary in order to make sense of our valuing anything. He then connects the idea that value transcends our preferences with a need for education to create a sense of the good and the true in advance of promoting critical and sceptical attitudes. From this conclusion he proceeds to consider the structure of education and the place within this of culture and tradition. In one sense, therefore, the discussion comes full circle but since O'Hear turns the direction of his argument towards specifics of current educational policy and practice one may better say that the movement is a spiralling one.

Lady Warnock and Richard Pring refer back to some of the issues and arguments of the previous lectures and continue the examination of educational thought and practice, now directing attention to the specifics of schooling. Each has things to say about the history of UK government policy in the last thirty years; and each finds failings in the underlying social and educational philosophy, and inadequa-

cies in the organisation of education and teacher training. Both write from a background of practice in schools and universities, and as philosophers interested in educational theory. Thus as well as learning a good deal about the history of educational policy, readers will find themselves drawn into philosophical reflections about the nature of education and the adequacy of the liberal/vocational contrast and about ideas of educational needs and of good teaching.

The issues addressed by Jonathan Sacks and Stewart Sutherland are intellectually challenging and clearly important for the future of cultural thought in general and for educational policy and practice in particular. Dr Sacks is an academic and, as Chief Rabbi, a religious leader. Lord Sutherland is also an academic and an academic leader. Between them they bring to bear a good deal of thought and experience about questions of value and education. Nonetheless, they are frank in giving emphasis in their lectures to the difficulties facing us as members of societies that are generally pluralistic, often atomised, and frequently sceptical.

Jonathan Sacks observes a contrast between political society and civil society. Drawing on the myth of Genesis he makes the point that from earliest times it has been clear that mankind cannot live alone but equally finds it difficult to live together. The tradition of modern political thought has made much of the idea of the social contract but, as Sacks points out, this tends to assume competitive relationships and to reduce sociality to mutual self-interest. In contrast, there is the originally Jewish notion of *covenant* in which individuals are bound together through moral relationships into forms of community. The problem for us today is that community seems ever more necessary, yet without common religious or moral commitments ever more difficult to achieve; at the same time, however, people feel uncertain about the very idea of moral and religious values.

This general theme is picked up in the first of Sutherland's lectures, which is concerned with diagnosing the problems we face in trying to relate to each other the concepts of education, values and religion. He stresses the importance of the fact that educational practice rests upon educational philosophy — however unreflective and fragmentary the latter may be. The task, then, is to offer something better to those charged with the education of our children. While Sacks begins in the past and looks from there forward, Sutherland starts with a description of the twentieth century as one of 'upheaval, disruption and uncertainty in its deepest social and intellectual foundations'. He then seeks the sources of this and traces them

to three features or trends: cultural pluralism, the fragmentation of knowledge, and moral atomisation.

Lord Sutherland notes that educational philosophies have typically rested on accounts of human nature. The question is whether anything of this sort can be fashioned nowadays. He explores in somewhat greater detail lines of ethical thought mentioned by Jonathan Sacks and then proceeds to argue for an account of mankind as essentially reflective and self-interpreting. This introduces the prospect of a form of humanistic spirituality and, in that broad sense, he offers a reworking of the idea that the aim of education is the development of the soul.

The issues addressed by Mary Midgley and Bryan Appleyard are of equally profound importance, concerning nothing less than our understanding of human nature and of how our knowledge of the material world bears upon our historical conception of ourselves as free subjects guided in part by judgments of value. The general significance and contemporary relevance of such issues needs no comment, but they have particular importance when we consider the aims of education and the relative importance of scientific knowledge and humane understanding.

Mary Midgley is a philosopher of renown who has spent a lifetime reflecting upon the relationship between our sense of values and our animal nature. Bryan Appleyard is a prominent journalist and social commentator who combines a lively appreciation of what is current with a considered view of what has been achieved by, and is of lasting worth, in the thought and practice of the past. Between them Midgley and Appleyard offer an interesting combination of ideas about the assumptions and implications of styles of thought that do not just draw from science but assume that science is the only credible approach to understanding human life.

It was noted that the lectures gathered here were first given at various leading British universities. More precisely, each set began in St Andrews and then travelled to other locations. The idea of the series was conceived by the Centre for Philosophy and Public Affairs (expanded in title in 2001 to include explicit reference to *Ethics*) and then implemented by it. The Centre was established by the University of St Andrews in 1984 with the twin purposes of promoting the place of philosophy in the examination of issues of public importance and of supporting research into those branches of philosophy that are concerned directly and indirectly with questions of value and action.

Although the Centre has been involved in a variety of activities it has to this point developed two main vehicles for the pursuit of its aims: first, a visiting fellowship scheme which has brought academics from many parts of the world to St Andrews to engage in research; and second, a public lecture and seminar programme. There is a special reason why a centre dedicated to the aims of ethics, philosophy and public affairs, located within an ancient Scottish university, should be an appropriate setting for public lectures of this sort, for there is within Scotland a tradition of publicly debating issues of great importance for moral and civic life; a tradition which is made possible by, and contributes to, the continuing existence of an educated public.

Speaking in another lecture series, in acknowledgement of the work of the most important post-war British philosopher of education, *viz.* Richard Peters, Alasdair MacIntyre observed the following:

> It is in the eighteenth century that the modern concept of an educated public first finds application; and the example of such a public which has most and immediate relevance to our own concerns is that of the public created by the remaking of the Scottish Universities in the first half of that century. (MacIntyre (1987), pp. 17–18)

MacIntyre subsequently went on to extend his treatment of the theme in his Edinburgh Gifford Lectures *Three Rival Versions of Moral Inquiry* (MacIntyre, 1990). In the original lecture he poses the question 'What conditions are required for the existence of such a public' and answers that these are of three kinds, of which the first and most important is that there

> be a tolerably large body of individuals, educated both into the habit and the opportunity of active rational debate, to whose verdict the intellectual protagonists are making appeal. These individuals must understand the questions being debated as having practical import for generally important aspects of their shared social existence. And in their communication with one another they must recognise themselves as constituting a public.

The aim of addressing such a public is what lay behind the creation of the Centre's public lectures series; and it became clear to me as Director of the Centre that one way in which Victor Cook's educational interests might be recognized and advanced, and in which a suitable tribute to him could be offered would be through a series of public lectures on various themes gathered under the general heading of *Values and Education*.

The idea of holding such lectures in Scotland's oldest university. in which the history of disputing 'questions' of philosophical import goes back to the beginning of the fifteenth century, added a fitting dimension which I hope would have been pleasing to Victor Cook. But the primary aim was not to construct a well-situated and elegant memorial, so much as to have values in relation to education discussed in a spirit of which Cook would have approved, even if the discussion might sometimes be couched in unfamiliar terms. Those terms would be broadly philosophical ones, but in order to ensure a high quality of discussion, intelligible and appealing to an educated public, it was important to have well-qualified lecturers to whom the issues mattered, and to increase the opportunity for members of that public, as well as academics, to receive and respond to the lectures. The latter aim led to the practice of delivering the lectures in second and third venues, and to the Centre's producing the original texts in booklet form. With the publication of this volume the ideas first set forth in lecture halls may be received by a yet wider audience.

It is fitting that this volume also marks the launch of the series *St Andrews Studies in Philosophy and Public Affairs*, and also fitting that this series should begin at a point when the Centre embarks on its twenty-first year. Whatever developments lie ahead, one may be sure that ethical and philosophical questions will not diminish or fade from interest and it is equally certain that issues of education will remain prominent among the concerns not only of academics but also of the public generally.

It is very much to be hoped that readers will take up, from whatever standpoint, the matters discussed below and make their own contributions to the ongoing debate about values and education. In once again thanking the Foundation for supporting the idea of the lectures and its implementation and for granting permission for the publication of these texts I must emphasise that the views expressed in the are not necessarily those of the Trustees of the Gordon Cook Foundation.[1]

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John Haldane
St Andrews, Autumn 2004

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[1] Some of the authors have incorporated material from their lectures in books, in particular Jonathan Sacks (1997) and Mary Midgley (2001). Their wish to do this has been pleasing to the Centre and the Foundation in as much as it tends to confirm the latter's estimate of the aptness of encouraging enquiry in the field of values and education. In bringing together all sixteen lectures the present volume highlights some of the central issues in that field and we hope this may encourage further examination of them.

John Haldane

The Nature of Values

Introduction

Philosophers sometimes complain of not being heeded by others who, they believe, should be interested in their reflections, for example scientists, theologians, sociologists, art and literary theorists and policy makers; and they occasionally add that the trouble lies with the fact that most people are not philosophically minded. There is some truth in this. Philosophers are generally very good at detecting fallacies and marking relevant distinctions; whereas non-philosophers are liable to confuse important differences: for example, between grounding, motivating and justifying reasons, i.e. confusing what might be *evidence* for a claim with someone's personal *motivation* in making it, or confusing what might *explain* an action with what might, or might not, *justify* it.

If philosophy has a vocation to go beyond conceptual clarification and to help people think their way to the truth about fundamental matters, part of its task may not be to provide an education in new philosophical doctrines so much as a re-education out of old ones, or out of the versions of these that have taken shape, as ideas have trickled down through the culture. I say this because it has come to seem even more clear that current ways of thinking about morality, and about values more generally, are the products of philosophical ideas developed by writers in the eighteenth, nineteenth and twentieth centuries. Of course, the ideas in question are much older than this, going back in fact to the earliest stages of philosophy; but in the last two centuries they have become part and parcel of what now seems to many educated people to be a body of established truths about the nature of reality. In what follows, then, I want to dismantle some of the main elements of this orthodoxy and to do so in order to show

how questions about values are connected with other aspects of our thought.

Some Preliminary Distinctions

What are the 'questions about values' and what is the modern orthodoxy? True to the methods of philosophy we need to begin by making some distinctions, in this case ones between different *perspectives* and between different *levels*. Some questions about values are psychological and sociological. For example, biographers and historians are often interested in the ideals that motivated people; and periodically there are surveys of social attitudes designed to keep track of changes in morality, i.e. in people's thoughts about certain kinds of behaviour and in the behaviour itself. These are empirical questions to be investigated and answered by various means including very sophisticated social scientific methods. But, however successful these means may be, all they can tell us about are people's attitudes and behaviour. They cannot settle the many particular questions that people ask about what is good and bad, right and wrong; nor can they settle the more abstract question: what is it for something to be good or bad?

Leaving psychology and sociology behind, therefore, we now move into the area of values themselves and this quickly gives rise to the *philosophy of value* (sometimes referred to as 'axiology'). First, however, a distinction of levels needs to be made. Consider the most elementary questions of values such as: Is friendship good? Is football better than opera? Is honesty always the best policy? Is human life inviolable? Is marital fidelity necessarily good? Is justice more important than liberty? These are *ground-floor* questions. They are the sorts of issues that are often discussed in the press and on television, and they are ones that exercise the minds of most thoughtful people, at least from time to time.

Some questions of these sorts are felt to be easily answered, but most are judged to be difficult. Indeed the ones to which the answers seem obvious are for that reason generally not even posed. For example, it sounds odd to ask if torturing animals for pleasure is permissible, because virtually everyone to whom this question might be posed would answer that it is not and would be repelled by the thought that anyone could believe otherwise. Still the question can be asked, and as soon as it is a further question suggests itself. If torturing animals is wrong then why is it wrong? Attempts to answer

this sort of question about the basis and content of value judgments moves us up from ground floor moralising to *first-floor* theorising.

As we make this ascent, however, it is important to bear in mind that the majority of people may not be moved to ask why something is good or bad, nonetheless they will certainly be concerned with what they judge to be of value. The last point needs to be understood correctly. I am not claiming that people go around all the time, or even part of it, asking 'is this good or bad? is that worth doing? should this be avoided?' and so on. Many do, of course, but the general claim is not about what people consciously say or think, but about what is presupposed by their behaviour.

Consider for a moment the question what is the difference between a mere bodily movement and an action? Shelves full of philosophy books have been written about the nature of action, but one thing is generally agreed and that is that action is intentional, i.e. aimed at some end. When someone acts there is something he or she is trying to achieve. One can always ask why they did it with the assurance that some goal, however humble, was intended. This being so we can also say that from the point of view of the agent at least the end in question was conceived of as desirable. This is not to claim that he or she consciously thought 'this is a worthwhile goal'; and even less is it to suggest that the goal is question was 'objectively' good. The point rather is that inasmuch as an agent has performed an action, he or she has an attitude of approval to that which the action was intended to realise. Certainly we can do things that we regret, even as we are doing them; but to the extent that we are acting intentionally there is some respect in which the result is viewed as desirable. It is in this sense that everyone who acts is concerned with values.

Conscious of our own fallibility, and curious as we are, reflection normally leads to questioning about what others regard as good and bad; and further reflection drives the mind upwards to the more abstract level of first-floor theorising, where we ask what, if anything, makes things good (or bad)? Otherwise expressed the question is: what do good things have in common? Historically a wide range of answers has been proposed, but most of these can be fitted into three broad categories. First, the *theological*: something is good if God approves of it and bad if He disapproves of it — limiting cases of His approval being a command and of His disapproval a prohibition. Obviously views of this sort rest upon claims even more controversial than those likely to be made about particular values and, as I

shall indicate later, there are problems with this approach to values even for the theist.

The second broad category is that of the *deontological*. Theories of this sort hold that certain characteristics, actions and states of affairs are good (or bad) in and of themselves. Our way of expressing views of this kind is by saying that they 'value-classify' things at the level of *types*. For example deontological ethical theories sometimes hold that lying is always morally wrong. Here the emphasis is on the *type* of behaviour not on individual actions. Of course in condemning the type one is condemning its instances, but the essence of this view resides in the fact that what is wrong with an episode of lying is not features of the individual case but rather the fact that, whatever the particularities, it is an instance of a *kind* of action that is always wrong.

So far, however, nothing has been said about why lying is prohibited or more generally about what, for the deontologist, makes things good or bad, right or wrong. There is no universally agreed deontological theory. However since the eighteenth century, and mostly under the influence of Kant, deontologists have usually related values to the fundamental right of *respect*. For Kant himself respect was owing to rational beings only; indeed one might say that respect was owing principally to *rationality* as such and to human beings in so far as they are repositories of it. Later thinkers, however, have sought to extend the constituency of value beyond rational beings to sentient creatures, and, more recently (in the West at least), to all living things. Some even go so far as to claim a fundamental 'existential' value which is possessed by each and every thing, from micro-physical particles to planets and galaxies, and which is deserving of respect.

The third broad category of value theory is perhaps the most widely supported in advanced industrial societies and is certainly that which people tend to find least puzzling. This is *consequentialist* axiology, according to which something is good to the extent that it promotes or constitutes states of affairs held to be good on their own account. Relatedly an action is right insofar as it results in good consequences. Notice that on the issue of whether a *type* of action is right or wrong the consequentialist has to look first to the instances and on this basis try to construct an answer to the general question. Unlike the deontologist, he regards rightness and wrongness as properly speaking a property of individual actions relating to their actual or

probable results. Any account of the value of types, therefore, can only be based on the pattern of individual consequences.

Having ascended to the level of theory the reflective mind is liable to be struck by a further question. Is anything *really* good, i.e. objectively so? We begin in innocence presupposing the desirability of this or that goal, and then ask explicitly what things have value? This stimulates the appetite for generality, provoking the question: what, (if anything) links together the variety of worthwhile goals? Now there arises the issue of whether deontological and consequentialist theories are merely accounts of the underlying patterns of our thoughts and attitudes about values, or whether they describe an independent order of objective goods and requirements. In asking whether these are 'real' we move to the *second and highest floor* in the structure of thinking about values: the 'metatheory' of axiology. Note that since most interest is in the area of morality and first-floor ethical theory, it is more common to find writers discussing 'metaethics'. Nonetheless similar issues arise in respect of other fields such as aesthetics and politics and, although it is important to bear in mind the possibility that different accounts may be appropriate for different areas, there are clear similarities in the arguments for and against objectivism and subjectivism in respect of moral, political, aesthetic and other values.

Two Philosophical Perspectives

Having distinguished between empirical questions about people's attitudes, and philosophical questions about the content of those attitudes; and then distinguished within the latter three levels — those of (i) particular valuations, (ii) general structures of valuation and (iii) the metaphysical status of values, i.e. their place in the scheme of things, we arrive at the issue which most exercises the philosophical conscience: *are values objective?* Earlier I suggested that at this level of thought about morality and other spheres of value and requirement there is an established opinion and that it is related to a more general view about the nature of reality. For want of a more engaging title let me just call this the 'empiricist orthodoxy'. In doing so, however, I need to issue a couple of disclaimers. First, although some of the views I shall be discussing are associated with particular authors such as David Hume and John Stuart Mill, I am not here in the business of determining intellectual provenances. Second, there are significant disputes among empiricists about the structure of reality and our knowledge of it and about the right account to give of

our ideas of values. Nonetheless, there are sufficient points of agreement, particularly in essentials, as to allow for generalisation. Remember also that what I am discussing is not restricted to the pure doctrines of philosophers but encompasses the diluted and contaminated versions of these that are the result of the trickle-down process.

To understand the power of empiricism it is helpful to appreciate something of the history of ideas out of which it developed and to much of which it was a deliberate reaction. In his work, subsequently titled the *Metaphysics*, Aristotle tells us that philosophy began with leisure. Only when they had established the conditions for secure and stable life did men have the opportunity to distance themselves from immediate practical concerns and reflect upon the nature of the world — the *Kosmos*. Whatever the social history of philosophy it is clear from the earliest fragments recording the ideas of philosophers prior to Socrates — the 'pre-Socratics' — that their principal concern was with such questions as: how can the world be thought about in a systematic way? Here the concern was as much with the possible structure of the world as with the powers of human understanding. For in order that there might be general truths about the nature and behaviour of the cosmos it must have some order. This thought led in due course to an idea about the natures of things that is expressed in a Pythagorean formula: limit (*peras*) imposed upon the unlimited (*apeiron*) producing the limited (*peperasmenon*). Further refined this became the doctrine of 'hylomorphism': the principle that every thing can be analysed in terms of a medium (*hyle*) and an organisational form (*morphe*). So a wooden ball is so much matter having spherical form; a horse, so much flesh and bones arranged in a certain living form; a galaxy, stars and planets in a certain configuration.

Clearly this ancient philosophical analysis is a powerful one and it remained the central doctrine of philosophical thought through the Middle Ages, only beginning to weaken in the fifteenth century. The reasons for its demise, which accelerated in the sixteenth century and seemed complete by the end of the seventeenth, are complex but the central force in its displacement was the rise of new analytical schemes associated with a particular method of enquiry: metaphysically unburdened empirical investigation conducted through controlled experiment — in short, the rise of modern natural science.

It is, in fact, a moot point the extent to which the 'new' knowledge was metaphysics-free. Its account of the fundamental structure of

the world involved a version of an ideal propounded by some of the presocratic cosmologists, the claim that material objects are compounded out of imperceptibly small particles *'atomoi'*. The modern version of atomism *viz.* 'corpuscularism' was importantly different, however, inasmuch as it progressively dispensed with the idea of governing forms or natures and substituted for these geometrical arrangements and mechanical causation. This process which the phenomenologist Husserl was later to describe as 'the mathematisation of nature' effected a radical change in the way the world was seen. For Aristotle and his medieval followers the natural world is a hierarchical order of species. Each thing has a governing nature which makes it to be a thing of that kind and determines the characteristic patterns of its development and behaviour. Although plants and animals are composed out of matter it is not their matter but their organising specific forms that explain their distinctive natures. Of course matter has properties of its own such as the liability to fall downwards and that, for the Aristotelian, explains the universal behaviour of natural things in this respect, but it does not explain the different structure and properties which quantities of matter possess when they are informed by specific principles of organisation and activity.

One important aspect of the difference between Aristotelian and modern science consequent upon the substitution of mechanics for organic activity is the way in which explanation and understanding no longer invoked purposes and functions. In the older view one understands the behaviour of organisms and of their parts in terms of teleologies or directed activities. These link together various sub-organic processes and the different stages in the history of an organism. A fruit is a seed carrier; a seed is in process of developing into a sapling which is on the way to becoming a tree; the tree puts out blossoms and in due course fruits which are for the sake of propagating the species. On it goes: the parts and functions of living things contributing to larger processes themselves regulated by governing forms or natures. Now notice two features of this view of the natural order: first, it is *non-reductive*; and second, it is *normative*. It is non-reductive because it does not think that the structure and behaviour of whole entities is a function or 'upward-generated' consequence of its basic material elements. It is normative because it implies that certain states and processes are good or bad inasmuch as they contribute to or inhibit natural processes of developments. Given, for example, that the heart has the function of pumping

blood, and that the circulation of the blood is necessary for the distribution of minerals and other nutrients throughout the body, and for the clearing of other substances out of it, it follows that damage to the heart is *ipso facto* bad. This feature, which I shall call the 'normativity of nature', is quite general. If it makes sense to describe objects in terms of functions and events in terms of processes then questions of efficiency, harm and benefit arise.

In rejecting the teleological view of nature and replacing it with the idea that the ultimate reality is one of mechanically interacting particles and that all the rest is just a complication of this, a matter of quantitative not qualitative differences, the modern view created a problem of the relationship between *facts*, the domain of science, and *values*, the domain of who knows what? In an age of religious belief it seemed that theology might take care of the issue: the world provides the facts and God dictates the values. But there were two problems with this. First, the science that dispensed with purposes also seemed to remove one basis for belief in God, i.e. that He was the designer of nature and the inventor of purposes. Second, even if one believes in God there are problems with the idea that His commands are the sole basis of values.

The most familiar of these problems is usually presented in terms of the 'Euthyphro Dilemma' (a title deriving from Plato's dialogue *Euthyphro*, in which a version of it features). Consider the question: Is something valuable because God commands it? Or does God command it because it is valuable? To favour the first seems to make value inexplicable and arbitrary. If God were to have commanded the ritual torture of infants it would on this account thereby be valuable, but that strikes most people as absurd. However, if one favours the second option the implication is that things are valuable independently of God's commanding them. Support for this view comes from a further consideration that undermines the claims of theology to provide a general account of values generally. Individuals and groups have made all sorts of claims about what God commands. In trying to determine whether these are, or even could be, authentic revelations, religious believers assess the content of the purportedly Divine commandments. If, as in some cases, the claim is that God orders the ritual slaughter of those who are not believers, this is generally taken to be evidence against the authenticity of the 'revelation'; the grounds being that a good God would not command evil acts. But this, of course, suggests that there is some criterion of what constitutes good and evil independently of the claims of revelation.

It might be replied that the source of this is prior revelation; but if one is willing to apply a non-revealed moral standard at some stage in history then one cannot claim that God's revealed will is the source of *all* values.

Nature having been reconceived in atomistic/mechanical/mathematical terms and thereby no longer being seen as a repository of teleological norms, and the effort to provide a theological basis for values seeming to be ineffective, some writers tried to work out accounts of objective value based on reason and/or conscience. Although these have their interest, however, they were confronted with a series of objections from David Hume which, in the following two centuries, came to be widely regarded as destructive of the possibility of any kind of value objectivism.

Hume's theory of knowledge is in the tradition associated with the modern scientific worldview. As in the rest of nature, changes in us, such as the acquisition of new beliefs, are to be explained by reference to interactions within and between objects. So far as our knowledge of the world is concerned these originate in the impact of the environment on the sense organs. Generalising, therefore, the empiricist maintains that knowledge of how things are is a function of (and probably reduces to) the content of sensory experience. Combining this with an atomistic metaphysics the conclusion is arrived at that all we can be aware of are the motions of material objects and study of these fails to show us any values: good, bad, right and wrong. Nothing in the world, or in our experience of it, provides grounds for belief in objective values.

This, in brief, is the basis of the proclaimed 'fact/value gap'. No observed facts reveal or entail any values. Additional to this claim is another one, equally important in the empiricist argument against moral objectivity and suggestive of a subjectivist account of moral thinking. Hume observes that in his reading of theologians and moralists he found that they move from propositions about what *is* the case to claims about what *ought* or *ought not* to be done; but this he professes (ironically) to find surprising. On the basis of these remarks Hume is generally credited with having established a further logical gap: that between *is* and *ought*. Of course, we may argue from observed facts, such as that a man is starving, to a prescriptive conclusion, e.g. that he ought to be fed. But of itself this is no refutation of the Humean thesis, since the response is that the conclusion only follows when a further premise is added, *viz*. that starving men ought to be fed. Once more, and generalising, the empiricist claim is

that no 'ought' proposition follows from a set of premises unless this includes an 'ought' statement.

Part of the interest and power of Hume's view is that it suggests an alternative basis for moral values and requirements, a naturalistic and empirical account of the source of our thoughts that some things are good and others bad, some actions right and others wrong. Instead of looking to facts in the world around us we should attend to attitudes and sentiments within ourselves. In short judgments of value and requirements are expressions or projections of our subjective desires and preferences. The approach has received a variety of refining treatments producing a range of 'expressivist', 'emotivist' and 'projectivist' theories. But the subtle differences between these are of less significance than the unifying thesis that values are subjective.

Before responding to this empiricist orthodoxy it is necessary to observe two points about the subjectivist theory of values. First, it need not hold, and Hume himself did not maintain, that all values are simply expressions of individual preference. Rather it can allow that many values are socially constituted out of commonly held attitudes and preferences. The importance of this is that it provides a reply to one kind of objection to crude subjectivism, namely that we think that individuals can be in error in their evaluations. For example, we simply do not suppose that it is a matter of personal attitude whether torturing animals is wrong, and we would regard anyone who approved such conduct as morally wicked. This might seem to constitute strong evidence against a subjectivist theory until one appreciates that it is open to such a theory to identify wrongness with *general* disapprobation. Thus while it may not be a matter of fact but of feeling that torture is wrong, someone who did not share this feeling, or possessed contrary ones, might still be held to be 'mistaken' inasmuch as his response is at variance with the social norm in such matters.

The second point to note is that subjectivism is a *metatheory*. Unlike consequentialist and deontological theories of value it is not concerned with the content or justification of moral and other valuations but with their 'metaphysical standing' i.e. as factual or not factual, truth-bearing or non truth-bearing. It is, in other words, an account appropriate to the *second floor* of our structure. That being so, a question remains open for the subjectivist, namely which if any sort of first-floor moral theory should he or she adopt? Largely for reasons that are easy to work out the empiricist tradition has strongly

favoured consequentialism. If values are just preferences then it is natural to think of moral theory, say, almost as a branch of social psychology. And asking the question what do we approve of? writers in the empiricist tradition, most famously Jeremy Bentham and John Stuart Mill, have responded in terms of such notions as utility and happiness. Happiness is what we want and approve of, unhappiness what we shun; and we approve and disapprove of other things to the extent that we judge them to be conducive to, or to constitute, such end states.

Thus the passage from a pre-modern view of nature as a system of formally-structured living substances and of values as objective features pertaining to proper functioning and natural well-being, to a modern conception of reality as constituted of basic physical units and forces and of values as projections of the states of some objects (human beings) on to other objects and situations. 'Post-modern' ideas on these matters are more or less radical extensions of value-subjectivism but often combine this with similar views about every other domain of human thought and practice — including science itself!

Back to the Future: Natures and Values

Where then does this leave us? Ironically one consequence of the intellectual development that led to Hume's fact/value gap might be the adoption of forms of 'post-modern' thought in which that gap is itself transcended. If everything is subjective then there are no 'hard facts' to be contrasted with 'soft attitudes'. At most one might find reasons (i.e. attitudes) to distinguish between 'harder' and 'softer' attitudes; less and more locally-subjective phenomena. This way of responding to the problem of values certainly finds support among contemporary philosophers both in the English-speaking world and in continental Europe. However it rests on claims hardly less controversial than theological ones and is not likely to be found attractive by those whose concern is with whether a place for values can be found in an objectivist worldview.

Clearly the question: are there objective values? will continue to stimulate controversy, and it would be absurd to try and resolve it conclusively here. This said, however, those inclined to subjectivism need to consider very seriously whether it is consistent to hold this as the truth about values while continuing to treat issues of personal behaviour and social policy as if they concerned objective matters of fact. Indeed this raises the question of whether a general subjectiv-

ism about all values is not self-undermining. In arguing about these issues, parties on both sides of the dispute tend to assume the objective validity of cognitive and rational values. That is to say, even 'subjectivists' tend to be objectivists about the values of evidential weight, rational cogency, argumentative rigour, coherence, intelligibility and truth. They do not suppose that the determination to be guided in one's thought by such values is no more than a matter of preferences. On the contrary they share the objectivist assumption that we seek cogency, coherence and intelligibility because they are rational goods, and do not assume that they are goods because we seek them.

If this line of thought proves unsettling for the subjectivist it also prompts the question how can one be an objectivist given the modern empiricist world view? The challenge is appropriate; but I suggest that rather than try to reconcile moral and other axiological objectivisms with orthodox empiricism one reconsiders the opposition between the latter and the Aristotelian worldview. A very considerable merit of that view is that it permits the objectivity of values without forcing them in to an occult immaterial realm. Otherwise expressed, it offers the prospect of combining an objectivist metatheory of values with a naturalistic metaphysics. In saying this, however, it is important to recall that the older naturalism insists upon the non-reducibility of the forms and teleologies of living things. Indeed it is precisely because it discerns holistic patterns of growth, development and flourishing that it sees norms in nature.

The challenge of the new science was that these hylomorphic and teleological way of thinking are misconceived and fail to grasp the fundamental structure of reality which resides below the level of living things, and has no place for organic functions and goal-related processes. Undoubtedly post-Aristotelian science has vastly extended our knowledge of the world and no-one could seriously doubt the physical basis of organic entities. But in urging the truth of the earlier view one need not deny these facts. Organic forms and natural teleologies are compatible with microphysical particles and electromagnetic radiation. The empiricist mistake has been to insist upon the exclusivity of the reality of entities of the latter sort and to require that all other descriptions be reduced or rejected. The truth of the matter is that not every truth is a truth about matter. There are forms, principles of organisation and activity, by which things live and by which, in favourable circumstances, they flourish.

So much for the general objectivity of natural norms. This leaves a great deal to be done in developing an account of human values. But the aim of the foregoing has been to argue that philosophy does not exclude the possibility of an objectivist account of these and to suggest the general character of such an approach. As in the case of other natural beings we have natures by which our lives are structured and directed. But, of course, human natures are not only very complex they also include aspects that are certainly rare in nature and may be unique — such as rational psychologies. Furthermore, while our natures may prescribe the general course of our lives they do not exhaustively determine it. It is part of the human form of life to deliberate and act in accord with reasons. In other words our rationality extends the possible range of directions in which we might develop. The task of education is to contribute to this development, and that of values education is to show how reflection can provide reasons for choosing some routes and not others.

David Carr

Problems of Values Education

If, then, there is some end of the things we do, which we desire for its own sake (everything else being desired for the sake of this) and if we do not choose everything for the sake of something else (for at that rate the process would go on to infinity so that our desire would be empty and vain), clearly this must be the good and the chief good. Will not the knowledge of it, then, have a great influence on life? (Aristotle: *Nicomachean Ethics,* Book I, Part 2)

Introduction

John Haldane concluded with the suggestion that values education might well be regarded as concerned with rational reflection on the goals and purposes of human life. Whether or not this is so, however, rather depends upon the answers one is inclined to give to the sort of questions previously considered about the nature of values as such. In short, different views about the nature of values must issue in diverse conceptions of the way in which the processes of education are implicated in their communication or transmission — a question to which we now turn.

Briefly, there are two main ways in which the content of education — the knowledge and dispositions transmitted through teaching — can be regarded as worthwhile in human affairs. First, the knowledge and dispositions in question can be seen as of instrumental or *extrinsic* value as a means to the achievement or satisfaction of certain further independently specifiable human ends or goals; secondly, they can be viewed as of *intrinsic* value or as worthwhile for their own sake. However, as one might expect, there are also important connections between these views of the value of educational activities and the different forms of ethical theorising aired in part one: utilitarian and other forms of ethical consequentialism, for example, incline to an extrinsic or instrumental view of the value of educational activities and we have also seen how the subjectivism

inherent in empiricist perspectives on values reinforces consequentialism at the *first floor* of ethical theorising.

Indeed, it seems more than likely that as a result of what has been called the 'trickle-down process' a certain popular subjectivism about the nature of values is largely responsible for the predominantly instrumental turn which public thought about education in moral and social values has recently taken. It seems to have been widely assumed during recent outbreaks of moral panic about the apparent breakdown of law and order and discipline among the young, for example, that the problem of moral and social education is precisely that of discerning *means* by which current social ills and discontents might be remedied. Moral and social education, then, is nowadays widely regarded as a quasi-causal process whose main significance lies in the production of generally acceptable standards of social conduct.

Whilst not wishing to underestimate the gravity of contemporary social problems, or belittle public concern about them, however, it is by no means clear that an instrumental or consequentialist perspective is either the only or the best one to adopt with regard to moral and social education. Of course, since morality is a matter of urgent practical concern in human affairs, the way in which a given moral code influences the behaviour of individuals for good or ill is liable to loom large in the evaluation of any programme of moral instruction which is based upon it; but this is not to say that it is proper to evaluate such a programme *exclusively* in these terms — for certain outcomes widely held to be socially desirable might well be achievable in the last resort only by policies or strategies more likely to lower than raise the general moral climate of a civilised society.

How otherwise, then, might we approach the question of how best to educate individuals in moral and social values? Precisely, we might rather ask — in a non-instrumental way — what qualities or dispositions most clearly or readily conduce to the moral improvement or enhancement of human life in real terms; what qualities, in short, is it worthwhile for human beings to possess for *their own sake* or *in themselves* — irrespective of the salutary consequences for public order or social control which might also follow from widespread possession of them. A list of candidates for inclusion among such qualities would doubtless comprehend those personal and interpersonal dispositions traditionally called moral *virtues* — honesty, self-control, courage, justice, charity, compassion and so on — and exclude such other evidently undesirable characteristics or *vices*

such as dishonesty, intemperance, spite and selfishness. The crucial point is, however, that — as past philosophers have insisted — virtue is its *own* reward; the possession of such qualities in and of themselves is of benefit to the possessor — regardless of any other consequences for good public order.

Educational Traditionalism and its Critics

The idea that education might generally be construed as the promotion of certain intrinsically valuable states or dispositions of knowledge and virtue is to a large extent, associated with the perspective known as educational *traditionalism*. Indeed a defining feature of traditionalism is that it regards education as a matter of transmission from one human generation to the next of all that is generally thought to be worth preserving in a given culture. We may be misled about this because traditionalism has sometimes been interpreted — particularly in sociological accounts — as valuing the potential for social cohesion of culture transmission more than the intrinsic worth of what is liable to be transmitted; so-called consensus or structural-functional analyses have inclined to instrumental interpretations of educational traditionalism as a process crucial for the preservation of social identity and continuity. But the sociological account of traditionalism probably rests on a familiar confusion between a sociological or descriptive sense of culture, as used to refer to the customs and practices constitutive of a given social order, and a normative or evaluative sense intended to identify rather what is of greatest value or highest achievement within a given society. The more familiar justification of educational traditionalism, however, rests on the evaluative notion of culture as the flower of human aspiration and achievement to date — in a well-known formulation 'the best that has been thought and said in the world' — and it maintains that this requires educational transmission from one generation to another precisely *because* it is good or valuable in its own right. Thus, we should not ask for what purpose we initiate young people into culture so construed, or whether some further good might be the real point of such initiation; such a question merely misses the Aristotelian point that all instrumental justifications must end somewhere in something that is good without qualification — precisely with that which is worthwhile for its own sake.

On the traditionalist view, however, what is of ultimate worth in human life is to know the truth, to love what is good and to do what is right and honourable in the light of decency and justice, and it is

the purpose of education to guide the individual towards this. Hence, it is common for traditionalists to draw a fairly sharp distinction between *education*, construed as a concern with what is valuable for its own sake and *training*, as concerned rather with the acquisition of certain instrumentally-conceived skills by which we earn our daily bread; for although such skills are of some significance in securing the basic material conditions for any worthwhile human existence there is nevertheless a clear sense in which such conditions are subsidiary to the purpose of life — whatever makes life worth living — itself. On this view, then, values education should not be construed as an aspect or *part* of education, for an initiation into positive values is simply what a good education *is*; it concerns, precisely, the acquisition of those intrinsically worthwhile forms of rational knowledge and moral goodness in terms of which real quality of life requires to be construed.

But, in that case, how is the *intrinsic* value of these states of knowledge and goodness to be apprehended or affirmed? In fact, rather different answers to this question are available in different versions of traditionalism; ultimate truths and values may be regarded as founded on the authority of religious revelation, charismatic leadership, moral intuition, rational enquiry or as even legitimated by reference to tradition or custom itself. Indeed, the ultimate test of what is valuable about a given social custom or cultural practice may be seen as residing simply in the fact that things have always been done a certain way and that what has sustained and given meaning to the lives of our ancestors should be regarded as having actual or potential value for generations to come.

It should be reasonably evident, then, that social and educational traditionalism, howsoever grounded, is an essentially *conservative* perspective in which filial piety — proper reverence and respect for custom and tradition and the wisdom of elders and ancestors — is regarded as a cardinal virtue. It also thereby inclines, however, to a generally paternalist approach to the transmission of values from one generation to another — to a view that it is the right or duty of some, by virtue of their superior insight, wisdom and knowledge, to decide what is good for others, even to override the natural desires and interests of others in their alleged best interests. This paternalism is most conspicuous, for example, in the social and educational philosophy of Plato whose influence on the subsequent development of traditionalist conceptions of education was of no small significance. In the *Republic* and elsewhere, Plato drew up a blueprint

for the rational construction of a just social order on the basis of certain ethical principles which he claimed to be accessible only to those of sufficient wisdom or intelligence; the large majority of others in his ideal society, would be *required* to live and abide by these principles which they would grasp at the level of myth and custom rather than informed reason. Plato's hard realist or objectivist ethics, then, readily translates into a conservative and paternalist conception of social order and justice that is also profoundly anti-democratic.

To be a traditionalist, however, *is* to be committed to the view that some of the values internal to a given form of life are worth handing on to others because they have intrinsic value or are worthwhile for their own sake and this would also appear to imply some sort of ethical *objectivism* or *absolutism*. It is hardly possible to base traditionalism on ethical subjectivism because the view that something is of value only because I desire it is tantamount to a denial that it *has intrinsic* value. Even a relativist traditionalism of the sort defended by social theorists such as Durkheim seems of dubious coherence since it is hard to insist that what should be regarded as of value in this social context is of *enduring* worth whilst conceding that it is neither better nor worse than some alternative or contrary view held elsewhere. For a genuine traditionalist, then, at least some forms of knowledge, truth, conduct or enquiry must be valued in a way that is not readily reducible to considerations of individual or social perspective or preference. It is precisely on these grounds, however, that a traditionalist account may be considered questionable from a variety of other educational and social perspectives.

The principal opposition to traditionalist educational views has come from so-called progressive or radical theories of education. What is common to all the different brands of anti-traditionalist critique is a deep suspicion of the conservative idea that human culture as received does represent 'the best that has been thought and said' — some repository of fixed and final truths of the sort which religious fundamentalists have claimed to find in the Christian Bible, perhaps, or Plato claimed that his Guardians would be able to discern via exercise of the mode of ratiocination he called *dialectic*. Whilst the various critics of traditionalism are by no means all subjectivists or relativists about truth and value they do agree that the accumulated wisdom of the past is deeply questionable from a variety of perspectives — that it is therefore mistaken, even dangerous, to identify what is of human value with such knowledge and downright mischievous to teach it, in the manner of Gradgrind, as

permanent or incorrigible. The case against traditionalism takes three main forms — two kinds of *progressivism* and what is often referred to as *radicalism.*

First, what we can call classical or *libertarian* progressivism is generally associated with the enlightenment philosophy of Jean-Jacques Rousseau. In *Emile*, Rousseau mounted a powerful and audacious critique of the conventional traditionalism of his day in the name of an extreme asocial form of education, focused on child-centred experiment and discovery learning, which was designed to enable individual reason to develop unhindered or unimpeded by any sort of adverse social influence. The usual criticism of Rousseau's radical educational proposals is that it is difficult to see how they might ever be seriously implemented in practice but in fact something very true to the spirit of his views has been attempted in certain famous progressive educational experiments of the twentieth century — although these have not acknowledged any explicit debt to Rousseau himself. Be that as it may, however, it is clear that Rousseau's work provokes very large and important questions about the nature of authority and freedom in education and about the effects of social influence on the formation of capacities for open-mindedness which raise considerable problems for educational traditionalism.

A second, more recent, progressive development (also foreshadowed by Rousseau) which can be called *epistemological* or pragmatic progressivism is associated primarily with the name of John Dewey. This perspective raises questions about the epistemological rather than the socio-political dimensions of traditionalism and it strikes at the very heart of the idea that knowledge as traditionally conceived does or could enshrine objective or absolute truths of the sort in which realists about knowledge from Plato onwards have believed. For Deweyans and other pragmatists knowledge has a distinctly provisional character and is better regarded as a tool for the practical control of human circumstances than as a God's eye view of how the world actually is, beyond human interest and experience. Whilst Dewey by no means rejects the significance of traditional modes of human enquiry, his radical reinterpretation of knowledge as primarily of instrumental value for the solution of human problems raises large questions about the objectivity of truth and it is no straightforward matter to make sense of a traditionalist idea of the intrinsic value of knowledge in Deweyan terms. Moreover, progressive ideas of a Deweyan kind have exercised considerable influence over the development of primary education in this country and else-

where during the post-war period in a manner than has recently been interpreted by some as posing a threat to traditional values.

Educational *radicalism,* however, goes beyond these two forms of progressivism by combining both sorts of scepticism about knowledge and about authority in a single perspective. The principal intellectual ancestor of radicalism would appear to be Karl Marx, who is commonly held to have regarded knowledge as a social construct which is exploited by some social groups to wield power and control over others. The Marxist perspective has influenced generations of social and educational theorists, especially via the writings of the sociologists of knowledge and, just as the different forms of progressivism have had practical effects on the public and private sectors of education, so radicalism, through the writings of such so-called *deschoolers* as Illich, Goodman and Reimer, has also influenced educational practice through the ideas of 'free schools' and community education. Radicalism is highly antipathetic to any idea that knowledge might have intrinsic value and is profoundly and uncompromisingly instrumentalist in outlook; the real value of knowledge is to equip individuals with power to control their own affairs and so-called intrinsically worthwhile knowledge — invariably another name for the sort of academic enquiry which is intellectually inaccessible to certain social classes — is simply a ploy for depriving many people of that control.

In short, instrumentality about the value of knowledge and enquiry is what all these critiques of traditionalism have in common. Whereas the traditionalist holds that there are certain forms of knowledge, character and conduct which are of absolute human value in their own right regardless of their possible pay-off in practical or instrumental terms, progressives and radicals doubt whether any forms of knowledge or preference can be exalted in such terms without due regard to the protean nature of human needs and interests, and they are deeply suspicious of the motives of those who wish to argue to the contrary.

Liberal Education — A Middle Way?

Clearly, however, it is not just scepticism about knowledge or authority which lies behind these anti-traditionalist critiques — they are also driven by a significant moral motive; each position seeks to avoid or reduce the potential for *indoctrination* which is ever present in conventional or traditional approaches to education. All are critical in their more or less extreme ways of approaches to the initiation

of young people into received wisdom which focus too strongly on the *received* — on what is inherited or assumed largely without question — and which neglect to develop or engage the critical powers and capacities of the human intellect. From Rousseau to A.S. Neill, traditionalism has been tried and found wanting on the grounds that it all too readily produces the uncritical conformist whose mind is hardly more than a clutter of useless and outworn information — rather than the individual who can engage in the critical, flexible and creative re-evaluation of values in response to new needs and changing circumstances.

But, equally clearly, the answer to an educational approach which is excessively deferential to tradition and which too rigidly adheres to past doctrines and dogmas is hardly an approach which emphasises freedom, innovation and instrumentality to the point of complete irreverence for, or neglect of, what might be considered of lasting or rather more than transient value about past human achievements; if a rigidly conservative traditionalism is unacceptable on grounds of actual or potential indoctrination, the various forms of progressivism and radicalism are equally problematic in their reductive instrumentalism and relativism. If all knowledge, preference and conduct is of merely instrumental value then everything in human affairs is undertaken for the sake of something else and nothing for its own sake; but then, in the words of Aristotle, life becomes empty and vain — a meaningless treadmill.

What all this suggests, of course, is that it might be more sensible to seek some sort of *via media* between the extremes of traditionalism and progressivism — some position of compromise which combines a healthy reverence for bygone wisdom and past accomplishment with a proper recognition that past achievements are not the last word on any matter but are precisely susceptible of criticism, development and transcendence in the light of fresh insights and new discoveries concerning what is true, right and good in human affairs. And, in recent times, it appears to have been widely accepted that the sought-for middle way is to be found in the idea of *liberal traditionalism* — essentially in the reinterpretation of a traditionalist culture initiation view of education in terms of something like liberal-democratic ideals and principles of open enquiry and freedom of thought and opinion.

Liberal theory is, of course, the chief legacy of enlightenment thought — of precisely the sort of philosophical reflection which produced the educational progressivism of Rousseau's *Emile.* In the

classical nineteenth-century form which it assumes in the social philosophy of J.S. Mill, however, it aims more modestly than any progressivism or radicalism at the defence of an individual's basic right to liberty of thought and action without undue coercion or interference from others. In *On Liberty*, Mill observes that:

> the sole end for which mankind are warranted individually or collectively in interfering with the liberty of action of any of their number is self-protection. (Mill, 1859, 1991, Ch. 1).

Primarily, of course, liberalism is a theory of how in an open society human relations are to be ordered in social or political terms — rather than a moral theory as such; but it is a theory with clear moral implications. The basic aim of liberalism is to maximise individual human freedom — and freedom, as Mill also observes, *consists in doing what one desires.* But to avoid the possible anti-social consequences of certain individual desires liberalism leans heavily on a distinction between what can be regarded as ethically permissible to think and do from a *procedural* point of view and what is acceptable in more *substantial* terms of moral attitude and belief. At the level of substantive moral perspectives, opinions and judgments, of course, almost anything is permissible; individuals are perfectly entitled, for example, to endorse such expressions of strong moral evaluation as 'child murderers should be given the death penalty' or 'contraception is a sin against the Holy Spirit'. What they are *not* entitled to do is to try to force those who do not agree to think or act in accordance with such sentiments. So although liberalism conceived as a regulative principle of social conduct is inclined to give the benefit of the doubt to any and every kind of thought or opinion, it takes a firm stand on at least one principle of moral substance — defence of the rights and liberties of individuals and minorities from various kinds of non-liberal interference. From this perspective, some really quite objectionable or repellent social attitudes — such as racism — are, in a sense, to be tolerated; what is not tolerable is any attempt to deny or violate the rights of other people by racist behaviour.

The liberal, then, defends the individual's right to freedom of thought and opinion — but unlike many libertarian progressives or radicals he is prepared to acknowledge that independent thought cannot operate in an intellectual vacuum; serious critical thought depends on some body of knowledge or values on which to go to work. Thus, in general, educationalists who are also liberals incline to a traditionalist initiation model of education as the *sine qua non* of any serious open human enquiry. But like epistemological progres-

sives — though not necessarily sympathetic to their thoroughgoing pragmatism — they are generally antipathetic to any view of education as a matter of once and for all initiation into fixed or unchangeable values.

Consequently liberals understand 'the best that has been thought and said' — as, indeed, did Matthew Arnold himself — to refer not just to so many conclusive or unalterable truths but rather to certain currently unsurpassed standards of nevertheless evolving modes of human enquiry and conduct. Understanding the world more clearly or making some sort of progress in personal moral terms are indeed to be construed as worthwhile for their own sake by reference to objective goals of truth and goodness; but the education which assists us towards these goals should be viewed more as engagement in a process — of travelling with a new view — than in terms of arriving at some fixed destination.

The error of the strict traditionalist, then, is to view education as a sort of indoctrination in incontrovertible truths rather than as an initiation into established but evolving forms of open enquiry — whereas the mistake of the radical or progressivist is to regard it as a matter of open critical enquiry operating in abstraction from the sort of epistemological contexts which are clearly required to give such criticism any real role or purchase. To borrow from Kant — in a not dissimilar context — one might say that for the liberal traditionalist whereas content without enquiry is blind, enquiry without content is empty. Thus, it may seem that liberal traditionalism offers the perfect answer to the educational theoretical dichotomy of traditionalism and progressivism by retaining the idea that education is an initiation into what is worthwhile for its own sake whilst accommodating the point that what human beings consider to be worthwhile is liable to evolution in the course of further rational enquiry. The solution proposed by liberal traditionalism to the problem of values education is that what is ultimately of intrinsic value are certain forms of liberal rational enquiry into what is good and true. But is this solution satisfactory?

First, we need to recall that central to the concerns of those who are interested in questions of values education as distinct from education in general are, of course, not *any* sorts of human enquiry which might be pursued for their own sake but, in particular, those forms of enquiry or understanding focused on the pursuit of the *good life* — on what it is right for human beings to *be* or to *do* in moral and social terms. Indeed, as we observed at the outset, the current concern

about values education is motivated less by an anxiety about the cranky or eccentric scientific theories people might be inclined to hold and more by worries about whether they are, from a moral viewpoint, living positively or negatively, socially or antisocially, benefiting or harming themselves or others.

From this perspective, however, the application of liberal theory to educational issues and concerns is deeply and inherently problematic precisely because liberalism is itself heir to the kinds of scepticism about the objectivity of moral and social values which were examined in the first part of this work. Liberalism is itself predicated on a certain set of assumptions to the general effect that moral and social disputes and conflicts are not susceptible to objective resolution in the allegedly straightforward manner of natural scientific disputes. Moreover, this seems not to be simply an accidental or contingent feature of liberal theory but an inherent or constitutive one; the very origins of liberal theory lie in the efforts of enlightenment philosophers to discover a route to the rational arbitration of those moral and social divisions and differences that had threatened to tear Christendom apart during bitter conflicts which followed the Reformation. The precise social philosophical problem to which liberalism proposes a solution is that of providing a successful strategy for the peaceful coexistence of different and apparently irreconcilable moral, religious and social beliefs — some way of entitling individuals to their own points of view.

But there is, of course, more than a hint of philosophical ambiguity about this strategy. On the one hand, it appears that it often does embody a profound scepticism about the very possibility of deciding on rational grounds between different moral and social perspectives; for if moral and social evaluations are *no more than* expressions of individual and social attitude and preference they can have little objective basis and the matter of their truth and falsity can hardly arise. On the other hand, however, even if the liberal steadfastly declines to endorse this sort of radical scepticism about the objectivity of particular value judgments and insists on the truth of some and the falsity of others he is still committed to a certain attitude or stance of *neutrality* with respect to beliefs he regards as false or even repugnant; at the very least, particularly if he has any sort of responsibility for public administration, he is bound to tolerate or extend the right to freedom of expression of views he may well deplore or despise.

But this presents quite serious difficulties for any liberal reworking of educational traditionalism; it creates intolerable tension

between the traditionalist idea of education as initiation into forms of inherently normative or evaluative discourse with respect to which a teacher is expected, indeed logically required, to have a critical and informed view and the liberal requirement to observe neutrality, on pain of illiberal constraint or indoctrination, with regard to the free development of individual attitudes and preferences. In short, from the perspective of liberal traditionalism, a teacher is supposed to guide and direct the child towards what he takes to be the highest possible goals of human wisdom, character and conduct whilst simultaneously ensuring that the moral, social and other evaluative judgments and preferences of the child or young person are not unduly influenced or constrained in one way or another. It is small wonder that this rather paradoxical position has over the years spawned a vast and complex literature on the topics of rational autonomy and indoctrination much of which has been focused on a peculiarly liberal but also rather far-fetched conception of the *neutral* teacher who is able to foster or promote rational enquiry into moral and social issues without unduly influencing the views of young people in this way or that.

Enquiry into Values and Liberal Neutrality

Whatever the merits of liberalism for the construction of a just, orderly and civilised society — and these have been hotly contested in recent times — it would seem that any attempt to reconstruct educational traditionalism in the light of liberal principles is deeply problematic. It certainly cannot be doubted that the recent large-scale attempt to do so in contemporary social conditions of cultural pluralism, widespread secularism and post-industrial market economics has led to the emergence of quite different conceptions of education and teaching from those which prevailed in this country and elsewhere well up to the middle of the twentieth century. A general liberal disquiet about the rational foundations and status of moral and social values in modern social and economic circumstances has gradually issued in a marked shift away from older conceptions of education as a matter of initiation into the best that has been thought and said and of teaching as a *vocation* to form the choices, preferences, character and conduct of young people in the light of some ideal or vision of the good, to a newer, more precisely defined, but at the same time more restricted, conception of education as a *profession* according to which it is the role of the teacher to

provide a contractually-grounded service — the delivery of certain useful academic and vocational skills — to consumers or customers.

On the older vocational view, then, the teacher was someone charged with a sacred mission to mould young people in the light of certain high ideals of truth and goodness and to a considerable degree this also required the personal life of the teacher to be continuous with his occupational role — in areas and aspects of life other than the professional he was expected to uphold a range of decent and civilised virtues and values and to personify them to children both within and beyond school; on the more recent professional conception as long as a teacher observes certain contractually-defined commitments and obligations, he is not just permitted but encouraged to give a wide berth to the positive exemplification of values on pain of *indoctrination* — of the undue influence of his own values on impressionable young minds — and his personal values and private conduct are, by the same token, largely his own affair.

Clearly, of course, both these views have serious shortcomings. No doubt the older vocational view of the teacher was too closely tied to paternalist demands that the teacher should conform to a particular dogmatic or monolithic conception of what is true and good in human affairs; but, arguably, the more recent professional view is equally mistaken in attempting to separate the private or personal and the public or professional with respect to the ethical or moral aspects of education and teaching in a way which seriously underrates the significance of teacher example for the effective communication of positive values.

At the heart of the problem of education in moral and other values — and what, more than likely, accounts for the dilemma we have just noticed about the role of the teacher with regard to values education — is the complex confusion of several rather different issues and distinctions. The principal difficulty, of course, is that of how to understand education in general as initiation into rational enquiry and values education in particular as initiation into enquiry with regard to diverse evaluative perspectives, in social, cultural and political circumstances in which people are obviously very deeply divided about what they believe. It is clear that liberal principles and considerations have become entangled in this problem because, besides promising the possibility of free and open enquiry, they also enable one to adopt a neutral stance on contested ground.

The trouble is, however, that whether or not it is proper to adopt this standpoint of liberal neutrality in relation to issues and circum-

stances of wider public and social policy it seems hardly appropriate for a teacher to do so during the conduct of any sort of education. For such *neutrality* — especially when combined with the subjectivism which, via the trickle-down process, has infected popular notions of the status of moral discourse — is all too readily transformed in the context of education into something which is virtually indistinguishable from a general *agnosticism* about the very possibility of any sort of rational grounding of moral and other evaluations. But once such agnosticism takes a serious hold, and moral and social values are treated as unsusceptible of rational appraisal, the end of genuine rational enquiry with respect to them — and hence of moral and social *education* as such — hoves into view. In the event such education thereby reduces either to social and moral *training* at the traditional end of the spectrum, or the mere elaboration or articulation of my own preferences or prejudices on the liberal subjectivist side.

In short, genuine *education* in moral and social values can only remain a possibility if values continue to be viewed as potentially true or false in some substantial or objective sense. With specific regard to the teaching of values, then, the introduction of principles of liberal neutrality into education as traditionally conceived simply issues in a confusion of the perfectly unexceptionable ethical point that everyone has a right to his or her own opinion with the much more dubious epistemological view that one moral or social opinion is as true or good as any other; but no coherent theory of moral and social education — let alone a traditionalist theory — could be constructed on this latter perspective.

The propensity of liberal neutrality to collapse into general epistemological agnosticism when introduced into some educational contexts, however, has — especially when reinforced by the trickle down of philosophical subjectivism — significantly influenced certain crucial areas of the liberal traditionalist curriculum. A currently fashionable approach to the conduct of rational enquiry in the context of religious and moral education which focuses on the idea of 'personal search', for example, is quite evidently predicated on subjectivist and relativist views of the nature of religious and other value judgments — on the idea that there is ultimately no truth of the matter to be discovered with respect to most, if not all, expressions of strong moral and religious value and commitment. With particular regard to religion, pupils are to be encouraged to recognise that there *are* no rights and wrongs, truths or falsehoods, in matters of religious opinion; that the choice of one belief is as good as any

other and, above all, that no-one has any right to try to impress his or her own religious commitments or preferences too vigorously on anyone else.

But however commendable this last liberal sentiment may be and whatever the merits of personal exploration of the different evaluative options with respect to religious faith — helping children to become clearer or better informed about the various world religions there are — the complete agnosticism which is here implied about the possibility of religious truth must call seriously into question the very possibility of genuine religious enquiry and hence render the idea of religious education inherently problematic, if not actually null and void. In short, the agnosticism which follows from the introduction of liberal neutrality into education in religious, moral and other values inclines to a further confusion of values *education* with values *clarification* — a confusion which appears to have seriously vitiated contemporary discussions of religious education.

But if an education in moral, social and other values has to be conceived as at least *in part* a matter of serious enquiry into the *truth* of different value judgments — rather than as a simple matter of acquiring information about what people believe or of examining or articulating our own inclinations or preferences — where and how are such truths to be found and why do we not have the same sort of certainty and consensus in the realm of moral values as we do, for example, in the area of scientific knowledge and judgments?

As so-called post-empiricist philosophers of science are nowadays inclined to argue, this familiar contrast of the scientific and the evaluative is highly misleading since there are no more (but perhaps no less) certainties in the field of scientific enquiry than there are in the realms of moral and other sorts of evaluative discourse; indeed scientific theories and hypotheses, so we are told, are provisional, liable to perennial overhaul and shot through with value assumptions. Of course, as the first part of this work indicated, this line of argument needs handling with some caution since there is an ever-present danger, if it is taken too far, of throwing out the baby of scientific *objectivity* with the bath water of scientific *certainty*.

However, it is certainly hard to see how any serious conception of human knowledge as a product of rational enquiry and of education as the process of initiation into knowledge so construed might *dispense* completely with the notion of objective truth as a significant regulative norm or principle of enquiry; all genuine reflection with regard to any significant realm of human enquiry, theoretical or

practical, must proceed in some degree of confidence that the exercise of human reason can actually get us somewhere by way of progress in our knowledge of how things are or should be in a world which exists *outside* our own heads — otherwise we might just as well think what we like or not bother to think at all. But regarding truth as a goal of enquiry does not mean we can ever be sure, in our epistemologically fallen state, that we have finally grasped it. In *I Corinthians* we are told by the Apostle that at present we see through a glass darkly; only then face to face. But though we may lack present certainty, and remain bound from a human perspective to see only indistinctly, we should not thereby conclude that we cannot, via our best efforts of reason and observation, ever come to see at all — or that by even greater application we might come to see, if not face to face, nevertheless still better.

But seeing better or more truly is a matter of seeing things for what they *are* rather than of seeing through a fog of subjective self-interest or self-delusion — and this is what our moral values and virtues are concerned with no less than our scientific theories and hypotheses. Our basic moral evaluations are precisely concerned with arriving at a true view of ourselves and our relations with others unclouded by the prejudice, delusion, self-deception, vanity, self-interest, weakness of character and so on which invariably prevent us from becoming all that we should be in moral terms — honest, loyal, self-controlled, charitable, courageous, rather than dishonest, treacherous, spiteful, backsliding and cruel.

From this perspective, however, a further confusion is discernible on the part of the moral subjectivist and that is the tendency to regard values as epistemologically *ersatz* forms of judgment or belief — as mere *opinions* unsusceptible of empirical proof or rational demonstration. But although judgments are certainly possible concerning the truth or falsity, goodness or badness, of values; values are not, as such, primarily beliefs but rather rational *dispositions* or principled preferences which are plumbed into practical human affairs and therefore apt for appraisal in terms of the practical rather than the theoretical goals of human life; hence, values are tested differently from beliefs in the fires of human experience; but they *are* tested by reference to whether or not they ultimately conduce to certain rationally-defensible goals of human flourishing.

But what are these goals? How may we determine the proper direction for our best moral efforts and aspirations when everything in the realm of ethical values seems to be so fiercely contested? Once

This is a notion which can make things really hard for young people who are trying to decide what subjects they should specialise in at school and college. More widely, too. It has an odd effect in other aspects of education. The idea that science is a separate domain, irelevant to the arts, is liable to produce a strange kind of apartheid in the teaching of literature, a convention whereby important and powerful writings get ignored if they have a scientific subject-matter. Thus H.G. Wells and the whole vigorous science-fiction tradition which derives from him were long cold-shouldered out of the syllabus entirely and have not yet fully reached it — and this even though writers like Joseph Conrad and Henry James, whose works are central to that syllabus, admired Wells deeply and saw the great importance of his vision. Until quite lately, even *Frankenstein* was ignored. Potent ideas expressed in these writings do not get properly faced and criticised in the teaching of literature. These ideas are, of course, often ones *about* science and its relation to the rest of life, which is itself a topic of wide-ranging importance. Increasingly, too, they include ideas about the meaning of the environmental crisis.

These matters get excluded from discussion of literature because the literary theories that have been recently in favour tend to play down the importance of all reference to the outside world in the works studied, concentrating instead wholly on the mind-set of writers and readers. No doubt this is a reaction against an unduly naive, social-realist approach favoured in the past. But the reaction seems now to have gone so far that intending students are confronted with a rather bewildering choice. On the one hand they are offered a somewhat introspective and subjective approach to literature. On the other, they face a kind of science-teaching which never mentions the attitudes and background assumptions that influence scientists at all — indeed, one that often views any mention of these topics as vulgar and dangerous. Thus, they may study either the outer *or* the inner aspect of human life, but must on no account bring the two together. It seems that, despite the efforts of many both in schools and universities, Descartes still rules. Mind and body are still separated. And since this educational situation has been around for some time, it has by now produced a generation of one-eyed specialists on both sides, specialists who tend, not unnaturally, to find their respective opposite numbers puzzling and so to drift into an unprofitable warfare. Since many of these people are unhappy with this situation, I suggest that it is worth while to take a much harder look at the misleading imaginative picture out of which it arises.

Lucretius and the Vision of Atomism

This is really a very odd picture, one which does not fit the actual history of thought at all. Re-reading Atkins's words lately, I began to think about his remark that poets and philosophers 'have not contributed much that is novel [to the understanding of the universe] until after novelty has been discovered by scientists.' What struck me then was the influence that a single great philosophic poem, — Lucretius's *On The Nature Of Things* (*De Rerum Natura*) — has actually played in the formation of modern Western thought and especially of Western science.

That poem was the main channel through which the atomic theory of matter reached Renaissance Europe. It was forcibly stated there, all ready to be taken up by the founders of modern physics. Of course it was the Greek Atomist philosophers who had invented that theory and no doubt their work would have reached later thinkers in some form even without Lucretius's poem. But the force and fervour of the poem gave atomism a head start. It rammed the atomists' imaginative vision right home to the hearts of Renaissance readers as well as to their minds. That vision included, not just the atomic theory itself but also the startling moral conclusions which Epicurus had already drawn from it. In this way it forged a much wider strand in Enlightenment thinking.

For Lucretius did not see atomism primarily as a solution to scientific problems. Following Epicurus, he saw it as something much more central to human life. For him it was a moral crusade — the only way to free mankind from a crushing load of superstition by showing that natural causation was independent of the gods. Human beings, he said, are continually tormented by groundless fears of natural events and by useless precautions against them:

> They make propitiatory sacrifices, slaughter black cattle and dispatch offerings to the Departed Spirits . . . As children in blank darkness tremble and start at everything, so we in broad daylight are oppressed at times by fears as baseless as those horrors which children imagine coming upon them in the dark. This dread and darkness of the mind cannot be dispelled by the sunbeams, the shining shafts of day, but only by an understanding of the outward form and inner workings of nature . . . How many crimes has religion led people to commit (Lucretius, Book II, lines 50–62, Book I, line 101).

Thus Lucretius launched the notion of science as primarily a benign kind of weedkiller designed to get rid of religion, and launched it in great rolling passionate hexameters which gave it a force that it

would never have had if it had been expressed in dry, unemotive prose. His work is visibly the source of the anti-religious rhetoric that is still used by later imperialistic champions of science such as Bertrand Russell and Atkins himself.

The Primacy of Visions

I am not just making a debating point here for the deplorable War of the Two Cultures which Atkins is so keen to wage. This story of the influence that Greek atomistic philosophers have had, by way of a Roman poet, on the founding of modern science is not just a meaningless historical accident. It is a prime example of the way in which our major ideas are generated, namely, through the imagination. New ideas are new imaginative visions, not just in the sense that they involve particular new images, such as Kekule's image of the serpent eating its tail etc, but in the sense that they involve changes in our larger world-pictures, in the general way in which we conceive life. These changes are so general and so vast that they affect the whole shape of our thinking. That is why something as important as science could not possibly be an isolated, self-generating thought-form arising on its own in the way that Atkins suggests. To picture it as isolated in this way — as a solitary example of rational thinking, standing out alone against a background of formless emotion — is to lose sight of its organic connection with the rest of our ideas. And that connection explains why we have to attend to it.

Changes in world-pictures are not a trivial matter. The mediaeval world-picture was static and God-centred. It called on people to admire the physical cosmos as God's creation, but it viewed that cosmos as something permanently settled on principles that were not really open to human understanding at all. By contrast, the atomists showed a physical universe in perpetual flux, a mass of atoms continually whirling around through an infinite space and occasionally combining, entirely by chance, to form worlds such as our own. In principle, this new universe was physically comprehensible because we could learn something about the atomic movements and could thus understand better what was happening to us. But it was not morally comprehensible. According to Lucretius, the attempt to comprehend the world morally had always been mistaken and was the central source of human misery. In their mistaken belief that they could reach such an understanding, anxious and confused people had taken refuge from their ignorance in superstition:

it is a vice in a map of the world that it does not show the details of the small areas within it. It is natural and proper that our detailed thinking arises from imaginative roots. But it is important that we should recognise the nature of these roots — that we should not confuse the ideal of exactness with the actual achievement of it.

Impressive and influential theories do not originally gain their influence by telling us exact facts about the world. It is usually a long time before they can provide any such facts. Actual precision comes much later, if at all. What makes theories persuasive in the first place is some other quality in their vision, something in them which answers to a wider need. That need is sometimes a genuine intellectual thirst for understanding, but not always. Any theory that has a serious and widespread influence on thought owes its appeal to satisfying a number of different needs, many of which those who are influenced by it are not aware of. As the theory is used and developed, this plurality of power-sources begins to become visible, and it can result in serious conflicts.

The Meaning of Determinism

For instance, the determinism which the atomists introduced — the belief in a completely fixed, completely knowable physical order — obviously did not originally owe its appeal to being established as an empirical fact. It goes so far beyond any evidence that there is no way in which it could be established empirically. Much of this appeal was obviously due to its convenience for science — to the fact that it seemed to promise intellectual satisfaction by guaranteeing the regularity of nature. But of course, the fact that we want this satisfaction does not show that nature will always supply it. Determinism was not and could not be a conclusion proved by scientific methods. It was an assumption made in order to make the scientific enterprise look, not just plausible so far, but infinitely hopeful. And that infinite hope was not seen as optional. When, early in the twentieth century, physicists began to question this total determinism it became obvious that scientists did not view their deterministic faith merely as a dispensable matter of convenience. They saw it as a central element necessary to any scientific attitude. Einstein, when he objected to the reasonings of quantum mechanics by insisting that God does not play dice, was certainly talking metaphysics. Karl Popper, commenting on this, remarks

> Physical determinism, we might say in retrospect, was *a daydream of omniscience* [my emphasis] which seemed to become more real with