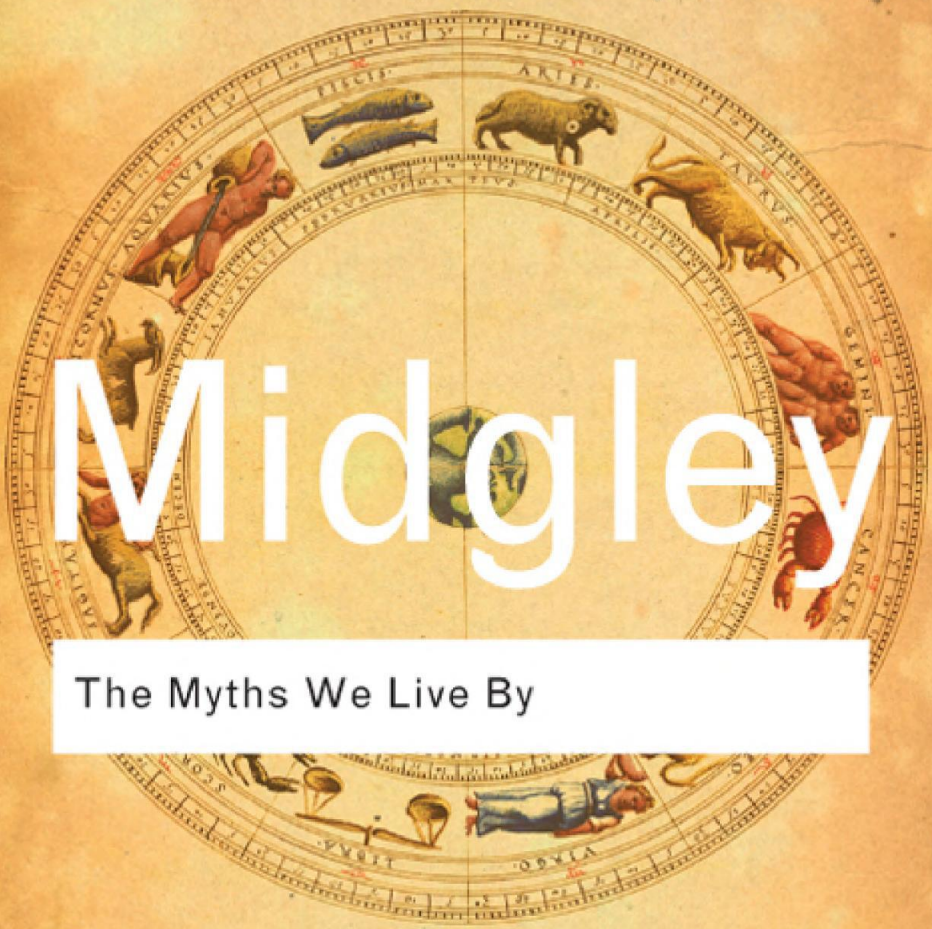

Midgley

The Myths We Live By

Mary

Midgley

The Myths We Live By

With a new foreword by the author

London and New York

First published 2004 by Routledge

First published in Routledge Classics 2011
by Routledge
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

Simultaneously published in the USA and Canada
by Routledge
711 Third Avenue, New York, NY 10017

Routledge is an imprint of the Taylor & Francis Group, an informa business

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

Library of Congress Cataloging in Publication Data
Midgley, Mary, 1919-
The myths we live by / Mary Midgley ; with a new foreword by the author.
p. cm.—(Routledge classics)
Originally published: 2004. With new foreword.
Includes bibliographical references (p.) and index.
1. Myth—Social aspects—History. 2. Civilization, Modern—Philosophy.
I. Title.
BL304.M53 2011
201'.3—dc22

2011003603

ISBN: 978–0–415–61024–7 (pbk)
ISBN: 978–0–203–82832–8 (ebk)

Typeset in Joanna
by RefineCatch Limited, Bungay, Suffolk

Contents

Acknowledgements

The theme of this book is the crucial importance of symbolism in all our thought and the resulting need to take our imaginative life seriously, even when we are dealing with what seem to be prosaic subjects.

Because I wanted to concentrate on this issue of symbolism, I have brought together here a number of articles in which I have previously dealt with that topic, re-working them in a way that I hope will bring out its importance. Since the sources of these articles are rather widespread, I would like to thank a wide variety of people who have helped me in my efforts to understand it. I have had a great deal of help from many colleagues who attended the very interesting conferences out of which several of these papers grew. Many good suggestions have come from the staff of the Hastings Center, to which I have made a couple of visits, and especially from Strachan Donnelley. My son David and my colleagues at the now-defunct Philosophy Department of Newcastle University have always helped me greatly, and in recent times I have learnt a great deal from discussions with John Ziman,

Steven and Hilary Rose, James Lovelock, Evelyn Fox-Keller, Anne Primavesi, Martin Lockley, Raymond Tallis and Andrew Brown. Finally I would like to thank the editors and publishers of the books and journals in which these papers first appeared – not just for giving me permission to reprint them, but for their help and support during the process of publication.

These sources are as follows:

The first four chapters are based on a lecture called 'The Myths We Live By', which I delivered as part of an Amnesty Series, 'The Values of Science', in 1997. It was published in a book with that name, edited by Wes Williams, in 1999 by the Westview Press, Colorado.

Chapters 5 to 7 on an article called 'Reductive Megalomania', which appeared in *Nature's Imagination: The Frontiers of Scientific Vision*, edited by John Cornwell and published by Oxford University Press, Oxford, 1995.

Chapter 8 on 'Do We Even Act?', in *The New Brain Sciences*, ed. D. A. Rees and S. P. R. Rose, Cambridge University Press, 2004.

Chapters 9 to 11 on 'Why Memes?', which appeared in *Alas, Poor Darwin: Arguments against Evolutionary Psychology*, edited by Hilary and Steven Rose and published by Jonathan Cape, London, 2000.

Chapters 12 and 13 on 'The Evolution of Cultural Entities', published in the *Proceedings of the British Academy*, no. 112, 2002, pp. 119–33, and in *The Evolution of Cultural Entities*, edited by M. Wheeler, J. Ziman and M. Boden and published by British Academy and Oxford University Press, London and Oxford, 2002, pp. 119–32.

Chapters 14 and 15 on 'The Soul's Successors: Philosophy and the "Body"', which appeared in *Religion and the Body*, edited by Sarah Coakley, Cambridge University Press, Cambridge, 1997.

Chapters 16 to 18 on 'Biotechnology and Monstrosity: Why We Should Pay Attention to the "Yuk" Factor', which appeared in the *Hastings Center Report* for September–October 2000, vol. 30, no. 5.

Chapters 19 and 20 on 'Heaven And Earth, an Awkward History', which appeared in *Philosophy Now*, December 2001–January 2002.

Chapters 21 to 23 on 'Are You an Animal?', which appeared in *Animal Experimentation: The Consensus Changes*, edited by Gill Langley and published by Macmillan, London, 1999.

Chapters 24 and 25 on 'Beasts versus the Biosphere?', which appeared in *Environmental Values*, vol. 1, no. 2, Summer 1992.

Chapters 26 and 27 on 'The Problem of Living with Wildness', which appeared in *Wolves and Human Communities: Biology, Politics and Ethics*, edited by Virginia A. Sharpe, Bryan Norton and Strachan Donnelley and published by the Island Press, Washington DC, 2001.

Foreword to the Routledge Classics Edition

The theme of this book is that our imaginative visions are central to our understanding of the world. They are not a distraction from our serious thinking but a necessary part of it. And – what is perhaps more surprising – many of the visions that now dominate our controversies are ones which look as if they were based on science, but are really fed by fantasy.

Ever since the prestige of physical science soared so high, a variety of doctrines on all sorts of subjects have used scientific imagery to gain the authority which rightly belongs to science proper. Because they sound technical, people receive their symbolic message as literal truth. Moreover, even in ideologies which do build on genuine scientific ideas the real scientific notions are often not clearly distinguished from extraneous ones. As a result, many of the favourite fairy-tales of our age – the myths that actually shape our thoughts and actions – are ones which owe their force to having appeared in scientific dress.

The seven years that have passed since the book first came out have not, I think, made it unnecessary to say these things. People

still tend to think of all serious conceptual thought – including science – as a distinct, self-sustaining logical process. They see it as cut off from the welter of imaginative and emotional activity which fills most of our lives, and they think of that welter as something we are not really expected to criticise. In reality, however, these things are parts of a single web. The conceptual skeleton of scientific thought has to grow from somewhere, so it grows from the rest of our thought, and it always brings traces of that origin with it. As I've pointed out on p. 128 of this book, skeletons do not go about nude. 'Concepts are embodied in myths and fantasies, in images, ideologies and half-beliefs, in hopes and fears in shame, pride and vanity. Like the great philosophers of the past who helped to shape our tradition, we need to start by taking notice of these things'. There is nothing wrong with the fact that our imagination plays a part in shaping our world view. We need it to do so. But we also need to notice how it is doing it.

You may ask whether the Enlightenment hasn't saved us this trouble by completely eliminating myths and fairy-tales from our thinking? People often think it has, but unluckily this is very far from the truth. Indeed it is itself a myth – that is, a partial truth based on an imaginative vision fired by a particular set of ideals, a dream which can help to shape our enterprises, but will mislead us if we trust it on its own. What the Enlightenment did was to develop its own set of myths, striking pictures whose attraction usually centres on the lure of Reduction – the pleasure of claiming that things are much simpler than they seem. This often appears in the bracing form of nothing buttery. Propositions such as that 'a human being is only £5 worth of chemicals', or 'human action is only external behaviour', or 'consciousness is just the interactions of neurones', have the attraction of seeming to make life simpler because they are simple in themselves. The difficulty only comes when we try to work out what they mean and connect them with the rest of the world.

These particular claims are, of course, somewhat extreme cases, flowers picked from the far end of the reductive spectrum. Yet all of them have had great influence. Like other, more modest, reductions they show striking confidence – an assumption of wide-ranging authority based on scientific status, even though they are actually general speculations, not based on any particular scientific evidence. They rely on a general assumption of the 'omnicompetence of science' – that is, the ability of physical science to answer all sorts of questions – which has gradually developed as a rather paradoxical result of the success of modern physics and chemistry. That success was actually due to the way in which seventeenth-century scientists sternly limited these sciences, dealing only with questions that were relevant to them. Success, however, naturally led theorists in other fields to copy details of their methods in the hope of getting the same results. Their imitations produced a special kind of fairy-tale whose scientific language and detail seemed to supply the magic that was needed to subvert traditional views on ordinary life. Thus, once it was declared that the brain was just a computer made of meat and houses were only machines for living in, everything began to look different.

The imaginative effect of all this has not, I think, yet been sufficiently noticed. Because symbols were not distinguished from literal truth here, a general impression has got abroad that literal truth is the only form of truth – that symbols are some kind of optional extra – and that literal truth is only found in the physical sciences. As I've remarked on p. 32 of this book, the trouble with Enlightenment myths when they get out of hand is that 'they tend to exalt the form over the substance of what is being said, the method over the aim of an activity, and precision of detail over completeness of cover'. The machine imagery that is used in these last two cases is a graphic example of this. It arose from the seventeenth-century fascination with clockwork and it has continued to figure in all kinds of areas of our thought as

a kind of will o'the wisp – an imagined ideal example of methodical thinking – a model of scholarly method by contrast to mere subjective impressions.

Newton's representation of the universe as a vast clock was an early case of this. That image appealed so powerfully to all sorts of thinkers that they often hoped to produce equal neatness in their own awkward provinces by imitating its simplicity. Thus Hume justified his reliance on utility as a universal explanation for the wild varieties of human motives by remarking that 'Newton's chief rule in philosophizing' was always to use a single force to account for many different effects. It wasn't, yet this kind of impression remained widespread. The ambition to be the Newton of psychology by simplifying everything seized many thinkers and carried with it an increasing load of mechanistic imagery – analogies with literal machines which were used to explain more and more aspects of human life.

Of course the defects of this approach have long been noticed. John Stuart Mill protested against it in the third chapter of *On Liberty* –

> Supposing it were possible to get houses built, corn grown, battles fought, causes tried, and even churches erected and prayers said, by machinery – by automatons in human form – it would be a considerable loss to exchange for these automatons even the men and women who at present inhabit the more civilized parts of the world.... Human nature is not a machine to be built after a model, and set to do exactly the work prescribed for it, but a tree, which requires to grow and develop itself on all sides, according to the tendency of the inward forces which make it a living thing.

As he said, machines are not really very like people; analogies between them need to be treated with great caution. And this sort of complaint had not been confined to the humanities. At

the other extreme of the scientific hierarchy, physics no longer views matter as operating in the least like clockwork. The solid, impenetrable particles that Newton took to be its foundation are long gone, taking with them the Newtonian idea that all motion resulted from their bouncing off one another. Matter, whatever it may be, is no longer mechanistic. This means that the whole idea of Materialism really needs to be rethought, and today's physics is far too complicated to supply a good basis for myth-building.

Apart, however, from the still-vigorous physical imagery of mechanism, today's favoured myths centre rather on biology and work largely by exploiting the idea of Evolution as a way of celebrating competition. Thus, talk of rival investments, grudgers and suckers, war-games, selfish genes and so forth is obviously essentially mythical. We know that the strange supernatural beings who seem to figure in these stories are not supposed to be real; this is a way of talking about natural tendencies and forces. Such personification is not objectionable in itself; the question is just; does it here convey the right sort of meaning? Many myths are indeed useful – after all, the Social Contract is a myth. But some myths are much more useful and reliable than others.

The crucial thing is, as I've been suggesting, that we need to take their symbolism seriously – to understand and criticise the thinking behind the images that charm us rather than just being carried away by them. Even ordinary fairy-tales need to be understood properly. Stories such as Cinderella, or Rapunzel, or Jack the Giant Killer or the Emperor's New Clothes are not just amusements; they have a point. They have played a part in forming our culture. Similarly, when we look at today's evolutionary myths we need to understand the general message behind them, and usually that message is fairly clear.

There is, however, one of them where the message is not clear, one where it is hard to see any good reason why the supernatural machinery has been invoked at all – namely the doctrine of

Memes. This myth describes memes as entities which work like genes of culture, parasitising us by producing all our ideas and customs so as to extend their own dominion. Now William of Occam sensibly advised us not to invent entities without necessity. But there is no necessity here; this whole mythology has no explanatory work to do at all.

The general sources of human ideas and customs are already perfectly well understood. We know that ideas and customs arise in familiar ways out of the complexities of our life. And where we don't know how particular ones arise a whole galaxy of historical and social disciplines already exists to help us trace them. *There is no room left here for a rival set of causes* – a population of interfering demons who evidently have no physical existence, yet are explicitly said to act as independent individuals – 'selfish' creatures who actively pursue their own interest by invading us.

The only point of this particular story (apart from generating a mild frisson at the thought of the demons) seems to be to extend the pattern of mindless natural selection beyond physical reproduction into the realm of culture – a realm where it cannot actually make any sense, since even the simplest culture has to be built by minds. The more general myth at work behind this is the somewhat wild idea that mindless natural selection is the basic mechanism that runs the whole universe. This odd opinion is now actually attributed to Darwin, though Darwin himself took trouble to point out sharply that he was sure natural selection was not the sole cause even of biological evolution, and he clearly never considered invoking it anywhere else. This is just one example of a place where the myth-garden badly needs weeding, and I have tried to point out some others in this book.

1

HOW MYTHS WORK

SYMBOLISM AND SIGNIFICANCE

We are accustomed to think of myths as the opposite of science. But in fact they are a central part of it: the part that decides its significance in our lives. So we very much need to understand them.

Myths are not lies. Nor are they detached stories. They are imaginative patterns, networks of powerful symbols that suggest particular ways of interpreting the world. They shape its meaning. For instance, machine imagery, which began to pervade our thought in the seventeenth century, is still potent today. We still often tend to see ourselves, and the living things around us, as pieces of clockwork: items of a kind that we ourselves could make, and might decide to remake if it suits us better. Hence the confident language of 'genetic engineering' and 'the building-blocks of life'.

Again, the reductive, atomistic picture of explanation, which suggests that the right way to understand complex wholes is always to break them down into their smallest parts, leads

us to think that truth is always revealed at the end of that other seventeenth-century invention, the microscope. Where microscopes dominate our imagination, we feel that the large wholes we deal with in everyday experience are mere appearances. Only the particles revealed at the bottom of the microscope are real. Thus, to an extent unknown in earlier times, our dominant technology shapes our symbolism and thereby our metaphysics, our view about what is real. The heathen in his blindness bows down to wood and stone – steel and glass, plastic and rubber and silicon – of his own devising and sees them as the final truth.

Of course this mechanistic imagery does not rule alone. Older myths survive and are still potent, but they are often given a reductive and technological form. Thus, for instance, we are still using the familiar social-contract image of citizens as essentially separate and autonomous individuals. But we are less likely now to defend it on humanistic or religious grounds than by appealing to a neo-Darwinist vision of universal competition between separate entities in an atomised world, which are easily seen as machinery – distinct cogs or bytes put together within a larger mechanism. Social atomism strikes us as scientific.

This same reductive and atomistic picture now leads many enquirers to propose biochemical solutions to today's social and psychological problems, offering each citizen more and better Prozac rather than asking what made them unhappy in the first place. Society appears as split into organisms and organisms into their constituent cogs. The only wider context easily seen as containing all these parts is evolution, understood (in a way that would have surprised Darwin) as a cosmic projection of nineteenth-century economics, a competitive arena pervading the development, not just of life but of our thought and of the whole physical universe.

At present, when people become aware of this imagery, they tend to think of it as merely a surface dressing of isolated

metaphors – as a kind of optional decorative paint that is sometimes added to ideas after they are formed, so as to make them clear to outsiders. But really such symbolism is an integral part of our thought-structure. It does crucial work on all topics, not just in a few supposedly marginal areas such as religion and emotion, where symbols are known to be at home, but throughout our thinking. The way in which we imagine the world determines what we think important in it, what we select for our attention among the welter of facts that constantly flood in upon us. Only after we have made that selection can we start to form our official, literal, thoughts and descriptions. That is why we need to become aware of these symbols.

HOW NEUTRAL IS SCIENCE?

What, then, is the right place of such imaginative visions in our serious thinking? In particular, how do they relate to science? This question occurred to me forcibly when Amnesty International asked me to contribute to their lecture series entitled 'The Values of Science'. It struck me as remarkable that people answer questions about the values of science in two quite opposite ways today.

On the one hand, they often praise science for being value-free: objective, unbiased, neutral, a pure source of facts. Just as often, however, they speak of it as being itself a source of values, perhaps indeed the only true source of them. For example, the great evolutionist Conrad Waddington wrote in 1941 that 'Science *by itself* is able to provide mankind with a way of life which is ... self-consistent and harmonious.... So far as I can see, the scientific attitude of mind is *the only one* which is, at the present day, adequate to do this'.[1] As we shall see, too, many serious theorists have claimed that science is 'omnicompetent', that is, able to answer every kind of question. And that must naturally include questions about value.

The eminent molecular biologist Jacques Monod noticed this difficulty and suggested heroically that science should take over this apparently alien realm of thought altogether:

> Science attacks values. Not directly, since science is no judge of them and *must* ignore them; but it subverts every one of the mythical ontogenies upon which the animist tradition, from the Australian aborigines to the dialectical materialists, has based morality: values, duties, rights, prohibitions ... True knowledge is ignorant of values, but it has to be grounded on a value judgment, or rather on an *axiomatic* value ... In order to establish the *norm* for knowledge, the objectivity principle defines a *value*; that value is objective knowledge itself ... The ethic of knowledge that created the modern world is the only ethic compatible with it, the only one capable, once understood and accepted, of guiding its evolution.[2]

Not surprisingly, Monod was for a time the favourite author of many scientists. Since what he meant by 'knowledge' was exclusively scientific knowledge, his ruling implied that the only value judgements that remained would be ones about whether a proposition in science was true or not.

This, however, would not have been a very convenient arrangement for the rest of life. The clash remained, and, as usual, the truth about it was more complicated than it looked. The word 'science' surely has a different meaning in these two claims. We do indeed sometimes think of science just as an immense store-cupboard of objective facts, unquestionable data about such things as measurements, temperatures and chemical composition. But a store-cupboard is not, in itself, very exciting.

What makes science into something much grander and more interesting than this is the huge, ever-changing imaginative structure of ideas by which scientists contrive to connect, understand and interpret these facts. The general concepts, metaphors

and images that make up this structure cannot possibly be objective and antiseptic in this same way. They grow out of images drawn from everyday experience, because that is the only place to get them. They relate theory to everyday life and are meant to influence it. These concepts and images change constantly as the way of life around them changes. And after they have been used in science they are often reflected back into everyday life in altered forms, seemingly charged with a new scientific authority.

In this book we will consider several very potent ideas that have moved in this way from ordinary thought to affect the course of science and have then returned to outside usage reshaped by scientific use. Right away, one might name the concept of a *machine*, of a *self-interested individual*, and of *competition* between such individuals. Metaphorical concepts like these are quite properly used by scientists, but they are not just passive pieces of apparatus like thermostats. They have their own influence. They are living parts of powerful myths – imaginative patterns that we all take for granted – ongoing dramas inside which we live our lives. These patterns shape the mental maps that we refer to when we want to place something. Such ideas are not just a distraction from real thought, as positivists have suggested. Nor are they a disease. They are the matrix of thought, the background that shapes our mental habits. They decide what we think important and what we ignore. They provide the tools with which we organise the mass of incoming data. When they are bad they can do a great deal of harm by distorting our selection and slanting our thinking. That is why we need to watch them so carefully.

HOW DO IDEAS CHANGE?

This question is specially urgent in times of rapid change, because patterns of thought that are really useful in one age can make serious trouble in the next one. They don't then necessarily

have to be dropped. But they do often have to be reshaped or balanced by other thought-patterns in order to correct their faults.

In this process, myths do not alter in the rather brisk, wholesale way that much contemporary imagery suggests. The belief in instant ideological change is itself a favourite myth of the recent epoch that we are now beginning to abuse as 'modern'. Descartes may have started it when he launched his still-popular town-planning metaphor, comparing the whole of current thought to an unsatisfactory city which should be knocked down and replaced by a better one:

> Those ancient cities which were originally mere boroughs, and have become large towns in process of time, are as a rule badly laid out, as compared with those towns of regular pattern that are laid out by a designer on an open plain to suit his fancy … one would say that it was chance that placed them so, not the will of men who had the use of reason.[3]

Today, too, another influential image, drawn from Nietzsche, works on the model of the *Deaths* column in a newspaper. Here you just report the death of something: Art, or Poetry, or History, or the Author, or God, or Nature, or Metaphysics or whatever, publish its obituary and then forget about it.

The trouble about this is that such large-scale items don't suddenly vanish. Prominent ideas cannot die until the problems that arise within them have been resolved. They are not just a kind of external parasite. They are not alien organisms, viruses: 'memes' that happen to have infested us and can be cleared away with the right insecticide (a suggestion that we will discuss in Chapter 9). They are organic parts of our lives, cognitive and emotional habits, structures that shape our thinking. So they follow conservation laws within it. Instead of dying, they transform themselves gradually into something different, something

that is often hard to recognise and to understand. The Marxist pattern of complete final revolution is not at all appropriate here. We do better to talk organically of our thought as an ecosystem trying painfully to adapt itself to changes in the world around it.

THE DOWNSIDE OF DRAMA

In this book, I shall start by concentrating on certain particular myths which have come down to us from the Enlightenment and are now giving trouble, though I shall move on from them to mention a number of others that we need to attend to. Enlightenment concepts need our attention because they tend to be particularly simple and sweeping. Dramatic simplicity has been one of their chief attractions and is also their chronic weakness, a serious one when they need to be applied in detail. For instance, the Enlightenment's overriding emphasis on freedom often conflicts with other equally important ideals such as justice or compassion. Complete commercial freedom, for example, or complete freedom to carry weapons, can lead to serious harm and injustice. We need, then, to supplement the original dazzling insight about freedom with a more discriminating priority system. And again, the insistence on individuality that has so enriched our lives degenerates, if we don't watch it critically, into the kind of mindless competitiveness that is so destructive today. It impoverishes lives by locking people up in meaningless solitude.

In the case of the physical sciences, we already know that Enlightenment ideas have been much too naive and dramatic. They suggested that physics could expect to reveal a far simpler kind of order in the world than has turned out to be available. Of course this simplification played a great part in making possible the astonishing success of the physical sciences. It gave western civilisation an understanding of natural 'mechanisms' (as we still call them) far beyond that of any other culture, and a wealth of

technology that other cultures have never dreamed of. And it is right to celebrate this tremendous achievement. But we, the heirs of this great intellectual empire, don't actually need to come together simply to praise it.

We don't now need to tell each other that science is good any more than we need to say that freedom is good or democracy is good. As ideals, these things are established in our society. But when particular ideals are established and are supposed to be working, we have to deal with the institutions that are invented to express them. Today, some people plainly do not think that science is altogether good. At times there are similar doubts about democracy and freedom. In such cases, those of us who care about the ideals need to ask what is going wrong with the way they are being incorporated in the world. We have to consider how best to understand the present condition of science, how best to live with its difficulties and responsibilities, and how to shape its further development so as to avoid these distortions.

In trying to do this, I shall start by discussing three current myths: the social-contract myth, the progress myth and the myth of omnicompetent science. These three myths are connected, not just because they are all overdramatic and need rethinking, but because the last of them impedes our efforts to deal with the first two, and with many other problems as well.

Exaggerated and distorted ideas about what physical science can do for us led, during the nineteenth and twentieth centuries, to the rise of powerful, supposedly scientific ideologies such as Marxism and behaviourism. These systems are obviously not actually part of physical science but, by claiming its authority, they have injured its image. People who want to defend science today need to take outgrowths of this kind seriously and go to some trouble to understand its relation to them. It is equally urgent to get rid of the absurd and embarrassing claim to 'omni-competence'. Science, which has its own magnificent work to

do, does not need to rush in and take over extraneous kinds of question (historical, logical, ethical, linguistic or the like) as well. Lovers of physical science can be happy to see it as it is, as one great department of human thought among others which all cooperate in our efforts at understanding the world. This is a far more honourable status than that of a nineteenth-century political power trying to enlarge its empire by universal conquest.

2

OUR PLACE IN THE WORLD

THE EXPANDING HORIZON

The three myths that I have mentioned still shape our intellectual and moral thinking, although the world has changed radically in the three or four centuries since they were coined. Most notably, our drama – the play in which we are all acting – has shifted to an enormously larger stage. We live now in a bigger world. It is bigger because the sheer number of humans has tripled in the last century and because we are now better informed about them, but also, even more crucially, because of the way in which our own power has increased. We urban humans have now become capable of doing serious harm all over the world, both to its human and its non-human inhabitants. This is something really new in human history. In fact it is possibly the biggest change our species has ever experienced, certainly the biggest since the invention of agriculture. No wonder if it throws us into culture-shock and makes us alter our concepts.

At present, the problems that arise here about our duty to distant humans are often discussed separately from those about

our misuse of other animals and both are usually segregated from the environmental problems. Different academic departments and different political bodies commonly deal with these three matters. Feuds often arise between them. The division between the natural sciences and the humanities widens the split, but the link between them is crucial. (We will discuss it in Chapters 19 and 24.) The sudden enlargement of our power has transformed all these issues equally. In all these directions, technology has hugely multiplied both the range of matters that concern us and our ability to affect them. And though that ability often seems to be out of our hands as individuals, our civilisation as a whole clearly does bear some responsibility for producing this whole situation. Our trade, our investment and our expressions of public opinion do indeed affect all sorts of distant events.

We find it hard to believe in this whole expansion. Can it really be true that we bear responsibility for things that happen to people and countries so far away from us? Can we, still more oddly, have responsibilities towards the non-human realm? Our current moral tradition makes it hard for us to grasp these things. It doesn't leave room for them. Yet the changes are real. They do demand some kind of adaptation from us, adaptation of a morality that was formed for a quite different, more manageable kind of world. We can't go on acting as if we were still in that world. On that path, there is no way through.

HUMAN RIGHTS AND THE SOCIAL CONTRACT

This difficulty comes up strongly at present over the concept of universal human rights. That notion clashes with the Enlightenment idea that morality is essentially just a contract, freely made between fellow citizens for civic purposes and ultimately for individual self-interest. Some political theorists, who are rather oddly known as realists,[1] claim that we cannot have duties to

people outside our own nation-state because they are not contractors in our society and rights (they say) arise only from contract. This is the idea that politicians are expressing when they reassure us that British interests must, of course, always come first.

The social-contract myth is a typical piece of Enlightenment simplification. It was developed (quite properly) as an answer to the doctrine of the divine right of kings, a defence against the religious wars and oppressions that monarchs set going in the sixteenth and seventeenth centuries. It rested political authority on the consent of the governed, which is fine. But its limitation is that it leaves no room for duties to outsiders. This brings it into conflict with another equally central Enlightenment idea, namely, the unity of all humanity. That idea says that, if oppression is wrong, it is wrong everywhere and that, therefore, anyone who can do something about it ought to do so. Quite early on, this wider concept was expressed by bold, non-contractual talk about the Rights of Man, which made possible widespread and effectual campaigns against things like slavery.

The clash between these two ideas is not one between different cultures. It arises between two closely related ideas within the same culture. It is still with us because both these ideas are still crucial to us. Both of them have been parts of the same bold attempt to make human society more just and less brutal. They were both originally somewhat crude and have needed repeated adjustment. The idea of contract was the formal, legalistic, reductive side of this humanitarian campaign. The notion of universal rights expressed the outgoing, generous, sympathetic feeling that powered the campaign in the first place. The difficulty of reconciling these two elements has led to a lot of trouble. It has often been dramatised into a supposedly irresolvable conflict between reason and feeling.

This is always a confused idea because all reasoning is powered by feeling and all serious feeling has some reasoning as its

skeleton. Thought and feeling are not opponents, any more than shape and size. They are complementary aspects which appear on both sides of any argument, a point that we will discuss further in Chapter 16. Polarising these two as opposites is, however, always tempting. On the issue of human rights it has been quite important that the reductive, contractual pattern was seen as the rational one and as being supported by physical science. The idea that people are solitary, self-contained, indeed selfish individuals, who wouldn't be connected to their neighbours at all if they didn't happen to have made a contract, looked rational because it reflected the atomic theory of the day, a theory that similarly reduced matter to hard, impenetrable, disconnected atoms like billiard balls. The two patterns, of political and scientific atomism, seemed to strengthen each other, and, for some time, each appeared as the only truly rational and scientific pattern of understanding in its own sphere. Social atomism, expressed as political and moral individualism, got quite undeserved support from the imagery used in science.

Today, of course, physics deals in particles of a very different kind, particles that are essentially fields, that is, patterns of connection. But on the human scene, and in biology, a quite unrealistic social atomism is still alive and kicking and still thinks of itself as scientific. The kind of individualism that treats people, and indeed other organisms, as essentially separate, competitive entities, ignoring the fact that competition can't get going at all without an enormous amount of cooperation to make it possible, has been the dominant ideology of the last few decades. Today it is under attack, which results in a lot of controversy.

This debate has not been just a futile zero-sum game. On its good days it has been a creative tension, a fertile dialectic in which each element has helped the other to become more adequate and workable. Talk of human rights is designed to express our current compromise between these two complementary insights. Most concerned people do now seem willing

to use the words 'human rights'. In spite of the huge differences between various cultures, we do believe that there are indeed some things which ought not to be done to anybody, anywhere. Whatever the doubts about rights, we can all recognise human wrongs.[2] So, anyone who can protest effectively against these things is in a position to do so, whatever culture they belong to. This kind of belief is not, I think, confined to the West. Oppressed people in all kinds of countries now appeal to it. And in general they don't seem to be using it merely as a foreign language, but as a kind of intercultural dialect that everybody understands. It helps us to pick out the distant matters that really do call for our intervention, despite the gulfs that divide our societies.[3]

In this way we can try to bring the outgoing, generous element in Enlightenment thinking together with the narrowing, formal, legalistic side. In principle, and to some extent even in practice, we can combine the imperative force of the civic word 'rights' with the universal scope of species-wide sympathy. The work of reconciling these ideas still needs hard ethical thinking (which is different from scientific thinking though just as necessary) but for practical purposes the concept is usable. Bodies such as Amnesty International do make a difference to the world. Of course that difference is miserably small, but our official morality does have room for this extension. It does not force us to be fatalistic chauvinists, as it would if our ethics were really limited to contract thinking. We are not burdened, as we might have been, with the kind of moral ideas that would completely paralyse our efforts to help.

GOING BEYOND HUMANITY

So much, then, for distant humans. What about the claims of the rest of nature? It ought to be clear that, even if we don't care personally about the wilderness itself, all humans share a

common interest in preserving the biosphere they depend on. But our culture has found it surprisingly hard to grasp this.

The chief reason for this is, of course, that the environmental alarm is much more recent than the social one. The bad news, that the house is on fire, only arrived during the last half-century, and many people still hope that, if they don't encourage it by attending to it, it will go away. More deeply, however, there is a difficulty because this matter is much harder to bring within the framework of contract.

The idea of universal human fellow citizens is slightly more familiar. Various images of a worldwide super-state or super-city already exist to relate it to civic thinking. The Stoics talked of the World City, Cosmopolis, and St Augustine talked of the City of God. But nobody has yet made coral reefs or the Siberian tundra our fellow citizens, and it is not easy to see how they could do so. These are not the kind of beings that live in cities or plead in law courts. They don't make contracts. So, on the familiar model, it was hard to see how they can have rights. And this does, apparently, make it hard for some people to take our duties to them seriously.

This is surely a point where the perspective of the natural sciences can really help us. For many scientists, love and reverence for the natural world that they study has been a powerful motive, whereas this love and reverence has been less central to the humanistic parts of western culture. Indeed, some kinds of humanism have deliberately excluded it. Enlightenment thinking has often neglected non-human nature, especially since the Industrial Revolution, though Rousseau did not and poets, such as Blake and Wordsworth, did what they could to protest against the bias. That concentration on our own species is what makes it so hard for us now to take in the facts of environmental destruction or react to them effectively. Traditionally, we have taken the natural support system for granted.

Scientists who concern themselves with ecological matters can help us greatly here. They do so even though, at present, they

themselves actually have a difficulty about acknowledging this outgoing, reverent attitude to nature because it became for a time rather unfashionable within science itself. It was associated with 'natural historians' – that is, with patient, wide-ranging observers like Darwin – rather than with the laboratory-based experts in microbiology who were for a time viewed as the only possible model of 'the scientific'. But this narrow, reductive perspective does seem to be shifting. The sociobiologist Edward O. Wilson has celebrated *Biophilia* – the love of all living things – as something absolutely central for science.[4] And again, James Lovelock's concept of 'Gaia', which expresses our proper reverence for our planet at the same time as suggesting scientific tools for diagnosing its troubles, is no longer viewed as something wild.[5] It is beginning to get the kind of serious attention that it deserves within science. In fact, the two aspects of science are beginning to come together again, a process that very much needs to be encouraged.

Should we say, then, that this love and reverence for nature is one of the 'values of science'? If we are to talk about such values at all it surely is. Perhaps indeed it is the only value that is in some sense special to the natural sciences. The other values that we think of as scientific are intellectual virtues such as honesty, disinterestedness, thoroughness, imaginative enterprise, a devotion to truth. Those virtues are indeed scientific, but they are so in the older and wider sense of that word which is not restricted to physical science. They belong to every kind of disciplined and methodical thought, to history and logic, to ethics and mathematics and linguistics and law, just as much as they do to the natural sciences. But those enquiries don't deal so directly with the non-human world around us, with the plants and animals and stars that we should surely honour and revere, as the natural sciences do. The love of these things, and in particular the love of living things – 'biophilia' as Wilson calls it – has played a special part in the thought of most great scientists, and it is a vital

element which their successors can bring to stir us up against our present dangers.

If we do manage to take up this wider perspective, it will, of course, make our moral position more complicated, not simpler. But that is bound to happen anyway. Already we have to arbitrate many conflicts between the interests of humans and non-humans such as elephants or trees. People who do this on a contractual basis rule out the non-human party in advance. But that simple principle no longer convinces us and we can't seriously go on using it. These clashes demand some sort of a compromise. Even in the short term the interests of the two parties do not always conflict and in the long term they often converge strongly. If the local people are forced to destroy the habitat, then they too will soon be destroyed, along with the trees and the elephants. This convergence is of course particularly plain over indigenous peoples, who accordingly have often campaigned heroically to defend it.

3

PROGRESS, SCIENCE AND MODERNITY

THE PLEASURES OF OMNICOMPETENCE

So far I have been discussing the first myth that I mentioned, that of the social contract. I have been suggesting that this sweeping, monolithic thought-pattern, used for quite good reasons by earlier thinkers in the Enlightenment, now hampers our thought. The narrow civic stereotype makes it hard for us to adapt to a changed world in which our increased power makes traditional social-contract thinking disastrously parochial.

This is just one case, however, among many where Enlightenment thinking, after its initial successes, becomes oversimple and Procrustean. Often it seizes on a particular pattern of thought as the only one that can properly be called rational and extends it to quite unsuitable topics. This intellectual imperialism constantly favours the form over the substance of what is being said, the method over the aim of an activity, and precision of detail over completeness of cover. That formal bias is not in

fact at all particularly rational, though it is often thought of as being so.

I have suggested that this simplistic habit is what people are usually complaining of today when they stigmatise recent thinking as 'modern'. The actual word 'modern' is quite unsuitable here. It can certainly not go on much longer being used forever in this way to describe what is manifestly out of date. Besides, it is too vague. We need clearer, more specific words for this range of faults. For present purposes I suggest that the terms needed are often ones such as 'dogmatic', 'one-sided', 'simplistic' and 'monolithic'.

The same kind of trouble arises about our next two examples, the linked ideas of inevitable progress and the omnicompetence of science. Here certain ways of thinking that proved immensely successful in the early development of the physical sciences have been idealised, stereotyped and treated as the only possible forms for rational thought across the whole range of our knowledge. As with the social contract, the trouble is not in the methods themselves, which are excellent in their own sphere. It lies in the sweepingness, the dramatic zing, the naive academic imperialism that insists on exporting them to all sorts of other topics.

The myth of inevitable progress is one that has been around in a general form since the late eighteenth century. It arose then to express a new kind of confidence in Man and the works of Man, replacing the earlier Christian reliance on God and the afterlife in Heaven. Today it is often linked with the idea of evolution, though this link belongs to Lamarck rather than to Darwin and is rooted in wish-fulfilment or in religion, not in biology. That association has, however, probably helped to give the idea of progress a quite undeserved aura of scientific respectability. And it has also probably strengthened the idea that belief in progress required faith in the omnicompetence of science.