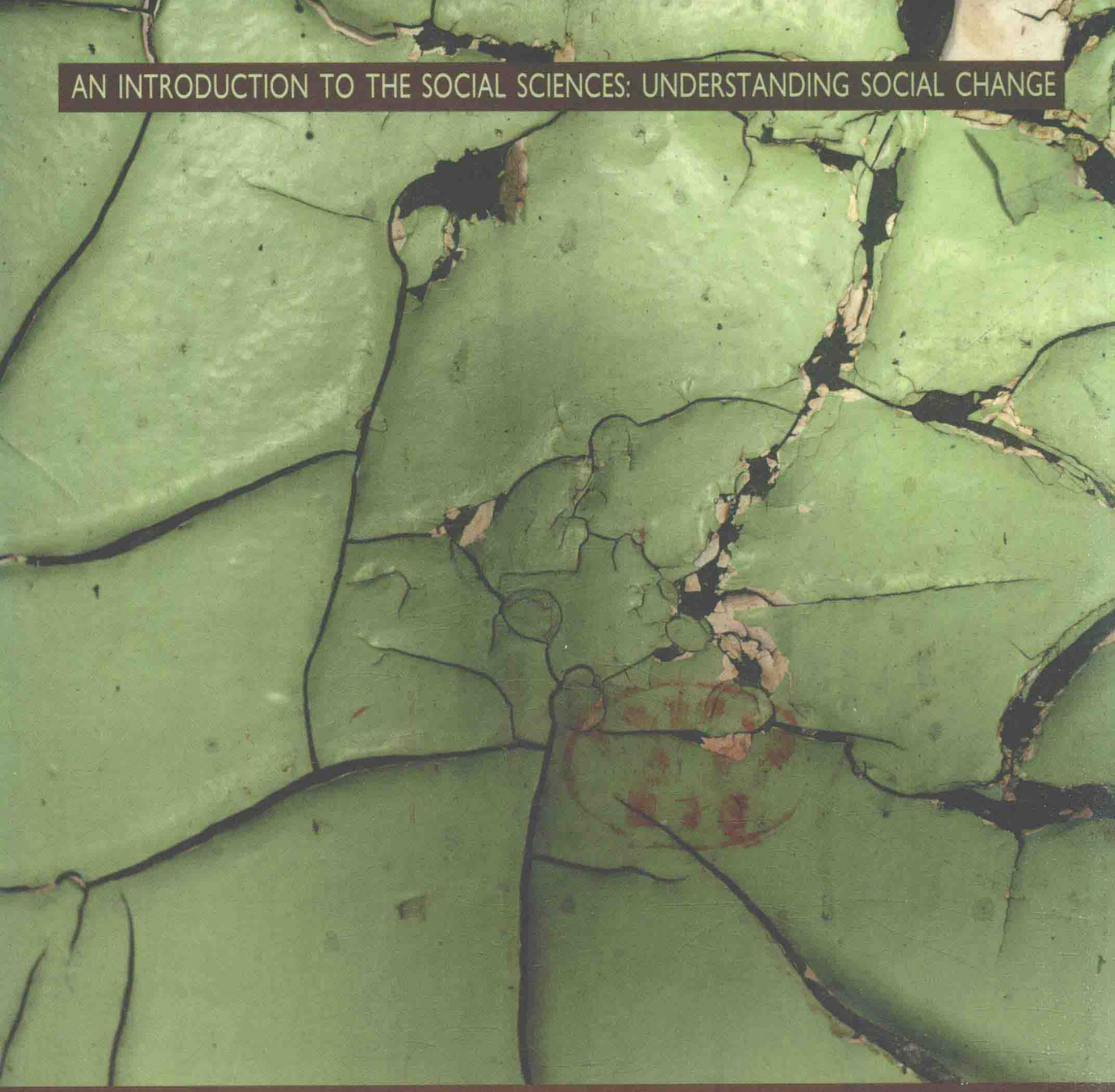
AN INTRODUCTION TO THE SOCIAL SCIENCES: UNDERSTANDING SOCIAL CHANGE



the natural and the social: uncertainty, risk, change

edited by steve hinchliffe and kath woodward

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Series preface

The Natural and the Social: Uncertainty, Risk, Change is the second in a series of five books, entitled *An Introduction to the Social Sciences: Understanding Social Change*. If the social sciences are to retain and extend their relevance in the twenty-first century there can be little doubt that they will have to help us understand social change. In the 1990s an introductory course to the social sciences would have looked completely different.

From a global perspective it appears that the pace of change is quickening, social and political ideas and institutions are under threat. The international landscape has changed; an intensification of technological change across computing, telecommunications, genetics and biotechnology present new political, cultural and moral dilemmas and opportunities. Real intimations of a global environmental crisis in the making have emerged. We are, it appears, living in an uncertain world. We are in new territory.

The same is also true of more local concerns. At the beginning of the twenty-first century both societies and the social sciences are in a state of flux. *Understanding Social Change* has been written at a moment that reflects, albeit in a partial way, subterranean shifts in the social and cultural character of the UK. Established social divisions and social identities of class, gender, ethnicity and nation are fragmenting and re-forming. Core institutions such as the family, work and welfare have become more diverse and complex. It is also a moment when significant processes of change have been set in train – such as constitutional reform and European economic and monetary union – whose longer-term trajectory remains uncertain. The flux in the social sciences has been tumultuous. Social change, uncertainty and diversity have rendered many of the most well-established frameworks in the social sciences of limited use and value. Social change on this scale demands fresh perspectives and new systems of explanation.

In this context *Understanding Social Change* is part of a bold and innovative educational project, for it attempts to capture and explore these processes of momentous social change and in doing so reasserts the utility and necessity of the social sciences. Each of the five books which make up the series attempts precisely this, and they all do so from a fundamentally interdisciplinary perspective. Social change is no respecter of the boundaries of disciplines and the tidy boxes that social scientists have often tried to squeeze it into. Above all, *Understanding Social Change* seeks to maintain and extend the Open University's democratic educational mission: to reach and enthuse an enormously diverse student population; to insist that critical, informed, reflexive engagement with the direction of social change is not a matter for elites and professional social scientists alone.

As you may have guessed, this series of books forms a core component of the Open University, Faculty of Social Sciences, level 1 course, DD100 *An Introduction to the Social Sciences: Understanding Social Change*. Each book in the series can be read independently of the other books and independently from the rest of the materials that make up the Open University course. However, if you wish to use the series as a whole, there are a number of references to chapters in other books in the series, and these are easily identifiable because they are printed in bold type.

Making the course and these books has been a long and complex process, and thanks are due to an enormous number of people.

First and foremost, the entire project has been managed and kept on the rails, when it was in mortal danger of flying off them, by our excellent Course Manager, Christina Janoszka. In the DD100 office, Fran Ford, Lesley Duguid and Sylvia Lay-Flurrie have been the calm eye at the centre of a turbulent storm, our thanks to all of them.

Stephen Clift, Chris Wooldridge and Penny Bennett have been meticulous, hawk-eyed editors. Siân Lewis has provided superb design work, and Ray Munns and Andy Whitehead have provided skilled cartographic and artistic work. David Calderwood in project control has arranged and guided the schedule with calm efficiency and Celia Hart has provided great support with illustrations and photographs. Nigel Thrift, our external assessor, and Clive Pearson, Elizabeth Chaplin and Lynne Poole, our tutor panel, have provided consistent and focused criticism, support and advice. Peggotty Graham has been an invaluable friend of *Understanding Social Change* and David Held has provided balance, perspective and insight as only he can.

It only remains for us to say that we hope you find *Understanding Social Change* an engaging and illuminating introduction to the social sciences, and in turn you find the social sciences essential for understanding life in the twenty-first century.

David Goldblatt
Kath Woodward
Co-Chairs, The Open University Course Team

Contents

Introduction

Steve Hinchliffe

This book is about the ways in which society and nature combine. You may be used to thinking that society and nature, almost by definition, are matters to be kept apart. Indeed, in our everyday language, we tend to treat nature and society as opposites. If something is described as natural, then we tend to think that it is unlikely to have much to do with society. So, for example, when we describe a landscape as 'natural' we often mean to suggest that it is undeveloped, untouched and that the social world is largely absent. When we talk about someone having a natural talent (for music or sport, say), then we tend to imply that they were born with it. The social worlds of education and training are almost thought to be irrelevant to the way in which we judge their particular 'gift'.

To think like this is to think of the social and the natural as separate or pure categories. It is almost as if they are different objects, with neat boundaries and no overlap. We can call this way of thinking about the social and the natural a *purified* approach. Figure 1 is a schematic representation of this purified view.

FIGURE 1 Nature and society as pure categories

This book sets out to challenge this purified view of nature and society. Each of the chapters deals with different topics, from genetic inheritance and childhood development (Chapter 1), to health care and medicine (Chapter 2), to markets and pollution (Chapter 3), to natural hazards and food scares (Chapter 4). One way of thinking about the book's structure is that we move from 'inner nature' (bodies, organs and personalities) to 'outer nature' (the environments and the non-human world within which we live and co-exist with other people, plants and animals). Common to all the chapters is an attempt to break down the assumed boundaries between nature and society. Indeed, the conviction is that the categories of nature and society are impossible to hold apart when we engage with the real worlds in which people live.

This breaking down of boundaries might seem counter-intuitive. So here are two examples to start you thinking about nature and society interrelationships.

1 Cloning Ryan Giggs

After a series of bad results, the Welsh football manager joked that he wouldn't mind a clone or two of his star player, Ryan Giggs. Giggs is a player with natural talent, a player with a gift, a player born with a special

set of genes. Now, joking apart, what would it mean to really produce an exact replica of Ryan Giggs? Is it simply a matter of taking a few cells from his body, extracting the genetic material and inserting it into an unfertilized egg? If we then transfer this egg into a surrogate mother, will the organism that develops really be another Welsh international footballer? Is there more to him than that?

What about Giggs's upbringing, would that matter? Can we really treat his body and the body of his surrogate mother as pure nature? Will his 'mother's' pregnancy be important? Will she eat the right foods, do the right exercises and get the right treatment? Does the intensive training provided by his football club, Manchester United – one of the richest in the world – matter? If we were truly serious about a Ryan Giggs clone, then wouldn't we have to provide a copy of all or most of his (and his pregnant mother's) interactions with other people, organizations and institutions? In other words, isn't Ryan Giggs a human being who has a social as well as a natural life? (Try not to let your preconceptions about football players or the team you support colour your answer.) In this book we will argue that when we talk about people's identities and lives, it doesn't really make much sense to tease the natural and the social apart.

2 Natural parks?

Now look at the photograph in Figure 2 of Snowdonia National Park. Would you say it was a natural or a social scene? In many ways it looks to be untouched by social worlds. But on closer inspection there are signs that this scene is as social as it is natural.

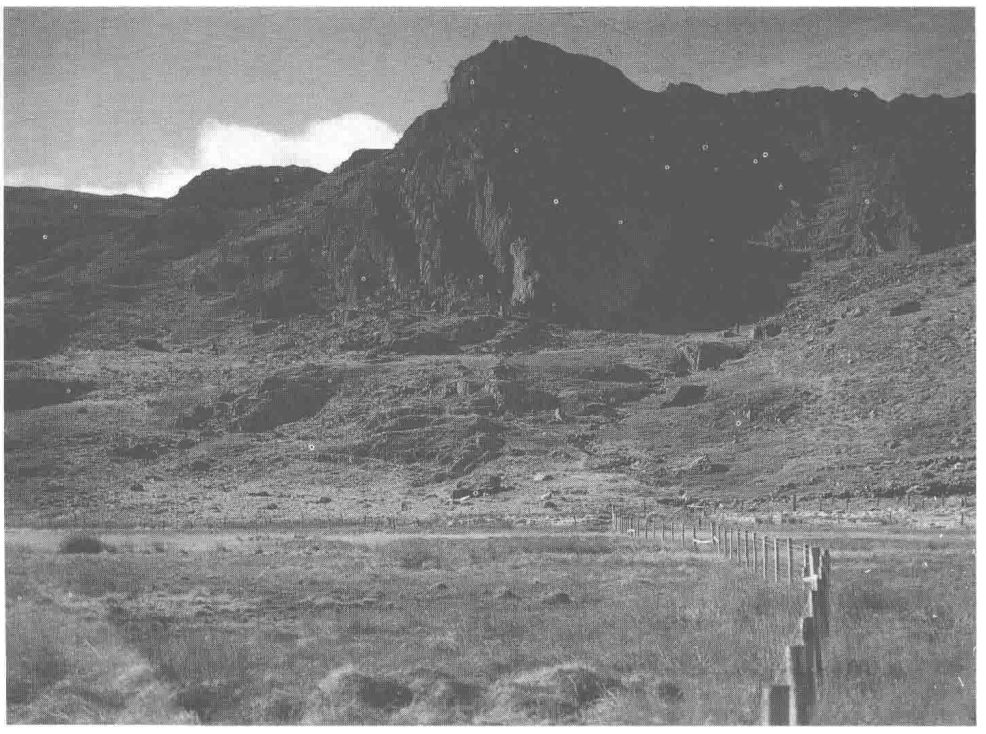

FIGURE 2 Snowdonia National Park: a natural or a social landscape?

For example, the grasses and peaty soils are the result of thousands of years of human involvement in the land. Much of this land has been deforested in the past two thousand years and used for grazing sheep. If the sheep were removed, under present climatic conditions, the landscape would soon be dominated by scrub. The sheep are domesticated breeds that owe their form to generations of selective breeding. They are not just domesticates (which literally means brought into the house, or we could say 'socialized'), they are also commodities. Their status as marketable products is linked into a whole range of social institutions. These include land and property rights (notice the fence running across the landscape), currency markets, the Ministry of Agriculture, the European Commission, the radiation from the nearby nuclear power station, wholesalers, supermarkets, consumers of lamb meat and wool products, and production and transportation economies that link this scene to places as far away as New Zealand. All of these are tied into the Snowdonia scene in various ways and at various times by virtue of their connection to hill sheep farming. And the connections can shift in ways that can change our 'natural' scene. For example, as financial subsidies to farmers are cut, as dietary habits change and as imports become cheaper, the economics of hill sheep farming in areas like Snowdonia may become more marginal and precarious.

If the economics of hill sheep farming become any more marginal than they already are, then the landscape might change very radically indeed. In order to preserve this scene, the National Park authorities, the National Trust and other organizations will not only have to protect wildlife and vegetation, they will also have to protect the farmers and their livelihoods. To do so, money will need to be raised from elsewhere. The ability to raise money will partly depend on the wider population valuing this scene. In sum, the ecology of this scene not only includes the plants, animals and climate of North Wales, it also includes a wide range of equally changeable social and economic relations.

These examples may have convinced you that nature and society are indeed two sides of the same coin. The following four chapters will contain further examples and issues that should convince you even further. We can now state our first major aim of this book. It is largely inspired by feminist social sciences and more lately by the work of the French sociologist Bruno Latour (1993).

Aim 1: To demonstrate that nature and society are rarely if ever purely natural or purely social. The social and the natural exist in mixes.

However, we won't stop there. The aim of the book is not simply to demonstrate the entangled character of nature and society. Our second aim is to suggest that this demonstration of impurity is both useful and necessary at the current time. As we embark upon a new millennium, we are faced with increasing evidence that our attempts to understand nature and society as pure categories (Figure 1) no longer suits our world. We could not, for

example, see an easy way to manage the environment in Snowdonia without understanding something of the nature and society mix that exists in this part of Wales. Nor could we hope to make an informed decision on the implications for human beings of new genetic technologies without understanding the social and natural mix that goes into being human. In short, in this world where risks and uncertainties seem to be piling up on top of one another, we need ways of understanding that refuse to purify the world into nature on the one hand and society on the other. If we are to make improvements to people's lives, not to mention other species' lives, then any attempts to understand nature without society, or to understand society without nature, will prove insufficient to the task. We can now state our second aim.

Aim 2: To demonstrate the importance of considering nature and society together at a point in time when we seem to be faced with ever increasing uncertainty and risk.

The final aim of the book is to demonstrate that the social sciences provide some of the most promising vantage points from where we can start this difficult task of thinking about nature and society as two sides of the same coin. Too often, it seems, environmental and bio-medical questions are left to 'scientific' experts. This is particularly the case in Britain. The result is that we approach nature and society questions by either ignoring society altogether, or by using models of society that are out of date or grossly simplified. This book, therefore, contains a significant amount of work that will introduce you to some of the approaches and techniques that are used in the social sciences. Likewise, the text is written so as to emphasize the ways in which social scientists develop arguments by engaging with different kinds of evidence. So here is our third and final aim.

Aim 3: To demonstrate the resources and skills that social scientists can bring to social and natural issues and debates.

In Chapter 1, Steve Hinchliffe and Judith Greene ask what it means to be a human being, looking at the similarities and differences between and within species. These ideas are developed by focusing on the roles of genetic and social inheritance as ways of understanding children's intelligence and cognitive development. The chapter presents the various arguments for and against natural inheritance and looks at the kinds of evidence used to support researchers' claims. This focus on inner nature continues in Chapter 2 where Brenda Smith and David Goldblatt discuss health and illness. The chapter takes you through various ways in which our bodies and health are understood. Behind each of these is a different understanding of nature and society relations and the authors demonstrate how each has its successes and failures. Through a history of British health policy, Brenda and David also demonstrate how our approach to inner nature and health is bound into particular versions of society. The current emphasis given to lifestyle and risk, which on the face of it sounds as though it manages to integrate social and environmental issues, is linked to a broader move in society to individualize

responsibility for health. The integration of environment and society is taken up in Chapter 3, where Sue Himmelweit and Roberto Simonetti discuss the role of markets in the production of environmental degradation. As they are currently organized, markets tend to place no value on large areas of life that we have become used to calling nature. The authors demonstrate in detail why this under-valuing occurs and then critically examine the kinds of policies that economists have devised to deal with the problem. They argue that integrating nature and society may be possible through market adjustments, but we need to be careful to think politically as well as economically when we try to implement these policies. Finally, in Chapter 4, Steve Hinchliffe takes a more explicit look at living with risk. The argument in this chapter is that risk is often intensified when nature and society are considered as separate matters. He argues that the only way to improve our chances and live with risk more effectively is to seek ways of successfully combining nature and society in our understanding and in our practices. Steve Hinchliffe uses examples from around the world, including natural disasters and food scares, to illustrate the argument.

Each chapter develops its own approach to society and nature issues. The result is a breadth of treatments and approaches. Uniquely, we range over a wide territory, not content to limit ourselves to inner nature or to what are more conventionally called environmental questions. We move from genes to planet earth and back again. In doing so we hope to demonstrate the interconnections between these subject matters and between the various social scientific approaches that we take to them.

Reference

Latour, B. (1993) *We Have Never Been Modern*, London, Harvester Wheatsheaf.

Human nature

chapter 1

Steve Hinchliffe and Judith Greene

Contents

1 INTRODUCTION

This chapter confronts a set of issues that have become especially prominent in recent years. The overarching question is: what does it mean to be a human being? This question has two meanings. First, it asks: what does it mean to be a member of a group called 'human'? What marks that group out? Does this group share a range of similar features? Are these features biological, social or a mixture of both? Second, the question can be read as: what does it take to be a particular human being? We share similarities but we also like to think that we are all different, and unique. What are the bases for our similarities and differences? Are they natural matters, social matters or do we need to consider the social and natural at one and the same time?

These questions are old questions, but at certain times they seem to take on a special poignancy. The present seems to be just one of those moments – for two reasons. First, as the last century came to a close, it seemed to have become more difficult to see human beings as standing outside the natural world. Environmental catastrophes have made us aware of the links and dependencies that bind human beings and being human to other species and environments. We often congratulate ourselves, as a species, on our intelligence, but if this leads to widespread ruin we may in fact have been kidding ourselves all along. As we embark on a new millennium, many people are arguing that it is time to give some thought to what it now means to be a member of a human species in a wider world.

The second reason for addressing the question what it means to be human relates to the increasingly prominent role that is given to our biology, and more specifically to our genes and their DNA, in accounting for our births, lives and deaths. 'It's all in the genes' is a common response to issues as unrelated to one another as our species' war-mongering, altruism, religious organizations, and methods of care. Likewise, individual differences are increasingly explained by referring to our genetic inheritance. Characteristics as diverse as criminal behaviour, gender, health, intelligence, musical talent and so on are increasingly subject to genetic arguments. (For critiques of genetic explanations for criminality and gender, see Mooney *et al.*, 2000 and **Gove and Watt, 2000** respectively.) What is frightening is that these explanations are becoming so popular that they are starting to have consequences. As the technology to 'read' our genetic 'make up' progresses, it has become more than a possibility that this information will be available to potential employers, health insurers, even to sexual partners. If these people believe that your character, health and so on can be read off from your genetic code, then they may use it to decide whether or not you are worthy of their business. Their assumption would be that you have a biologically determined, and therefore fixed, identity; that is, you are what you are. There

is no room for change. Your identity is fixed before you have even done anything (see **Woodward, 2000** for a more dynamic notion of identity). This questionable approach to identity may yield a form of 'knowledge' that can even be used to decide whether or not people should be born in the first place. It is worrying that people are even beginning to talk about 'designer babies'. As the feminist science critic Hilary Rose (1998, p.84) suggests, 'while tasteless, absurd, even impossible, the dream of the perfect baby takes its place alongside other consumer fantasies, of the perfect house, suit, job, garden, partner, etc.'

Part of the reason for this new growth in theories that suggest that our identities are determined by our inner nature or biological structure is due to a relatively recent preoccupation with the science of genetics and with genes. The word 'gene' simply derives from 'genesis', the beginning. Genes are treated by some as the root or beginning and therefore the explanation or cause of everything else (from our birth, to our growth, to our demise). As we shall see, for social scientists, this explanation of human being is far too biological. Interestingly, a number of biologists also reject the idea that life can be understood in terms of genes determining how we or any other member of any other species act (see, for example, Lewontin, 1993). Given the use to which genetic explanations are being put, it is crucial that we clearly demonstrate what else is at stake when it comes to being human. To do this we need to look at the ways in which biology *and* society interact to produce the human species and individual differences within that species.

Three major themes run throughout this chapter. The *first theme* focuses on this issue of human being (or being human). We investigate some of the similarities and differences between and within species. In Section 2 we look at evolutionary explanations of species identity. Sections 3 and 4 focus upon intelligence as an issue that allows us to develop an understanding of the natural and social interactions that go to produce a 'specific species', and variation within a species. The argument will be that, far from intelligence being solely a matter of genes, or of any other aspect of our inner nature, it is the interrelationships between what we have inherited from our parents and all manner of environmental and social interactions that produce differences in intelligence.

The *second theme* is a focus upon the mechanisms and processes that result in similarity and difference within the human species. We will be concerned to demonstrate the ways in which our social and biological lives interact (so much so that it becomes futile to tell them apart). We do this by drawing upon a number of case studies that have been important in social science thinking. In Section 2, we start this discussion by looking at ideas of change over time (evolution). In the two following sections we look at studies of identical and non-identical twins (Section 3) and childhood learning and development (Section 4). The aim in the first case is to review some of the ways in which children who have inherited the same genetic material from their parents can develop striking differences as well as similarities. In the

childhood development section, the aim will be to understand the roles of natural and social interactions in producing similarities and differences in the ways in which children learn.

Our *third theme* in this chapter is concerned with social science investigation. We shall be looking at the kinds of methods and evidence that social scientists use to study human attributes and the processes that produce those characteristics. In particular, we will be concerned to demonstrate the role of evidence in building up arguments and making claims.

2 WHAT IS HUMAN NATURE?

This section has two aims. The first aim is to explore the processes that are thought to go into the production of a separate species. The second is to open up some ideas on the processes that produce differences within a species. In both cases, the suggestion is that it is unsatisfactory to give precedence to inner nature, outer nature or to society in explanations of species being. Rather, we need to see these categories as fully entwined in order to understand species differentiation. (The term 'species being' was coined by Karl Marx, and is used here to describe the characteristics, the similarities and differences, that exist within any one species grouping. As we shall see, species being is explained in various ways by biologists and social scientists.)

2.1 The origin of the species

We would probably have answered the question 'where do we come from?' very differently two hundred years ago. At that time, human beings and all the other species that inhabit the earth were generally thought to have been placed there by a supernatural power at the creation. After this beginning, or genesis, everything stayed pretty much the same. In terms of longevity, this theory of species form and being was powerful. It lasted for much longer than most theories do today. But, during the eighteenth and nineteenth centuries the theory started to creak under the weight of new evidence and argument. The most famous evidence was that of the fossil record, which showed not only that species come and go – they appear in the record and then become extinct at various times – but also suggested that species' forms changed over time. In other words, far from being fixed, the worlds of plants and animals (and, it was increasingly being argued, that of humans) were dynamic and changing. The word that captured these ideas of a changing world was **evolution**. It simply means change over time.

Evolution
Change over time. The evolution of a species is thought by followers of Darwin to occur through natural selection.