# INTRODUCTION

FOR HUNDREDS OF THOUSANDS OF YEARS, OUR ANCESTORS LIVED IN relatively egalitarian foraging bands. Then, a few thousand years ago, they began to form increasingly larger-scale societies in which social hierarchies played a central role. Early chiefdoms, kingdoms, and city-states placed relationships of dependence and subordination at the center of social life. With the construction of the modern state and its expansion around the world, humanity has departed from social arrangements rooted in our deepest past, perhaps for good. What made this departure possible? Large-scale hierarchical societies are neither natural entities nor the outcome of our ancestors' deliberate planning. As philosopher Adam Ferguson (1819: 222) would have said, they are "the result of human action, but not the execution of any human design." How can we explain their astonishing resilience and capacity to spread to new cultures?

Questions like these can be answered in different ways. One way of looking at the problem is from a functionalist viewpoint. What are hierarchies for? What is their use? This is certainly the approach favored by modern social contract theorists such as Hobbes, Locke, and Spinoza to account for the existence of the state. The state enables humans to overcome the situation of insecurity that pervades the state of nature. It facilitates collective action by bringing people under one rule. There is something true in this view, but pointing out the function of an institution does not properly explain its origin. It might help justify the state or clarify why it should come about, but it says nothing about how it came about in the first place.

The most common way to move away from justification and toward explanation is to examine specific historical transitions to statehood. Anthropologists, archaeologists, and historians are expert at this task.

They identify variations in ecological constraints, beliefs and motivations, power struggles, and economic practices that have an impact on institution-building and refitting. They make extensive surveys of regions such as Mesopotamia, the Nile Valley, or the Yellow River Valley, describing the historical sequences that led to the emergence of early states and civilizations.

This book proposes an inquiry of a different nature. It does not aim to replace classical answers proposed by students of early state societies, but to supplement them with a reflection on human social cognition and its evolution. My interest is not to explain why the state has arisen in one or another historical context (Mesopotamia, Egypt, China, etc.), but how humans in general end up in social arrangements that are as different as small foraging groups and large-scale modern nation-states. In other words, I am not interested in explaining specific transitions but in explaining how social cognition makes possible and constrains the range of institutional outcomes found in human societies. Why are human beings sometimes capable of resisting exploitative social arrangements and at other times not? Why are societies in which millions of individuals interact never devoid of vertically integrated social hierarchies, whereas no societies comprising a few hundred individuals present anything like them? What in the human mind explains this regularity?

I propose to answer these questions by reference to the evolution of human sociality. I call this enterprise a "natural history" because it explains the frequency and stability of hierarchical and egalitarian social outcomes by reference to behavioral and cognitive traits that evolved long ago in the human lineage. I will argue that these traits distinguish modern *Homo sapiens* from any other species living on earth.

Approaching social hierarchies from a naturalistic viewpoint might seem odd to many students of human societies, but it is not an unprecedented enterprise. For instance, Rousseau favored a similar approach in his *Discourse on the Origin of Inequality*. He wrote the following in his preface:

> For how can we know the source of inequality among men unless we begin by knowing men themselves? And how will man come to see himself as nature created him, through all the changes that must have been produced in his original constitution in the course of time and events, and how can we separate what he owes to his inborn resources

> from what circumstances and his advances have added to or changed in his primitive state? (Rousseau 1999: 14)

To be sure, my inquiry will bring me to a conclusion quite different from the one proposed by Rousseau, but this should not be too surprising given the two and a half centuries of scientific advancement since the first publication of his second *Discourse*.

The past 250 years have seen the rise of professional anthropology, which has expanded our knowledge of nonstate societies from around the world. These years have also seen great advances in archaeology, which give us an approximation of the long-term evolutionary sequences that led to the emergence and decline of early states in both the New and Old Worlds. Yet the rise of modern science has given us more than just a better idea of the variety of human societies; it has also clarified the place of humankind in the natural world in a way that was unknown to Rousseau and his contemporaries. Paleoanthropologists have revealed the unexpected depth of human history, at the same time that biologists have developed the tools to understand the evolution of our species. We now know that modern humans and apes are descended from a common ancestor that lived about 6 or 8 million years ago in Africa and that the psychological features that are unique to modern *Homo sapiens* evolved between that time and today. This knowledge should inspire new reflections on the origins of inequality among human beings.

This is certainly not the first book to propose a naturalistic approach to understanding human society and culture. It finds its place within a recent trend of reexamining classical issues in the social sciences in the light of cognitive science and evolution. The objective of these approaches is not to replace but to supplement traditional accounts by examining how features of human psychology affect cultural transmission and explain the regularity of certain types of social arrangements. Philosophers, anthropologists, and sociologists of a naturalistic bent have explored among other things the evolution of music (Mithen 2006), mating (Buss 1994), religion (Atran 2002; Boyer 2001), race (Hirschfeld 1996), kinship (Chapais 2008), morality (Hauser 2006; Joyce 2006; Nichols 2004), cultural transmission (Richerson and Boyd 2005; Sperber 1996), cooperation (Henrich and Henrich 2007), the economy (Seabright 2004), and language (Christiansen and Kirby 2003; Deacon 1997; Dunbar 1996a; Pinker 2007). In contrast, very little attention has

been paid to the question of political organization as such. This lack of attention is rather curious given the importance of this issue in evolutionary approaches to social anthropology from the 19th century (in the works of Edward Tylor or Lewis H. Morgan) into the 20th (in the works of neoevolutionists such as Marshall Sahlins, Elman Service, and Morton Fried). One of the key objectives of this book is to encourage a more extensive use of evolution and cognitive science in the study of political evolution.

In one of the few books directly addressing the question of hierarchies from a naturalistic viewpoint, anthropologist Christopher Boehm (1999) emphasized the peculiarity of humans' evolutionary trajectory. At some point in their evolution, humans got rid of ape-like dominance hierarchies. Foragers could maintain a relative equality for a while before hierarchies progressively reappeared in the form of large-scale societies during the Neolithic era. Boehm (1993, 1999) has probably illustrated better than anyone the various mechanisms (e.g., ridicule, ostracism, violence) that foragers, as well as numerous pastoralists and horticulturalists, have used to prevent aggressive individuals from establishing their dominion over others. Unfortunately, Boehm has not explained exactly how hierarchies could reappear and prosper in a species that maintained an "egalitarian ethos" for so long. Like many others (e.g., Knauft 1991), he instead more or less has presented modern human hierarchies as a reappearance of ape-like dominance hierarchies. Yet this comparison is misleading. This book aims to show that hierarchies in humans rest on radically different grounds from those of other hierarchies among primates. This is not to say that human beings are nicer or that humans are not prone to behaviors of dominance and aggression. Indeed, the existence of social hierarchies paves the way for forms of aggression and exploitation unseen in the natural world. Yet these forms, where they exist, must be explained by reference to several features that are unique to human psychology and culture.

To make this point, this book draws together data from various disciplines. Some of these disciplines are concerned with human psychology and decision making (cognitive neuroscience, psychology, experimental economics), some with human societies and institutions (anthropology, sociology, political science), and still others with human evolution and humans' place in nature (ethology, primatology, paleoanthropology). This book is probably different from other books in the naturalist spirit because of its emphasis on evolutionary anthropology and especially on the evolution of the genus *Homo*. Evolutionary investigations in other

works have usually been centered on comparisons between humans and primates, as well as on the selective pressures or selection processes that led to the evolution of properly modern human psychology. In this book I discuss some relevant features of primate cognition, but I mostly abstain from discussing selection pressures and selection processes. This should not be interpreted as anti-Darwinian. Many interesting hypotheses have been put forward about how and why features related to human cooperation and social cognition might have evolved in the human lineage. Theoretical models have been proposed to weigh the plausibility of different mechanisms (kin selection, direct and indirect reciprocity, strong reciprocity, group selection) to account for the selection of various psychological features (e.g., Gintis et al. 2005; Henrich and Henrich 2007; Richerson and Boyd 2005; Sober and Wilson 1998). The value of these models is indisputable, but we should keep in mind that they explain how human psychology *could* have evolved and not how it actually evolved.

Thus my own focus is different. For the most part I put aside questions of selective pressures and selection processes and attempt to track the evolution of specific psychological mechanisms in the human lineage. I think that this step of the inquiry has been neglected, but I argue that it is indispensable if we are to learn more about selective pressures and selection processes. Evolutionary psychologists have coined the concept of "environment of environmental adaptedness (EEA)" to refer to the social and ecological context in which human-specific psychological features evolved (Barkow, Cosmides and Tooby 1992; Bowlby 1969). Yet we cannot ignore the fact that australopithecines, *Homo erectus*, and Neanderthals occupied very different niches and faced significantly different selective pressures (Irons 1998: 195). Understanding how a specific psychological feature might have been adaptive implies understanding when it evolved, or, in the words of Robert Foley (1995: 196), "what is a part of the general goal of evolutionary anthropology is to establish what did happen during the course of human evolution and what impact this may still have." Obviously, archeological data remain scarce, and we can only look to large behavioral transitions for evidence of potential cognitive changes. This book does not aim at providing anything like an exhaustive theory of human evolution, but rather at the more modest goal of offering a plausible framework for thinking about the moment when some of the central features of human sociability evolved and how they changed human societies.

Chapter 1 sets the stage for the natural history that is presented in the rest of the book. It aims to provide the reader with a clear picture of the cognitive and motivational mechanisms underlying sociability in modern *Homo sapiens*. I refer extensively to research in experimental economics, cognitive psychology, and neuroscience to describe how social sanctions, norm following, and moral judgments function. My general point is that, although humans have a certain aversion to inequality, the production of egalitarian social arrangements cannot be understood as the straightforward outcome of this disposition. The production of equality, just like the production of inequality, must be understood in the broader context of the human disposition to follow social norms and to sanction their violation.

Chapter 2 offers an account of the evolution of social behavior in the genus *Homo* prior to modern *Homo sapiens*. It begins with a discussion of the similarities and differences between human and nonhuman primates to highlight certain relevant features of social cognition and behavior that are likely to have been present in their last common ancestor. From this comparative starting point, I then move to a discussion of the archeological evidence in favor of behavioral changes in the human lineage. The crux of the argument is that, in hominins, the act of opposing dominant individuals involves a form of cooperation. Thus, by tracing evidence in favor of enhanced cooperation, we can indirectly find evidence of hominins evolving the capacity to disrupt dominance hierarchies. I contend that early members of the species *Homo erectus* evolved the specific motivations that facilitated cooperative feeding in everyday hunting/scavenging games. In a second step, I argue that the encephalization process during the Mid-Pleistocene era led to the emergence of enhanced cognitive control, thanks to which *Homo heidelbergensis* could more easily stick to social norms and engage in long-term cooperative ventures such as those connected with mating and reproduction. I infer from this evidence that Mid-Pleistocene hominins' disposition to conform to social norms was sufficiently similar to what is found in modern humans to be able to disrupt traditional dominance hierarchies.

Chapter 3 explains the behavioral and cognitive specificity of modern *Homo sapiens* as it evolved in Africa between 200,000 and 50,000 years ago. At that time, symbolic artifacts begin to appear in the archaeological record, along with the first evidence of long-distance exchanges between groups, structured living spaces, and more rapid cultural transmission. I present an explanatory framework that links the behavioral

data with *Homo sapiens'* enhanced ability to coordinate conflicting perspectives on objects and concepts. The argument is justified at the cognitive and neurological levels and fares better than traditional views that link behavioral innovations in *Homo sapiens* with the evolution of language or the growth of the prefrontal cortex. Chapter 3 sets the stage for the rest of the book, as the cognitive abilities that I describe create new possibilities in terms of social organization that indirectly paved the way for the resurgence of hierarchies among humans. For instance, the capacity to coordinate different perspectives makes it possible to collectively attribute conventional statuses to particular individuals so they can then speak on behalf of the group.

The last two chapters of the book are dedicated to hierarchies in *Homo sapiens*. I am no longer interested in the evolution of the mind properly speaking, but in spelling out the consequences of the cognitive changes, described in the preceding chapters, for the evolution of human societies. Chapter 4 addresses the question of equality and hierarchy in nonstate societies. I examine the claims of neoevolutionism in social anthropology concerning the link between group size and political organization. I argue that this link has never been defended convincingly and that this has justified many criticisms of neoevolutionism. As with nonhuman primates, I suggest that increasing group size puts pressure on humans' motivation to cooperate. The scarcity of time and humans' limited social memory endanger efficient sanctioning of deviant behaviors in large groups and create incentives for fission as population grows. I argue that the only way for groups to grow beyond the size of foraging bands (a few dozen individuals) is to maintain what I call a "social division of sanction" and to attach to some individuals the duty to sanction normative transgressions within a certain domain. Like neoevolutionists, I argue that the growing politicization of kinship groups in larger tribes (e.g., African lineages, Iroquoian clans) should be explained by the need to maintain social order among more and more people. Small foraging bands will thus tend to be more egalitarian, and larger tribes will show increased social differentiation. My argument is nevertheless distinct from that of the neoevolutionists in that it explains this feature of human cultural evolution by cognitive constraints on human memory and willingness to sanction. It also explains why, at the cognitive level, the division of sanction and the growth of large-scale societies depend on perspective-taking abilities unique to *Homo sapiens*.

Chapter 5 pushes further the argument proposed in Chapter 4 to account for what probably remains the most significant political change

in human history: the development of the state. I review classical definitions of the state and theories about its origins. I argue that the most significant turning point between nonstate and state societies occurs when an individual is authorized to delegate to others the power to sanction normative transgressions. This is the beginning of political centralization and of the hierarchical integration that characterize many state institutions: the military, juridical, administrative, and (sometimes) religious systems. Here again, I use the nature of human sociality to explain the prevalence and resilience of the state as an institution. State societies have a decisive advantage over nonstate societies when it comes to the mobilization of large populations in collective action. This advantage finds its roots in the relationships of dependence that exist within state hierarchies. I contend that the dependence of subordinates creates a feeling of gratitude in them that tends to inhibit their willingness to sanction their superiors, which, in turn, creates a context of impunity favorable to rulers. This specific feature of state societies explains why rulers are both more efficient in providing public goods to large-scale populations and can be more exploitative.

# 1

# A PASSION FOR EQUALITY?

THE CLAIM THAT HUMANS HAVE A PASSION FOR EQUALITY MAY RAISE an eyebrow among some readers. Indeed, inequality not only pervades our own postindustrial civilization but also seems to have been part and parcel of all previous societies, as expressed in feudalism, slavery, gender inequality, and the like. However, to say that we have a passion for equality is not to say that it is our only passion. The human mind is complex, and many competing motives struggle to determine our behavior. Moreover, calls for equality can be based on motives (envy, spite, malevolence) that have little to do with equality as such.

The natural history that I propose is one in which the passion for equality has force in the human lineage, but remains in competition with other motives to produce societies as diverse as small foraging bands and continental empires. In the following chapters, I argue that egalitarian social arrangements in *Homo sapiens* and extinct human species should not be explained as the direct outcome of a passion for equality, but rather in the broader context of the evolution of the motivational and cognitive mechanisms underlying norm following and sanctioning. In the proper circumstances, these very mechanisms are also likely to permit the evolution of hierarchical and inegalitarian arrangements. Before I get into the phylogenetic and historical debate on the origins of hierarchies, however, I want to discuss *Homo sapiens* as we know it today. This chapter is entirely dedicated to *Homo sapiens* and to an examination of its social behavior.

I begin with a discussion of the way in which the recent literature in experimental economics has revived the interest in punishment (1.1) and in the various motivations underlying this process (1.2). I then argue that punishment must be understood within the larger context of framing, especially of normative framing (1.3). In the following two

sections, I turn my attention to practical reasoning. I argue that both intentions and outcomes matter in assigning praise and blame (1.4) and that emotions are essential to understanding how some norms can get more weight in practical reasoning (1.5). The chapter concludes with a brief presentation of how norm following and sanctioning are realized in the brain (1.6). My objective in this chapter is to provide readers, especially those unfamiliar with the recent literature in the brain and behavioral sciences, with an updated picture of how norm following and sanctioning function in our species. This picture is essential to understanding both how hominins got rid of dominance hierarchies during their evolution and why hierarchies could reappear in *Homo sapiens*.

## 1.1 DISCIPLINE AND PUNISH

For centuries, philosophers have been interested in understanding the subtle mechanisms underlying human sociality. This interest is particularly clear in the works of French moralists such as Montaigne or La Bruyère, who portrayed aspects of human decision making that would only come to the attention of cognitive psychologists centuries later (Elster 1999). The quest for simplicity brought the first social scientists trying to formalize human behavior to abandon the fine description of the human mind provided by their venerable predecessors. The first rational choice theorists broke down human behavior into three parts: actions, outcomes, and preferences for outcomes. They conceived the rational agent as having the ability to order preferences for possible outcomes and to select the action that maximizes his or her utility (von Neumann and Morgenstern 1947).

In many ways the rational choice model was a *normative model*: it prescribed what should count as rational (and choosing not to maximize one's utility should not). However, the rational choice model did not prescribe a lot. It did not specify what outcomes people should prefer. Moreover, the model did not explain how agents should map actions and outcomes and how they should compare the utility of alternative actions. In brief, the rational choice model was silent on the cognitive and motivational mechanisms underlying decision making. Yet its simplicity did not prevent the rational choice model's access to fame – far from it. In an assessment of the model's influence, Green and Shapiro (1994) estimated that rational choice methodology inspired one of three scholarly papers published in the *American Political Science Review* in