INTRODUCTION

The aim of this book is to introduce the basic notions of prehistoric archeology, discussing the important role it plays in our understanding of the modern-day human condition and considering how lessons learned from the distant past can be useful tools for preparing the future of our species, *Homo sapiens*. As a specialist in stone tool technologies, I have been involved in the field of prehistoric archeology for one-quarter of a century, focusing the gist of my work on the origins of first technologies made from stone and observing how they evolved through time. Most of my own work has focused on African and Eurasian archeological sites and their stone tool collections because these areas of the world up to now have yielded the oldest technologies known to humankind. My inspiration in writing this book comes from a deep-seated need to substantiate an old adage, in the words of Carl Sagan: "You have to know the past to understand the present."[1] Indeed, I set out on this project because it seemed to me that this idea, although not new, is not, in fact, so easy to materialize from data gleaned from the prehistoric archeological record. Finding links that will enable us to understand lessons learned from the remote past and using them to guide our species toward a brighter future may seem particularly nebulous for those estranged from the world of scientific investigation that is the very foundation of work in prehistory. It seems to me that so much of the information that is amassed by prehistoric archeologists remains inaccessible to many people simply because (more often than not) it is lost in complex methodologies, intricate graphic representations and statistical analyses of data sets whose meaning appears far removed from our daily lives. The information processed in archeology requires a wide knowledge of elaborate concepts of human evolution that

can be grasped only after years of training in the specialized disciplines linked to prehistory (paleontology, geology, geochronology, to name just a few). In spite of this, I have found that the public maintains overall a keen interest in topics relating to human evolution even as it grapples with comprehending the long-term chronological frameworks and complex foundational cultural divisions, which tend to be diachronic and increasingly multifarious as we move through time. The main aim of this book, therefore, is to provide a synthetic, long-term view of the emergence and evolution of our species and to afford some answers as to how and why we came to be what we are in order to gain a clearer vision of what we might become in the future. To do so, I have based this book on my own experience as an archeologist and on my knowledge of prehistoric archeology, focusing my discourse on a number of key archeological sites situated mainly in the Old World.

The first part of this book (Chapters 1 and 2) outlines just what "prehistory" is and describes the different disciplines that are included within this vast and composite field of knowledge. I provide an overview of some of the foremost anatomical and cultural milestones that have contributed to defining humanity, bringing us to the point that we find ourselves in today's world. Obviously, it would be impossible to include every single element affecting the human evolutionary pathway (anatomical, climatic or other) that has fortuitously guided human development from ancient hominin forms up to the present-day hegemony of the single species of *Homo*: *Homo sapiens*. Rather, I concentrate my discourse on what I feel is the main influencing factor in the human evolutionary sequencing: the invention and evolution of technology. We shall explore together how and why the first stone tool technologies were invented, looking at the social and cultural implications of this groundbreaking event in the so-called hominization process. We shall see how, over time, toolmaking came to be the single, most important defining criterion for our species, today even affecting all other life forms with which we share the planet. Undeniably, and perhaps surprisingly, it is precisely these ancient stone and bone tools that have provided up to now the only foundation with which prehistorians have defined the human cultural succession throughout the entire Paleolithic Period.

In the next chapters (Chapters 3–5), I follow through on defining what it means to be human, taking a look at how we evolved and differentiated ourselves from other types of primates by developing innovative technologies and, by extension, heavily investing in the expansion of culture. I further explain how procedural evolutionary forces developed from within the first stone tool assemblages would eventually lead the ancestral members of the *Homo* lineage to unprecedented reliance upon their tools, surpassing by far that demonstrated by any other of the known tool-using species. I guide you, my readers, along this fascinating pathway as we observe together how early humanoid forms carved out the unique destiny that would eventually lead us to ultimate planetary domination. Beginning with the first bipedal hominins some 7 million years ago, we will explore the emergence of first technologies as the utmost

distinguishing feature of our species. Following a timeline leading from the remote past to our present-day situation, this evolutionary overview throws light on the major stages of our uniquely human story, even as we seek, especially today, to better understand what we are and what we might yet become. Increasing our knowledge about the different evolutionary phases of past human cultures as they are interpreted from the archeological record sharpens our ability to adopt an informed and long-term perspective that, in turn, is helpful for dealing with the major challenges facing the survival of our species today: climate change, racism, immigration, intolerance, terrorism, pollution, and so on. We can only hope that this perspective will contribute in some way to helping humanity to assume worthily the new role we have ourselves carved out for our species: a role of *responsibility* – not only for ourselves and for our children – but also for the planet Earth and all of its life forms.

During the later phases of the Stone Age, anatomically modern humans (AMH) came to be the sole extant species of the genus *Homo* (Chapters 6 and 7). In the spiral of human innovations following up to this situation, we shall see how the technosocial evolutionary processes developed by humans through acculturation have contributed to connecting us so intimately with one another in the process of globalization. As we are melding into our machineries through invented – and often imposed – cultural norms, we feel that we are losing grasp of the very technologies we invent(ed) as they too evolve toward ends we dare not fathom. Through the special lens of prehistoric archeology, I explain what I believe to be some of the reasons for the many incongruities we observe in modern human societies (Chapters 8–12), such as global inequalities, racism and the unprecedented rise of compartmentalized nationalisms. Putting to use some of the data obtained from the study of our ancestral populations and their lifeways, I discuss why humanity maintains such strong ties to religious thought and institutionalized practices, even in a world where scientific advancements might long ago have annulled their credibility. We will examine why humanly driven climate change is today a reality that we must all face together and how we can predict that, in the near future, dwindling resources, such as basic foodstuffs and water and the future global migration crises these will engender will most certainly worsen.

Taking a close look at our present-day situation from a long-term perspective allows us to examine more thoroughly how, when and why humans came to rely on imaginary, symbolic and now virtually created realities in the rapidly changing planetary scenario we are experiencing today. Our actual posture with respect to nature results, inevitably, from a long chain of complex evolutionary processes of biological and technological reactions to real and created pressures that acted (and continue to act) as triggers for change. In today's world, so many of us are feeling the distance we have taken from our "original" and (we suppose) more balanced natural configuration as our journey into the future continues toward unknown pathways. In writing this book, I invite you to partake on this journey through time and space as we demystify some of

the secrets held deep within our ancestral past. My intention is to make the past more accessible by revealing data obtained from prehistoric archeology that I consider highly relevant to the challenges that we humans are facing today (Chapter 13). As each of us gains a clearer understanding of where we came from, then we shall be better equipped to build a sensible and sustainable future for ourselves, our children and all life forms as we step together into the future.