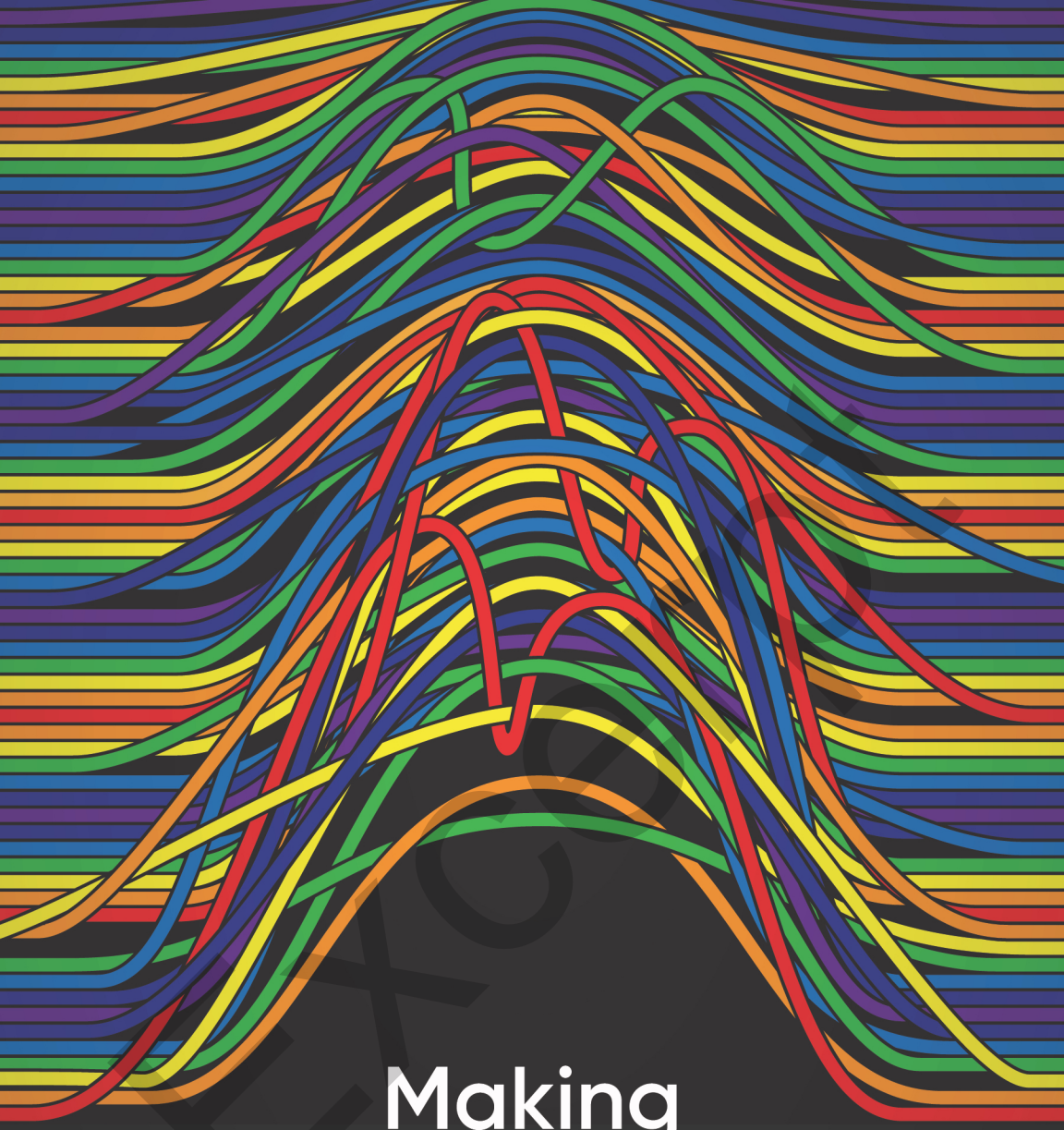

Making Sense of Society

POWER AND POSSIBILITY

Alex Khasnabish

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Introduction

BEYOND THE SILOS

Toward a Social Justice Social Science

This book isn't another standard introduction to sociology and anthropology. There are lots of textbooks that aim to usher students into the hallowed halls of various academic disciplines. These books are produced, factory-like, by every major corporate publisher. Most of them are pretty good in terms of basic content and certainly do the job of introducing students to core concepts and methods. But they are also often cookie-cutter products, created with generic, modular flexibility in mind and with "tailored" content dropped in to suit national contexts. They also tend to reproduce the same tired "dead white guy" disciplinary histories.

This book aims to do something different. Rather than assuming there's something valuable and necessary in these disciplinary approaches and their histories, this book looks at the utility and importance of social science research today. It examines the roots, analytical frameworks, methods, and concepts of this practice, but its primary purpose is to critically explore what social research is, what it does, and what it is and isn't good for now. This book doesn't attempt to create new disciples for the academic disciplines of sociology and anthropology. Many who read this book won't go on to advanced study in the sister disciplines or work in the university. The following questions drove my desire to write this book: What's valuable about social research that people can take with them and use in all their diverse journeys? What does the act of intentionally investigating our lived realities make possible? What can we know that we don't already and what can we do with that knowledge? More crucially, what's useful and important in social research that we can use to build a more just, democratic, and peaceful society? What does the act of rigorously, intentionally, and critically exploring our world offer in the pursuit of addressing the problems that plague us? As I hope to show in this book, the answer is: quite a lot.

BEYOND THE SILOS

The world as we know it is not in good shape. Human-driven climate change threatens our very survival on this planet, while novel diseases wreak havoc on increasingly urbanized, precarious, and impoverished majorities. As a species we have never possessed such technical prowess or produced so much wealth, and yet rarely in history has that prowess been so squandered or wealth so unjustly distributed as they are now. Humanity faces a crisis complex of global proportions, but we do not confront these crises in the same way, with the same resources, or with the same expected outcomes in all areas of the globe. On top of it all, it hasn't taken our experiment in mass, industrialized, capitalist civilization very long to enter into crisis. That doesn't bode well for how it will weather current crises or those to come, particularly because it is their source. Given the complexity and interconnectivity of our modern ways of living, shocks to them can have incredibly widespread and acute effects, as 9/11 and the "War on Terror," the 2008 financial crisis, and the COVID-19 pandemic all illustrate. Imagining a time when it was possible to have easy faith in the idea of progress, that the future was necessarily going to be better and brighter than the present, is increasingly difficult. Despite the knowledge, technical skill, and resourcefulness of humanity, we live in a time awash in pessimism and a self-fulfilling belief in the inevitability of collective decline. Conspiracy theories proliferate, spreading virally through digital channels, and the spectre of fascism looms over us again as people lose faith in dominant institutions, power relations, and worldviews.

But is the future necessarily darker? Are we collectively doomed to disastrous decline like some B-rate zombie apocalypse film? Are comfort and security achievable only through individual success, accumulation, and consumption? Is collapse inevitable, or are alternative futures available to us? Are social problems like rampant wealth inequality, white supremacy, and misogynist violence solvable?

The act of critically, rigorously, and intentionally investigating a given phenomenon is what research is. It rarely provides us with simple or easy answers, but without it our world is a mystery, and we can't act effectively. This book introduces tools that can be of significant use in figuring out and then acting in the world. I'm not interested in convincing you that social research, or the allied disciplines of anthropology and sociology that form its root system, is the best or only way to explore the world. But the tools it provides us have been tested and proven useful, if not unproblematic.

As I show in this book, we abandon our critical capacity for evidence-based exploration at our peril. While we are right to be skeptical of ruling-class stories about our current, deeply broken world order, the solution to the problems we face does not lie in gut-reaction mysticism or baseless social media–fuelled conspiracism. It lies in our collective capacity to rigorously make sense of our world and to figure

out common solutions to the challenges that confront us. Our social worlds are not made up of atomized individuals pursuing their narrow self-interest. Society isn't just the sum of all our individual actions. It's a product of social relations and institutions, and those are things we can explore and understand. If we can do that, we can act on them in better informed and more effective ways.

The focus of this book is on critical, contemporary social research rather than any specific discipline, although the legacies of anthropology and sociology feature prominently. These sister disciplines make up the foundations of this book, and we explore them as we move forward, but this book intentionally crosses borders rather than respects them. While the university is still, for the most part, divided into disciplines as a way of organizing knowledge and education, it has become increasingly common to see the boundaries between disciplines blurring. That's happened for many reasons, some exciting and worthy, some cynical and convenient, but suffice it to say that many students today find themselves learning across disciplinary traditions rather than restricted to them.

While it's not true for all disciplines, socio-cultural anthropology and sociology have grown increasingly closer since their inception more than a century ago. While die-hard disciplinary warriors may continue to fight border skirmishes, many practitioners agree that these two scholarly fields share much more than they don't and look increasingly similar. We have many of the same intellectual touchstones, look at many of the same problems, and draw on the same basic methodological toolbox. Many institutions, including my own, unify anthropology and sociology in a single academic department with a curriculum that grows from both disciplines. So it makes sense to look at what social research conducted from this widely shared foundation looks like and what it offers.

Another reason to write a book like this is less academic and more political. Like all modern schooling, postsecondary education is a powerful social institution enmeshed in dominant power relations. This doesn't mean that institutions like schools, universities, and colleges are nothing but a tool of ruling-class domination, but they're certainly not innocent in terms of their role in maintaining the status quo. Schools of all kinds are training, credentialing, and sorting machines. While it's a nice bit of liberal mythology that education is a "public good" and a key aspect of social uplift, modern schooling in the Western world came into being not out of a grassroots demand but at the behest of capitalists who wanted to ensure that workers-to-be were being prepared socially and technically for the work world. Schools are critical institutions in cultivating capitalist work discipline and disciplined social subjects, which means coming to know and internalize the norms and values appropriate to the context. Under white supremacist, heterosexist, patriarchal, settler-colonial capitalism, such norms and values include hierarchy, competition, hyper-individualism, status

obsession, profit-seeking, predatory accumulation, and conspicuous consumption. This is of course not all that education offers us, but this is its foundation under prevailing ruling-class relations.

The segregation of knowledge into discrete, bounded, and policed fields is one way of cloistering it and keeping it in the hands of the credentialed experts rather than opening it up democratically to all. Like any practice, academic disciplines are not necessarily bad in and of themselves. After all, we do have to organize knowledge and the practices it relates to in some way, whether we're talking about food preparation, dancing, martial arts, or science. At the same time, remaining blindly faithful to increasingly porous boundaries doesn't serve either the pursuit of knowledge or the uses to which learners might put it. Where it makes sense, we need to bring different ways of knowing into dialogue with each other as a way of expanding our own capacity to explore and live decently in the world. This book encourages a more dynamic approach to critically investigating our social worlds by considering the shared legacy of anthropology and sociology and its promise in light of the socio-political, economic, and ecological challenges we face today.

SOCIAL RESEARCH FOR WHAT?

What is seen as worthy of learning and the way in which it is learned are not universal or inevitable, nor are they arbitrary or accidental; they are deeply influenced by the interests of those with the most power and authority. It's no accident, for example, that the school day mirrors the typical waged work day, that students are encouraged to compete for scarce grades and accolades, that forms of discipline and reward structures in schools mirror those in wider society. Education isn't a neutral act; it's deeply vested with power and interest and is directed at producing what those with the most power see as appropriate social subjects. We always have to question the values and orientation at the heart of it. Even the way we organize knowledge and learning is affected by these power relations. In trying to push past a disciplinary focus on anthropology and sociology, I'm not trying to do away with conventional academic disciplines or cheerlead for trendy but often hollow calls for greater trans- or inter-disciplinarity. My ambition is more humble and more radical. I focus our exploration on what makes social research worth doing here and now. I introduce people to the act of intentionally, transparently, rigorously, and critically inquiring into our world and show them why such work matters and what we might do with it.

This book is about contemporary social life and how we investigate it. It's also a book that is fundamentally concerned with building a better, more just, peaceful, and liberated world. Research isn't a politically neutral act. Accepting the status quo is not more bias-free than challenging it; it's actively complicit in reproducing and

legitimating it. That doesn't mean all research is or should be activism, but it does mean that, as social researchers, we have always to be mindful that the ways we identify, explore, and talk about social issues has implications. It also means we must be critically aware of and responsive to the fact that the very act and conditions of research are shaped by prevailing power relations and the interests behind them. What do we see as a social crisis in desperate need of attention and resources and what doesn't make the cut? Who gets identified as a "problem" population in need of surveillance and intervention? What kinds of suffering are written off as the unavoidable if unfortunate fruits of progress? How do we know what's realistic or possible when it comes to alternatives to the social problems that plague us? These questions and so many more point to the fact that research and its results are inherently political.

As we explore the methods and theories that animate social research, we also have to keep excavating its politics. This means figuring out who gets to ask the questions and do the investigating, who and what gets studied, and who does what with the results. This book introduces you to the core elements in the study of contemporary social life, drawing on the allied disciplines of anthropology and sociology. It also asks you to consider what we do with social research and what interests are served in doing it.

In this journey you won't just hear from me. In each chapter you will read short, critical interventions from a diverse array of scholars and practitioners that highlight important contemporary concepts related to the chapter's theme. These interventions not only introduce key concepts from anthropology, sociology, and, more generally, critical social research but also highlight how making sense of society through critical, grounded investigation gives us the ability to act more effectively, collectively, and justly in it. The core theme of this book is that critical social research offers us tools of considerable value in addressing the crises that face us and in building a better society. These are not the best or only tools we need to survive the present and build a better future, but they are important. It's the purpose of this book to show you how and why and what we can do with social research for social justice.

1

BECOMING HUMAN

Diversity and Evolution

Co-authored with Anthony Davis

What does it mean to be human? What are humanity's origins and how do they inform how we understand ourselves now? Was there a clear point in our past when we became human and, if so, what does that mean? Is humanity a destination that we were always moving toward, or is it better thought of as a point in a process of change and becoming? What is the relationship between our species' biology and our social life? Before digging into some of the pressing issues confronting us today, it is vital to understand who we are as one species among many others on this planet. In so doing, we can tease out the elegant relationship between our biological evolution and our *sociality*.

For those of us with ready access to Internet-based media, particularly those of us ensconced in enclaves of relative comfort and security in the *Global North*, there is an increasing tendency to consume our media in silos. We tend to stick to what we know and like, what our social networks know and like, and what reaffirms our values, convictions, and conceptions. Social media is often accused of creating opinionated echo chambers rather than diverse opportunities for communication and engagement. This effect isn't limited to our social media platforms and can even be seen in institutions like the university and the way it produces knowledge about the world. As we progress through the education system, we are encouraged to focus ourselves, specialize our knowledge, and produce expertise with great depth in one area but very little breadth or connection to others. In an environment structured by the capitalist logic that orders society as a whole, academic disciplines and their practitioners are set against each other in a contest for resources, attention, accolades, influence, and prestige. This fuels an unending cycle of conflict and competition that produces a lot of heat but very little light with respect to the social issues and problems at hand.

This has important implications for the story of our human origins. Humanity is neither an exclusively biological nor social state of being — it is both at once. We can't tell the story of who we are as a species without contextualizing that in the web of relationships with environments and other forms of life that make up our existence on this planet. Without letting go of the always important details, when we step back and seek to make connections between different aspects of our collective existence and experience, we are operating according to a *holistic perspective*. By bringing the biological and the social together, we shed critical light on both, and we are able to see our evolutionary journey as a constantly unfolding, never-finished, bio-social feedback loop set in the midst of a diverse ecology of which humanity is only a part.

NATURE VERSUS NURTURE?

Where do our potentials and problems come from and how do we come to know them? Are we born or taught to be who we become? This is more than an abstract debate. The way we understand our social behaviours and their origins profoundly informs how we think about dealing with them. If we understand competition, violence, hierarchy, and domination as pure expressions of our biological makeup, coded into our DNA, then there is no point doing anything to address or ameliorate their social manifestations, including wealth-hoarding, child and slave labour, war, poverty, authoritarianism, sexual predation, and so much more. If we are hard wired to be vehicles for these drives, doing anything to change them or their expressions would be futile, wasteful, and even counter-evolutionary, a denial of our very nature as a species. On the other hand, if we understand phenomena like these purely as products of our social environments, it is easy to lay the blame for them at the feet of the system, some amorphous monolith that looms above us and makes us dance like puppets on strings. While this second perspective has the advantage of not biologically mystifying the nature of domination, exploitation, and oppression, it is just as guilty of positioning an all-powerful force above us and obscuring how social relations are structured and sustained.

Stories seeking to naturalize domination, exploitation, and oppression at inter-personal and global scales have ancient roots in human societies. While pseudo-scientific narratives are frequently deployed in their justification today, justifications for these behaviours have also been expressed in mystical, religious, and philosophical terms. However, simply because domination, exploitation, and oppression exist doesn't make them right, natural, or inevitable; such power relations are only one possibility of our human sociality among many. In addition, it is not enough for these power relations to be imposed on people; they have to be seen as legitimate if they are to endure and to shape people's behaviour and expectations.

In the social sciences, the long-running contest between those who believe human behaviour is determined by our genes and those who contend that it is driven by the environment is known as the "nature versus nurture" debate. Those who come down on the side of "nature" (our genes and physiology determine behaviour) are known as *biological determinists*. They interpret every social problem, issue, and activity as little more than an effect of the supposed underlying human compulsion to carry on our genetic material through offspring. One of the biggest challenges to biological determinism is that the relationship between our genetic information (genotype) and the ways it's expressed through observable traits (phenotype) is not simple. Most traits are the result of a complex interaction between multiple genes and environmental factors (Mehta 2014). While it may be tempting to interpret all social events as if they were somehow unfiltered expressions of our biology, that view is not borne out by genetic science.

One problem of biological determinism is that it explains the status quo in near-mystical biological terms. No geneticist would argue that there is a gene for hierarchy, rampant accumulation, rape culture, war, exploitation, or any number of other social problems in the same way that genes that control eye colour or skin pigmentation. Yet this is what biological determinists argue. They seek to naturalize forms of domination, exploitation, and oppression that are profoundly unnatural. The attempt to explain and legitimate social injustices by recourse to imagined biological causes is known as *social Darwinism*. Despite its name, it has very little to do with the theory of evolution proposed by Charles Darwin and everything to do with the misapplication of scientific knowledge in defence of existing relations of power and privilege.

On the other hand, those who come down on the side of "nurture" (environment determines behaviour) are known as *social determinists,* and they argue that people are basically blank slates impressed upon by the social environment into which they are born. For social determinists, there is no human nature outside of our sociality, and all our activity, potentials, problems, and issues come back to the social context. While this perspective has the advantage of not mystifying and biologizing social issues and power relations, it tends to deny our material, biological existence entirely. While humans as a species are not simply drones carrying out subconscious biological imperatives, our material realities clearly shape our opportunities and potentials. For example, the work of caring for one another is central to our human existence, whether it's raising children, caring for elders, preparing food, or any number of other emotional and physical activities involved in sustaining ourselves on a day-to-day basis. This labour – referred to as "social reproduction" – is a necessary part of our continued existence individually and collectively. We literally cannot get on without it, as anyone who has been forced to go without such care can attest to. But

this biological imperative tells us nothing about how this work gets done, by whom, and under what conditions. These are all social questions.

Under patriarchy, a social relation that privileges men at the expense of women, this critical work of care is overwhelmingly performed by women. This is not because women are essentially more nurturing or inclined to such work than men but because it benefits those with power to sustain this exploitation. Under patriarchal social relations, all men in some way benefit from the oppression and exploitation of women, not just abstractly but in concrete, material terms. Such exploitation would appear, rightly, as profoundly unjust without the justifications provided by recourse to women's supposedly natural role as caregivers, a rationalization that, like a house of cards, is built on a variety of shaky assumptions and essentialized notions that reflect rather than explain the way the world is. All kinds of phenomena are rooted in our biological necessities and realities, but these are run through and given shape by dominant social relations. We cannot retreat to some mysterious, primordial biological truth to explain our social problems and possibilities, but neither can we ignore our biological and material needs when seeking to understand why society works the way it does and how we might arrange it differently.

BASIC PREMISES IN THE STUDY OF HUMANITY

While it is a mistake to reduce social issues to mere effects of our biology, it is equally wrong to imagine that we are free-floating identities constructed by society. It is impossible to understand humanity without considering the social *and* biological terms of our existence. Perspectives that encourage us to understand discrete phenomena relationally and in context can be described as holistic. Rather than reducing everything to a single source or factor, this perspective encourages us to attend to the way that relationships structure our lived realities. From a holistic perspective there are six basic insights about the human condition that are vital to keep in mind as guideposts for our explorations of human social activity:

1. Human beings are and have always been members of the biological universe.
2. Biologically, humans are mammals and members of the scientific classification.
   Kingdom: Animalia
   Class: Mammalia
   Order: Primates
   Family: *Hominidae*
   Genus: *Homo*
   Species: *Homo sapiens*

3. As in all biology, humans have been shaped in essential ways by the dynamics and forces of evolution.
4. As for all biological organisms, human require energy to survive and flourish (i.e., food).
5. As for all mammals, humans sexually reproduce.
6. Humans have developed distinctive and complex forms of social relations, organization, and cooperation — we call this "culture." While culture emerges, in part, to satisfy these basic requirements, it is in no way limited to them.

These six basic guideposts remind us that humanity is not a collection of disparate individuals but a species implicated in a much larger web of life that is globe-spanning in nature. Our existence on this planet is shaped not only by our own capacities and limitations but by the ways we interact with other forms of life and the environments we inhabit. For example, all people need food, water, and sleep to survive. The ways in which we secure, prepare, and consume these things varies incredibly not only across time and geographical distance but according to prevailing power relations, systems of oppression and exploitation, cultural traditions, and ecological context.

It is simple enough to say that without food, water, and shelter human survival is impossible, but it is a more complex proposition to explore how and with what consequences these essentials are secured. Shelter may be essential, but does that mean urban sprawl is inevitable? Food is unquestionably necessary for human survival, but does this mean fast food or any given fad diet is an unproblematic expression of this need? Similarly, while humans reproduce sexually, does this mean that every individual has to produce biological offspring or that reproductive heterosexual sex is the only legitimate form of human sexuality? These fundamental needs are profoundly shaped by the context in which they are set, contexts which are never free from the operation of power. One thing we can take from this is that human nature, while rooted in fundamental realities relating to our biological evolution as a species on this planet, is not very natural at all.

HUMAN EVOLUTION

People are not just social beings; we are also biological entities inhabiting a material world and shaped as a species over millions of years by the forces of evolution. *Evolution* is a term that describes the changes in heritable characteristics in biological populations over generations. While the idea that one type of biological organism could descend from another stretches back millennia, the contemporary formulation of the theory of evolution is attributed to Charles Darwin (1809–1882) in his

famous work, *On the Origin of Species* (1859). Evolution doesn't try to explain the origins of life on the planet; it is instead a compelling analytical framework for understanding how life has changed and developed over time.

Evolution does not refer to a process of organisms becoming better over time, nor does it imply that superior organisms survive and evolve while inferior ones die out. Changes in genetic material in living organisms are produced through mutation and the reshuffling of genes during sexual reproduction, resulting in offspring differing in minor ways from their parents. These changes are random, but the evolutionary process is not. As Darwin describes in his theory of natural selection, changes that provide offspring with a better chance of survival in a given ecology allow them an opportunity to reproduce and carry their genetic material forward to successive generations. Darwin did not understand the mechanism responsible for imperfect copying of heritable traits; that would come through the pea plant experiments of Gregor Mendel (1822–1884), which laid the groundwork for the modern study of genetics. Darwin did, however, offer the critical insight that evolution is a process of random change in heritable traits over time and that the traits and organisms which endure are those which facilitate survival and, ultimately, successful reproduction in a specific environment. Evidence supporting evolution as an explanatory framework for the development of life on Earth comes from the fossil record, comparative anatomy, and molecular biology and is incredibly robust.

The phrase "survival of the fittest" is often mistakenly associated with Darwin's theory of evolution and is misunderstood to mean that the "most superior" organisms survive and dominate the natural world. The phrase was coined by English philosopher and political theorist Herbert Spencer (1820–1903), who came up with it after reading *On the Origin of Species*. Spencer took ideas from Darwinian evolutionary theory and mapped them onto dominant social, political, and economic power relations, using them in an attempt to justify existing forms of injustice and inequality. Social Darwinism is the name given to this ideological justification of the socio-political and economic status quo, which appropriates concepts developed through the study of how organisms successfully reproduce themselves and pass on heritable physiological traits.

Societies are not living biological organisms; they are complex constructions made out of relationships, institutions, and ideologies. The earthly biological universe of which humanity is a part is not a war zone but an incredibly complex, interconnected web where adaptability, not supremacy, is the key to survival. Social Darwinism is not only wrong in its ideological justification of power but in its conception of the phenomena at hand. Spencer's influence would not endure, and disciplines like sociology and anthropology would quickly reject social Darwinism as bad social science and little more than a smokescreen for domination. As we will see in chapters to

come, this would hardly mark the last time scientifically suspect and ethically bankrupt theories speaking the language of "biological difference" would be rolled out to endorse all manner of social violence, oppression, and exploitation.

So, what does this all mean for us as humans on this planet? Simply put, it means that our existence is interwoven with the ecologies we inhabit. Ecologies are not just environments, backdrops against which life goes about its business. *Ecology* refers to the web of relationships between an organism and its environment. Focusing on ecology instead of environment allows us to better see our embeddedness in these webs of life. It is impossible to understand the human evolutionary journey and its implications without thinking about it ecologically (discussed in greater detail in Chapter 7). This is even more important in an era of climate crisis driven by human activity. Evolutionary changes in the human species not only facilitated our collective survival, they also opened possibilities for our social coexistence and closed others. This is not to suggest that biology determined our social life on Earth, only that these changes in context served as the foundation for two of our species-defining traits: sociality and cooperation. In this section I focus on three significant hallmarks of human evolution that are critical to understanding humans as biocultural organisms.

The Earth is approximately 4.54 billion years old, with recent evidence suggesting that life may have emerged as soon as the planet cooled enough to hold water – as early as 4.3 billion years ago. If we go far enough back, we can trace all life on Earth to a single ancestor. The history of our own species, *Homo sapiens*, is far more recent. The genus *Homo*, encompassing modern humans and our extinct relatives and ancestors, is a member of the taxonomic primate family *Hominidae*, otherwise known as the "great apes" or *hominids*. We share this great ape family with three other genera: *Pongo* (the Bornean, Sumatran, and Tapanuli orangutan); *Gorilla* (the eastern and western gorilla); and *Pan* (the common chimpanzee and bonobo). Humans and chimps are the most closely related of all the great apes, with humans and our ancestors diverging from chimpanzees on the evolutionary timeline between 5.6 and 7.5 million years ago. The term *hominin* refers to the group including modern humans, extinct human species, and our proto-human ancestors but excluding the other great apes. The earliest member of the genus *Homo* is *Homo habilis,* who dates to approximately 2.8 million years ago. This means that in the scope of life on Earth, a span of more than 4 billion years, modern humans and our ancestors take up less than 3 million of those years. *Homo sapiens* evolved between 350,000 and 260,000 years ago, and our ancestors who ended up populating the planet left Africa a mere 50,000 years ago. The story of humanity is an eye blink in evolutionary terms.

EVIDENCE AND INTERPRETATION

Before delving into some of the unique features that define our human evolutionary journey, a few words about evidence and its interpretation are in order. Paleontology, evolutionary anthropology, archaeology, paleoecology, and genetics are the research fields most closely associated with the search for evidence concerning human and proto-hominin biological evolution, social behaviour, and material presence. Often working in collaborative teams, researchers seek material evidence such as fossils, tools, paleo pollen, and recoverable DNA as data sources to describe and situate the developmental history of humans and our proto-hominin ancestors.

Unavoidably, certain characteristics of this evidence place important limitations on what can be inferred from it. First, the scientific search for this evidence has been underway for only a little over a hundred years. While growing, the volume of evidence remains sparse and incomplete. Fossils are difficult to find and, even when unearthed, are mostly fragments of skeletons. Teeth and parts of large bones are the most likely anatomical features to be fossilized. Similarly, the recovery of usable ancient DNA is extremely challenging. Evidence associated with humans and our proto-hominin ancestors is also limited by the fact that any tools or materials made from plant fibres, wood, or animal skins is unlikely to fossilize and survive in the record. Such limitations obviously restrict what we can know and what we can infer. Material evidence such as fossils, for example, cannot tell us much about social organization, intra-/inter-group relations, and gender relations, but it can allow some careful, contextual inferences concerning most likely associated social relations. Evidence doesn't speak for itself; we make sense of it based on knowledge frameworks that are themselves indelibly marked by dominant power relations.

Another characteristic of evidence interpretation is that until recently, essentially all research in this area had been conducted by white men. In some key respects this has shaped the interpretations of evidence. For instance, their research and backgrounds informed a Eurocentric male interpretation of fossil evidence as supporting the presumption that our proto-hominin ancestors featured male dominance as expressed in evident sex-based dimorphism. That is, the finding that males were, on average, larger than females produced presumptions that males were dominant. Yet the accompanying fact that proto-hominin dimorphism is remarkably less present among most great apes and deceases across time was ignored until recently, as was the fact that relative largeness does not necessarily or naturally translate as dominance. Alternative interpretations not conforming to a patriarchal view of the world could challenge the unquestioned presumption of male dominance within Eurocentric societies and that male dominance is simply a fact of human nature (see Larsen 2003). Knowledge production is never innocent of power relations.

It is always important to keep in mind that science practices and evidence interpretations, as human activities, are impacted by researchers' cultural and social backgrounds, including belief systems that frame what is taken for granted. Perhaps one of the most egregious and obvious illustrations of this is found in the presentation in evolutionary "trees" of humans, often looking very Northern European in ancestry, as the apex beings derived from an evolutionary process that moves from simpler earlier forms to the most developed current form. Of course, the evidence does not support the notion that human beings (*Homo sapiens*), existing for around 300,000 years, are better adapted as a species than either our ancestor *Homo erectus,* which existed for a million years or more, or our even older ancestor species *Australopithecus afarensis* and *Australopithecus africanis,* which likely existed for well over 2 million years.

Finally, considerable comparative emphasis is placed on the relation between humans, our proto-hominin ancestors, and the other hominids – the great apes such as chimpanzees, bonobos, gorillas, and orangutans. For instance, it's now known that modern humans share well over 98 percent of their DNA with modern chimpanzees and bonobos, establishing the evolutionary kinship of these great ape species. Yet DNA analyses have clearly established that our proto-hominin ancestors diverged from those of chimpanzees and bonobos somewhere around 6–7 million years ago. Of course, chimpanzees and bonobos have experienced their own evolutionary processes, quite independent from that of proto-hominids and modern humans, and these processes remain largely unknown. So, the extent to which observations of modern chimpanzee and bonobo organization and behaviour can provide insight on early proto-hominin and human organization and behaviour is extremely limited, to say the least. Despite this, it is not uncommon to find inferences drawn from such observations about how great ape behaviour and organization reveal something about human nature. It is extremely important to avoid anthropomorphizing nonhuman behaviour and organization, especially those of the great apes. To do so diminishes the remarkable independent evolutionary history of these species while also distracting thinking from the need to understand on its own terms the evolutionary history of humans and our proto-hominin ancestors.

OUT OF AFRICA

The scientific consensus today based on the best available evidence is that humans originated in Africa and dispersed from there to populate the entire world. This theory, known as the *recent single-origin hypothesis*, holds that *Homo sapiens* developed in East Africa between 400,000 and 200,000 years ago. From there, at least two dispersal events occurred, one between 130,000 and 115,000 years ago via a Northern African

route and the second following the Toba super volcanic eruption roughly 75,000 years ago and following a southern route. It was the second dispersal event that led to humans populating the world. Archaic humans (*Homo erectus*) also migrated out of Africa in a dispersal event beginning somewhere around 1.9 million years ago. This earlier dispersal wave is thought to have left little to no trace on modern human populations, but it did give rise to other hominin groups, including *Homo neanderthalensis* and Denisovans (*Denisova hominins*), who would, in turn, later both interbreed with and be replaced by *Homo sapiens*.

While genetic and paleoarchaeological research continues to shed light on this fascinating period of hominin existence and many details will undoubtedly be filled in and, perhaps, change with the addition of new information, the overall picture of our *hominin* and proto-hominin origins is clear and remarkable. We are a single, highly adaptable, and extraordinarily social species that is both world-changing in nature and world-spanning in range. That said, humans are not especially impressive physical specimens. We lack tough hides, large teeth or claws, the ability to see in the dark, and any number of other physical traits that make for impressive predators. Capitalist mythmaking aside, we are not a species characterized by our rugged individuality; our survival individually and collectively depends on our capacity for sociality, cooperation, and problem-solving. So, from an evolutionary perspective, what explains our global reach and our unsurpassed role, for good and bad, among other living species as world-shapers?

TEETH AND DIET

Humans and our proto-hominin ancestors have several unique and distinctive anatomical characteristics. These range from cranial and dental features, through attributes of shoulder and hip joints, to characteristics of hand, foot, and pelvic bones. For instance, the earliest fossil evidence, essentially because teeth are most likely to be preserved, points to changes in the size, characteristics, and distribution of teeth as denoting the appearance of our proto-hominin ancestors. Particularly notable is the reduction in size of canine teeth and the dominance of large, flat molars, designed for grinding. These changes are significant because they point to changes in early proto-hominid diet and behaviour.

The reduction of canine size suggests that these teeth were no longer required for aggression and threat aversion displays, while the dental dominance of large grinding teeth denotes dietary dependence on foods such as ripe fruits and other plant material. The dental evidence associated with proto-hominids clearly shows that these were not raw meat eaters as the teeth simply are not made for slicing muscle fibre; a lot of energy-intensive chewing would be required to ingest and process any

quantity of raw meat. Some consumption of insects, grubs, worms, and decomposing animal flesh was a possible source of high-quality protein and food energy for our proto-hominid ancestors, but the extent to which this was the case is unknown. Fundamentally, what these changes in dentition show is that our proto-hominin ancestors consumed a diverse diet.

BIPEDALISM

Many of the distinctive human and proto-hominin anatomical features are associated with the fact that proto-hominins developed into a fully bipedal great ape. Indeed, bipedalism and its anatomical consequences clearly distinguished proto-hominin species from all other primates, so much so that these anatomical consequences often determine whether fossil finds are classified as proto-hominin or otherwise. These qualities also draw the direct ancestral linkage between the fossil evidence and modern humans.

The scientific consensus today is that our proto-hominin ancestors were well on their way to becoming full bipeds by 4 million years or more ago (e.g., *Australopithecus afarensis*) and that bipedal locomotion was adopted and evolutionarily enabled rather quickly. The existing fossil evidence shows that bipedalism preceded any notable increases in our proto-hominin ancestors' cranial capacity. We were walking upright on two legs before the explosion in brain development that also stands as one of the defining characteristics of our species. Available data shows that the cranial capacity of early bipedal proto-hominins was not much different than that of contemporary chimpanzees, at around 400 cubic centimetres. It is important to keep in mind that proto-hominins, with direct ancestral linkages to modern humans, were much more like great ape primates in ecological conditions and behaviour than like modern human beings (see Stanyon, Consigliere, and Morescalchi 1993).

Bipedalism and its consequences are at the core of our species becoming human. Employing techniques such as pollen analyses from lake-bed core samples, paleo-ecological research shows that the environments where bipedalism came to be were landscapes featuring extensive forests broken up by open areas with many lakes and rivers. These environments provided proto-hominins with opportunities to access diverse resources for food energy, in trees, on the ground, and in and around water-linked ecosystems. The processes that favoured adopting bipedalism must have featured extremely advantageous benefits for accessing food energy resources within the paleo ecosystem, particularly since bipedalism came at a considerable risk of becoming food for much faster and stronger quadruped predators.

Ordinary humans can run, on average, about 18 kilometres per hour (km/hr). Usain Bolt, to date the fastest human on record, attained a maximum speed of almost