CHAPTER ONE

Speed in the Genes

The search for answers as to why some of us like to put our bodies in motion any way we can, while others do not, begins not on the ground but in the trees. Though few of us ever wonder why, most people like trees. If asked, most of us would probably answer that we like trees because, well, just because they make us feel good, even if all we do is look at them (as opposed, say, to climbing them or otherwise reveling in them far above the ground, as some do). This makes sense because, not so long ago in evolutionary time, they were home to our direct ancestors.

Until fairly recently, the consensus among paleoanthropologists was that we became human after we 'came down from the trees'—when we started walking upright and surviving mainly on the ground. But fossil evidence that continues to be discovered has led to a broadening base of support for evolutionary theories that locate our species' defining evolutionary changes in the arboreal environment itself. In these scenarios, the Environments of Evolutionary Adaptedness, or EEAs, in which we became fully bipedal and anatomically human, not only began in the trees but continued there for a long time.[5] How long is still unknown, though one thing is clear: We and trees are joined in ways few of us realize.

Among those who concentrate on understanding as much as can be known scientifically about our evolutionary history, what happened between two and four million years ago in the trees somewhere, possibly in Africa, is crucial. Then, many evolutionary biologists think, the configuration of our uniquely human form evolved. This was followed, apparently, about two million years ago with a major increase in our brain size. Since then, humanity has experienced adaptations influencing body size, skin color, disease resistance, and other environmentally 'useful' changes, but our fundamental morphology and biology seems to have remained mostly unchanged. Nobody knows how much our psychological attributes have changed, exactly, but it's a fairly safe bet that, in the words of evolutionary psychologists Leda Cosmides and John Tooby of the University of California's Center for Evolutionary Psychology: "Our modern skulls house a stone-

age mind." Elaborating, they add, "The environment that humans—and, therefore, human *minds*—evolved in was very different from our modern environment. Our ancestors spent well over 99% of our species' evolutionary history living in hunter-gatherer societies. That means that our forebearers lived in small, nomadic bands of a few dozen individuals who got all of their food each day by gathering plants or by hunting animals. Each of our ancestors was, in effect, on a camping trip that lasted an entire lifetime, and this way of life endured for most of the last 10 million years."[6]

It is easy to misunderstand the implications of our evolutionary history. It does not mean that most of us can scamper up a tree like monkeys. It means that we have the genetic material within us to learn to climb trees, not as well as monkeys, but *better* than they can. The reason is the human brain, which—some theories posit—developed as it has in part because our direct ancestors' bodies are thought by some to have been so big, relative to the tree limbs and branches that defined their habitat at the time.

In the trees, size does matter. The costs of a mistake in movement are potentially high for an animal living primarily in the trees at any height; a fall can mean death, or a wound so serious that it leads sooner or later to death. The requirement and the subsequent ability not only to predict the movement of the environment—tree limbs and branches—but also to forecast the most effective path toward a food source or away from a predator led to the selection of individuals who could, increasingly, best perform those kinds of mental functions. They were further selected through what we now

call situational awareness; assimilating, judging and reacting to our environments effectively, assessing in milliseconds the ability of a particular tree limb to sustain weight, and seizing the moment as well as the limb, typifying the innumerable survival tests. Researchers Daniel Povinelli and John Cant propose that the resulting changes to the brains continued to favor more and more self-awareness and consciousness, until the human mind was born.[7]

Though that proposal is still considered controversial, the importance of locomotion in the arboreal environment as a crucial factor in the evolution of the human form and behavior is widely accepted. The upshot is that there is good reason to think that the adaptations to our bodies and minds, molded by millions of years living in and near trees of certain kinds, are still the primary behavioral guidance systems for how we interact with the world.

We enjoy activities that make this obvious, once you think about it, and many involve motion of some kind. As kids, most of us like being swung through the air, one way or another; on a playground swing, on a merry-go-round, on 'monkey bars,' in innumerable ways that so clearly relate to what our ancestors would have experienced growing up in the long-ago forests. We also like strictly terrestrial motion too, of course: walking, running, swimming, hunting, fishing and the other activities that typified what Cosmides and Tooby call our hunter-gatherer ancestors' "camping trip that lasted an entire lifetime." In that almost incom-

prehensibly long period, our ancestors were 'on walkabout' all over the world.

Among much else, one immensely important consequence of our past is that we're now stuck in traffic jams—or zooming along the highway after the jams finally break up—with what is almost exactly the same set of pre-programmed enjoyments that our ancestors developed, bit by bit, in response to the demands of living in the trees.

Our evolutionary inheritance has also, of course, left us with some other artifacts. For example, figuring out how to deal with our appetites, which so often and so easily seem to urge us to eat what is not necessary in quantities that are not healthy, to figuring out why so many males, young and old, find it so easy to pick and start a fight over what seem to be trivial issues. But just as our psychobiological inheritance produces problems for us, I am persuaded that our evolutionary history—properly understood—probably contains clues to the answers we need as to why we do much of what we do that seemingly makes no sense. Those answers include important but not usually recognized reasons for what has happened to us as individuals and as societies since the advent of mechanically powered, individually controlled vehicles in the last decades of the 19th century.

Obviously, to anyone who takes the time to think about it, the changes have been profound. To examine the changes, it is better to begin not with the statistics about how everyone's use of automobiles of all types (a motorcycle is in this sense an 'auto-mobile' vehicle) has changed the world, but to begin instead with a careful look at what any vehicle does *to*, and not just *because of*, its operator and passengers.