

Chapter 1

The Secret of Our Success

The Most Successful Primates

The U.S. Census Bureau estimates that by the year 2050, the world's human population will have quadrupled in size since 1950. You can find people almost anywhere on the globe and in all kinds of habitats, from the Inuit of the Arctic to the !Kung of the Kalahari Desert in Africa. *Homo sapiens* has clearly been the most successful of the more than three hundred primate species currently living on our planet, and it's no secret that our big brains and sagacity helped facilitate our success.

By the same criteria of population size and geographic distribution, another very successful primate on this planet is a monkey called the rhesus macaque. The rhesus macaque, however, is not one of the smartest primates. Other primates – the great apes - have bigger brains and are smarter than rhesus macaques, but unfortunately they are all on the brink of extinction. So being smart is not by itself a guarantee of success in this corner of the universe. There are different kinds of intelligence and different ways to use it.

This book is about rhesus macaques and what they have in common with people. There are more facts in this book about monkeys than about people, but the book is really more about people than monkeys. Why rhesus macaques are the way they are is an interesting question, but the fact that human beings often act like rhesus macaques is even more interesting. Those readers who already see the monkey in the mirror may discover

that this monkey looks more like a rhesus macaque than they ever thought possible, but they may not like what they see. Those who are used to seeing only themselves in the mirror will like it even less. Finally, for those who have never looked in the mirror at all, this may be a riveting place to start.

The Buddy story

An adolescent rhesus macaque male has been captured by a group of researchers and taken into a dark concrete building for testing. He's given a sedative and sleeps for a good hour on the floor of a cage. When the monkey's eyes open, he stands up and drowsily assesses his location. More time goes by and the monkey is now alert, walking around in the cage, and looking anxious to get out of there. A door is opened and the monkey darts out and back into the enclosure where the rest of the group lives. A hundred pairs of monkey eyes look at the newcomer for a second, then look away. No reason to be alarmed; it's just Buddy. It was his turn today, and he's back. The older females go back to their grooming, the alpha male resumes his nap, the infants continue to play on the jungle gym. Buddy's favorite playmate walks up to him and seems eager to engage him. He pushes Buddy and then runs off, looking for a chase. But wait - Buddy isn't coming. He fell on his side and is slowly getting back on his feet. Something's wrong. A hundred pairs of monkey eyes look at Buddy again. A tall and muscular subadult male, a bully, walks up to Buddy and stares him down. Buddy looks at him with a puzzled expression for a couple of seconds, then turns his head away. The bully bites Buddy's arm. Buddy screams in pain and runs away. But he is slow, too slow. The bully

quickly catches up with him and bites him again, this time on his ear. More screaming. Two other adolescents – Buddy’s playmate is one of them - and an adult female run toward Buddy, looking excited. He runs away, but they get him, and he’s on the ground again, and they are all over him, barking and screaming, grabbing his arms and face, and biting his fingers and tail.

Everything has happened quickly, but the researchers have been watching, and the moment they see Buddy fall awkwardly they know that they have to get him out as soon as possible. They catch him and put him in a cage by himself. He looks frightened but has no injuries. Two hours later he returns to the group. His playmate and another adolescent walk up to him and grab him. He grabs them back, and the three of them wrestle. Then Buddy gets chased, but this time he runs quickly and is not caught. As he runs, he inadvertently bumps into a young infant and knocks him down. Immediately the infant’s mother arrives, picks the infant up, and threatens Buddy with a stare and a wide open mouth. Buddy shows his teeth to the mother and raises his tail, exposing his genitalia to any other monkey who might be behind him. Nothing else happens. The mother turns around and walks away. Buddy walks to the food pile, grabs an apple, and starts eating. No one pays attention to him now.

Buddy has spent every day of his life in the enclosure with all the other monkeys. They all eat the same food and sleep under the same roof. Buddy’s family has low social status but there are other families below them in the hierarchy. He spends a lot of time with adolescents from other families and has been seen hanging out with older males and females as well. They were there when he was born. They held him and cuddled him when he was an infant. They have watched him grow, day by day, every day of his life.

Yet, that day, if the researchers had not taken Buddy out of the group, he would have been killed. His mother and aunts would have tried to protect him, but probably to no avail.

Buddy had not fully recovered from the anesthesia when he was first reintroduced into his group. The others could immediately tell there was something wrong with him. He wasn't running as quickly as usual. He didn't respond to a threat with a submissive signal. He didn't run back to his mother seeking protection. He was weak and vulnerable. The behavior of the other monkeys changed swiftly and dramatically - from friendliness to intolerance, from play to aggression. Buddy's vulnerability became an opportunity for others to settle an old score, improve their position in the dominance hierarchy, or eliminate a potential rival for good. In rhesus macaque society, maintaining one's social status, being tolerated by others, and ultimately surviving at all may depend on how quickly one runs and how effectively one uses the right signal, with the right individual, at the right time. A rhesus macaque can wake up one morning, feel a little drowsy, and find himself in danger of being killed by his best friends.

Macchiavellian intelligence

Imagine a society in which everybody walks around with a loaded rifle. The citizens of this society -- some more than others -- must constantly watch their backs and avoid any situations that may lead their comrades to fire their weapons at them. Rhesus macaque society has a strong hierarchical structure and individuals of high status use their power against their subordinates without mercy. Genuine altruistic behavior is shown only with

one's closest relatives. Social relationships with everybody else are governed by the laws of the market: you scratch my back, I'll scratch yours. If you are kind to someone, you expect something in return, typically sex or help. Social opportunism and manipulation are the rules of the game. Yet the bonds between family members are strong, and the group is cohesive and ready to fight against its enemies, whoever they might be.

Niccolo' Machiavelli wrote his famous book *The Prince*¹ in 1513 to instruct Lorenzo II de' Medici, his patron and the ruler of Florence, in the art of politics. It explains how to pursue and maintain political power and exploit everyone and everything in the process. Following Machiavelli, social opportunism came to be referred to as Machiavellian intelligence. Rhesus macaques had already been using Machiavelli's recommendations in their daily lives for thousands of years.

If Macchiavellian intelligence is what people and rhesus macaques have in common, could that be one of the reasons for their success? Could it be that Macchiavellian intelligence explains why some species or societies are more successful in the competition for survival than others? Rhesus macaque society is organized and functions like an army. Armies are the type of social organizations people use to conquer other groups of people, their land, and their possessions. Armies throughout the world and throughout human history have tended to have the same hierarchical structure and follow the same rules of behavior. Is that just a coincidence?

Maybe the Macchiavellism of people and rhesus macaques has nothing to do with their success. Charles Darwin once wrote "He who understands baboon would do more towards metaphysics than Locke".² Without taking anything away from baboons, understanding why rhesus macaques behave the way they do may tell us something about

human nature, metaphysics, and perhaps the future as well. By the time human beings start the global nuclear war that will destroy our civilization, there won't be any great apes left for Earth to become the Planet of the Apes. But chances are there will still be plenty of rhesus macaques around.