Chapter 1

*Primates and their Societies*

Primates are among the most intensely social of all animals. This sociality forms an integral part of each individual’s attempts to survive and reproduce successfully in a world that is not always conducive to successful survival and reproduction. So it is that when we observe one monkey approach and groom another, we do not see an isolated event occurring in a social vacuum. Rather, it is the end-product of a long series of interactions that can be traced back through those two individuals’ past histories. That particular interaction is just one of a sequence of instances in which grooming is solicited and given, of requests that are granted or occasionally declined.

Prompted by such knowledge, the thoughtful observer will want to know what it is about grooming that makes it so important and widespread a component of primate social life. Yet, even in asking such an innocuous question, we raise issues that probe deeply into the very heart of primate biology. For time spent grooming is time that the animal cannot devote to biologically important activities like feeding and caring for dependent young. Noting that time spent grooming with one individual is time that cannot be spent grooming with another, we are prompted to probe further and ask why an animal chooses the particular social partners that it does. These, in turn, raise questions about the animals’ ecological adaptations, about the structure of their social groups and the role that these play in the animals’ lives. As we continue to ponder these questions, we find ourselves moving outwards beyond the particular animals we happen to be watching to consider other species, to ask why grooming should differ in both its frequency and its uses in different species, and to wonder how these differences came to be during the course of evolutionary history.

What seemed at first sight to be an isolated event, a simple interaction between two animals, spawns questions that oblige us to look far beyond the immediate context in which two animals are interacting to explore not only the intricacies of the social system in which they live, but also the ecological context in which they are embedded. It is this complexity that makes social behaviour so challenging a topic to study, and nowhere is this more true than in the primates, the most overtly social of all animal species.

R. I. M. Dunbar, *Primate Social Systems*
© Robin Dunbar 1988
This book is about the social behaviour of primates. But my intention is not simply to give a succinct summary of what we know about primate social behaviour. I want to go beyond that to show why, in trying to understand their behaviour, we need to broaden our horizons to include many other aspects of their biology. For in such species, social behaviour is not simply a matter of evoking a response to gain some immediate reward in the way that a rat presses the lever in a Skinner box. Rather, social interactions are part of a continuous process of developing relationships that animals negotiate and service from the day they are born to the day they die. To explain what is happening in any given interaction, it is not enough just to describe the events that occur; nor is it enough to identify the physiological mechanisms that underlie them. We also need to see those interactions in the context of the animals' personal histories, to ask why it is that they behave in the way they do, to identify the social goals they are trying to achieve and to determine how and why such behaviour has evolved.

There are several different senses in which we can be said to explain behaviour, and a failure to keep these clearly separated has often generated confusion in the behavioural sciences. I shall begin, then, by saying a little more about the kinds of explanation we can offer for the behaviour we see. Once this has been clarified, I shall devote the rest of this chapter to introducing the primates and to establishing a general framework for studying their societies. I shall go on in the second chapter to establish the essential theoretical background that we shall need in order to be able to explore the functional biology of social systems. By functional here, I mean not only evolutionary function but also the nature of the interactive processes that integrate the various components of a species' biology.

Chapters 3 to 7 deal with the system constraints that an animal has to cope with in organising its day-to-day social relationships, namely the problems of survival posed by the environment and the effects that these factors have on both demographic processes (notably birth and death rates) and on the way an animal allocates its time to different activities. These are fundamental biological problems that an animal has to solve in order to be able to survive well enough to have any kind of social life. In the last of this group of chapters, I consider the factors that determine grouping patterns in primates.

The next group of chapters (Chapters 8 to 11) are concerned with the social behaviour of individual animals that are constrained to live within a particular socio-ecological system. The emphasis here will be on the ways in which individuals create and exploit options in the form of alternative mating, rearing and social strategies. Finally, in the last two chapters, I try to pull all these disparate strands together again by examining the evolution of social structure in more detail. I shall argue that each species' social system is the product of a set of general principles working themselves out in a particular ecological context from the standpoint of a unique evolutionary history. To suppose that we can understand a species' behaviour by reference to those