The lighter and darker sides
of man

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Evolution and Human Behaviour: Darwinian Perspectives on Human Nature

by John Cartwright

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Incest, homicide, sexism, racism and eugenics—there are many dark aspects of human nature that have newspaper editors rubbing their hands with glee. But what makes humans stray from 'normal' social behaviour? Is there something in our environment or in our genes that has moulded our minds and determined such behaviour? What are the biological roots of these actions from an evolutionary standpoint? John Cartwright's book, *Evolution and Human Behaviour*, aims to provide answers to these questions, and also highlights the dangers of drawing uninformed and rash conclusions about society as a whole. Indeed, having read this book, I feel that I have gained some understanding of the social problems that repeatedly stun or even outrage us when we read about them in the newspapers.

John Cartwright, a senior lecturer in biology at the Chester College of Liverpool, UK, states that 'this book explores the application of Darwinian ideas to the

way in which humans think, feel and behave'. In essence, sociobiology, behavioural ecology and evolutionary psychology all converge to provide a fascinating platform for new insights and a high-level debate on human nature. *Evolution and Human Behaviour* describes the history of these ideas and also brings us bang up to date with an excellent summary of our current thinking on the subject of social Darwinism.

Each of the 12 chapters begins with a short preview of the concepts it covers and ends with a summary, a highlighted box of key words and a brief list of recommended further reading. In the interim, Cartwright frequently uses figures and tables, especially when the introduction of complex ideas warrants further explanation. A helpful glossary at the end of the book explains all the key terms essential for understanding the ideas presented. This editorial effort makes the book extremely readable for those not familiar with the basic concepts of sociobiology, and a long list of acknowledged experts guarantees a consistently high standard of presentation.

The first chapter presents an overview of the historical development of ideas and hypotheses surrounding human behaviour over the last 150 years. Famous names such as Baldwin, Barash, Boas, Darwin, Galton, Haldane, Hamilton, Lamarck, Lorenz, Maynard-Smith, Morgan, Romanes, Skinner, Spencer and Wilson—to name but a few—are discussed in relation to each other. The result is not a dry catalogue of names and achievements but a lively representation of the ideas, thoughts, debates and controversies from which our modern view of human behaviour arises.

Chapters 2 to 5 provide the reader with the basic concepts and foundations before the focus is turned onto human behaviour itself. The mechanisms of Darwinian evolution, kin selection and the selfish gene concept, mating strategies and the importance of sexual selection in shaping our character are all excellently explained. From Chapter 6 onwards, humans are at the centre of the debate, beginning with the 'evolution of brain

size'. For good reason, this is a strong contender for the longest chapter of the book since the brain is where behaviour, mind and feelings originate. The idea of a 'modular mind' and how language may have evolved are presented subsequently. Also, human sexual behaviour and choice of mates are discussed with references to other primates. To understand the roots of conflicts within families and other groups and the options for resolving them, some basic theory is introduced. The coefficient of genetic relatedness and Hamilton's rule are presented in a way which is easy to follow, while game theory and related concepts borrowed from economics are the basis on which co-operation and altruism are explained. The 'evolution of culture' as the major human achievement over the last 6000 years provokes speculation on a relationship (or not?) between cultural evolution and genetic evolution. This complex matter can be focused on the two terms 'genes' and 'memes', the latter being an activity or unit of information passed on by imitation. The epilogue on the use and abuse of evolutionary theory emphasises how important it is to understand the biological causes of our thoughts and feelings and how we should make wise use of the resulting insights for improving social life.

John Cartwright successfully deals with a highly interesting but also delicate subject matter in a thoughtful and careful manner without ever moralising. Drawing on general and specific background information, he creates an objective picture of our biological roots and their consequences and in so doing, offers an explanation of both the lighter and darker sides of our behaviour. If Lady Ashley, who commented on Darwin's work: 'Let's hope that it's not true; but if it is true, let's hope that it doesn't become widely known,' could see this book, she would not only be ashamed of her hopes but would also understand the evolutionary basis of them.

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