

Preface

The central theme of this book is the information revolution. In academic publications I have argued that informatics - the application of information technology to solve real-world problems - is emerging as the new paradigm for understanding and managing complexity in the real world. This paradigm is beginning to make itself felt in many practical ways, especially in research, in business and in government.

In this book, I attempt to explain some practical aspects of this change. Some of these touch on controversial social issues, including data mining as a threat to privacy, the contribution of communications to globalisation, biotechnology and designer humans. The most recent sign of the informatics age has been the explosive growth of the Internet.

One aim of this book is to help general readers to get beyond the hype surrounding some of the above areas and to understand the key ideas, issues, developments, and implications. The intent is not to provide all the technical details, but to explain the ideas and motives that underlie the technology.

Complexity is one of the hallmarks of the modern world. Although most people do not realise it, we devote a lot of time and effort to reducing complexity in our lives. Society is full of conventions, institutions and other devices that help to simplify things for us. Many of the hottest social issues arise when these devices break down and complex, unexpected results emerge.

The idea of “serendipity” provides a thread that runs throughout this book. The term denotes accidental or fortunate discoveries. It is a by-product of complexity. My contention is that chance events are intimately bound up with the informatics revolution. One of my aims is to show that serendipity and other by-products of complexity are inevitable. The scope of these effects is very widespread. Serendipity not only underlies discovery, but also many natural and artificial processes, including both beneficial and harmful events. In nature, it plays a role in such diverse processes as species extinction and the workings of the brain. In human activity, it influences accidents, luck, creativity, comedy, and stock market crashes, to name but a few. The serendipity effect also plays a role in new fields of computing such as data mining, evolutionary programming and multi-agent systems.

Sometimes ignorance really is bliss. Visiting libraries can be a dismal experience. The reason is not the décor, nor is it the people - they are always friendly and helpful. No, it is that mountain of information. Inevitably, it turns out that someone, somewhere has already thought of, written down and published every bright new idea that comes to you. There is no quicker way to kill a half-baked theory than to find that someone has been there before. I found myself visiting libraries less and less, and rarely risked browsing the shelves. Ignorance made it possible to get on with the job, unhindered by fear of being pipped at the post. As often as not, this strategy proved to be the best course of action. As often as not, all those other authors had really taken a different tack after all.

One of the depressing side effects of the Internet is that you can no longer get away with self-delusion. While preparing material for this book, I submitted several potential titles to Google, a prominent search engine. Much to my surprise, and dismay, it turned out that a whole string of authors had used the terms previously. It mattered not that several references were to my own work. Other authors had used them years before me.

As usual with any book, the author is indebted to many people. Above all others, of course, there is my family. Friends and colleagues have also contributed in many ways, large and small. I thank those colleagues and friends who provided stimulating debate, as well as a sounding board for ideas. I should also thank Hewlett Packard for inventing the Jornada hand-held computer, which allowed me to write many thousands of words in unlikely places, where I spent many hours getting high on coffee and writing while my family spent my royalties in advance.

Finally, and above all, I want to thank all of you who take the time in a busy world to read this book. I hope that you will gain as much from reading it as I have in writing it.

David Green 2003