right'. An innovative right proposed is that of 'deciding on the time, place and conditions of one's own death'.

Gaudin's book is intelligently conceived and persuasively written. Despite a lack of index and some poor copy preparation by Economica's editors, *Les métamorphoses du futur* helps under-line the growing interest by today's social critics with the role of philosophy in the thought processes that are preparing us for the advent of the 21st century. At the same time, the volume should be a welcome challenge to English-speaking readers wishing to keep up their knowledge of non-jargon French.

Politics as the art of the rational

Sally Wyatt

Expert Systems in Public Administration: Evolving Practices and Norms
I. Th. M. Snellen, W. B. H. J. van de Donk and J. -P. Baquiast (editors)
324 pages, Dfl 190.00 (Amsterdam, Elsevier, 1989)

This book is to be welcomed, not least because it includes contributions from many European countries, from a range of disciplines and from both academics and practitioners. More importantly, it addresses a topic much neglected in English language sources: government as a user of expert systems.

In many books concerned with new technology, government is seen only as a policy maker, facilitating or inhibiting the development and use of new technologies in other areas of the economy. Yet for all the countries represented in the book, public administration is among the largest users of information technology, and thus potentially a major user of expert systems. This must mean that public administrations will have a major effect on the direction of technical change in expert systems, as well as their actual use raising fundamental questions about the nature of the relationship between government and citizens.

As is appropriate in these postmodern times, a few comments on style are

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needed. The editors are to be congratulated for attempting to provide both stylistic and substantive coherence, as collections of conference papers too rarely do either. Individual authors have clearly been given an opportunity to revise their chapters, and many have responded well by cross-referencing other chapters in the book. This greatly helps the reader to see the connections. But the editors could have gone further. The ordering principles are explained in the preface, but an introduction to each section and a conclusion would have been useful, perhaps drawing on the conference discussions. Both name and subject indices are provided, which are good unifying devices. A unified bibliography would also have been welcome as it can contribute more than the sum of its parts.

This is an expensively produced book: nice cover, good paper and effective use of desktop publishing. It is also an expensive book, and for US$100, it does not seem unreasonable to expect the words to exist and/or be spelt correctly. It appears that the publishers do not have access to an English language spelling checker on their word-processing systems. (For the price of one copy of this book, they would do well to invest in one.) Part of the value and pleasure for the reader of collections derives from the unfamiliarity of some of the material and from the use of discourses specific to disciplines and cultures different from one's own. The

introduction of new words and phrases can add to the dynamism of language, but there are limits. At best, it can provide some amusement, although it quickly becomes irritating. At times, it makes comprehension rather difficult, especially when some sentences have also retained their Germanic structure. At worst, it renders the text incomprehensible. Admittedly, it does seem rather churlish to complain when only one of the contributors is a native English speaker; the editors are not. And, as no translator is acknowledged, I assume individual authors provided their own English texts; which is only to be admired. One dreads to think what a collection put together by UK, US and Australian contributors in any other language (and sometimes even in English) would look like.

To the substance—the book is divided into three parts. The first provides a theoretical overview regarding the definition and nature of expert systems and what they mean for public administration. In the first chapter by Ignace Snellen and Wim van de Donk, the 'four rationalities' model is introduced. This model provides the framework for the rest of the book and is addressed in more detail below. The second and largest part gives descriptions of various expert systems that are intended for or are already in use in public authorities. The majority of these chapters address legal issues, but some address distributive and economic issues. Part 3 examines existing and potential policies for the development and application of expert systems by government.

One could quibble about the placement of some chapters. For example, the chapters in the second part by Jon Bing and John Rae highlight the need for independent auditing of expert systems—a policy conclusion. The chapter by Jan van Dalen, also in Part 2, provides some different theoretical insights helpful for understanding current developments, which could have been included in Part 1. It is because chapters rarely fall neatly into any one category that general introductions and conclusions are needed.

The main theoretical contribution promoted in the publicity for this book is the four rationalities model, whose key elements appear in Chapters 1 and 2 (respectively by van de Donk and Snellen, and Snellen alone). It is a thought-provoking model and does provide a way of understanding much of what follows in the book. They argue that government policy results from a process of negotiation between four competing rationalities: political, legal, scientific–technical and economic. This is meant to distinguish public administration from private enterprise as the latter can be represented primarily as a struggle between scientific–technical and economic rationalities. Rationality is defined as, 'a socially differentiated, internally consistent and self-reflective system of norms, that (i) regulates a basic aspect of society . . . and that (ii) is maintained and developed by a specialised profession' (page 26). The inclusion of the second part suggests this is a better definition of expertise than of rationality.

Modifications

The empirical material in the book immediately suggests three ways of modifying and possibly improving the model. First, it is important to take account of a 'bureaucratic' rationality, which has no obvious place in the model as it stands but which is vital to the conduct of all public administration. The cooperation of the bureaucracy is vital to the successful development and use of any new system—technical or organizational. This comes across very clearly in the chapters by Marcel Aucoin, Anne Höhmann and Kurt Vittrup.

The second modification concerns the precise status and location of these rationalities. The definition reproduced above suggests they are somehow vested in individuals. Yet most of the rest of the discussion suggests they have more of the nature of free-floating superstructures. Either way, it is never made explicit how the process of negotiation between rationalities takes place, nor under what conditions any one rationality comes to dominate. (This does not necessarily require a superordinate rationality.) It is also not clear to what extent the role of individual agen-

cy, or even of individual irrationality, has any place.

The third modification concerns the place of ideology, which is raised most starkly in the Rae chapter. It outlines the infamous case of a medical school's admission system which was found to be systematically discriminating against applicants on the basis of both race and gender. It was a 'good' system in that there was a high, positive correlation between the gradings provided by the system and by the human selection panel; thus, it demonstrates that it is possible to codify prejudices against women and non-Caucasians. Presumably this could be an example of the dominance of political rationality, defined in the book as the maintenance of power. But it does reinforce the problem with the definition of rationality reproduced above. Such prejudices are often socially differentiated and self-reflective, and could be said to regulate a basic aspect of society (ie the oppression of women and black people). But they are rarely internally consistent and it is meaningless to think of men and white people as specialized professions. What this highlights is that it is not clear whether the model is intended to be descriptive or prescriptive.

A number of modifications to the model are necessary, but this is to be expected of any model confronted with new empirical material. Nonetheless, it does provide a way of thinking about the process of technical and organizational change within public administration. In itself, this is a valuable project because most of the alternatives are only appropriate for understanding change in the private sector. The strengths of some of these alternatives, particularly from the work on techno-economic paradigms and the social shaping of technology, need to be combined with the public administration focus of the four rationalities model. A synthesis of these different models could provide a powerful tool for understanding the complex process of the introduction of new technologies, and expert systems in particular, into public administration.

Value and the environment

Anne-Marie Prieels

Blueprint for a Green Economy
David Pearce, Anil Markandya and Ed. B. Barbier
185 pages, £6.95 (London, Earthscan, 1989)

This report was prepared for the UK Department of the Environment, in order to review the state of the art in the area of sustainable development, natural resources accounting and project evaluation. The points of view expressed are the author's alone—they do not reflect the UK government's views.

The mass of information presented is important, and a large number of

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methods are presented—contradictory approaches are sometimes presented, without the authors recommending one or the other. The report is made up of seven parts, the conclusions of which are summed up below.

Introduction (definitions)

Environmental policy depends on six factors: cost escalation, time referential, informative value of delaying decisions, uncertainties, irreversibilities and underlying tenets of sustainable development, as shown in Table 1. Table 1 shows that a society which has decided to achieve sustainable development will focus its decisions on anticipatory actions, thereby avoiding putting future generations at risk. This has important consequences