

imaging comes from Kouris, Spyrou and Jackson, all from the University of Surrey. The book is a comprehensive and serious introduction to the physical principles and mathematical tools of imaging, as applied to the needs of nuclear medicine. The mathematical treatment is simple, yet rigorous, with engineering and technological details kept to the minimum.

The introductory chapter links information theory with the process of imaging and image reconstruction. There is some vagueness in the concepts of useful and useless information discussed in that section, arising from the inadequacy of quantitative information theory to deal with the content (i.e. quality) of the message. The discussion of various reconstruction techniques is clear and

adequate, and the main modalities of medical imaging (X-ray radiography and tomography, radionuclide imaging with single photon as well as positron tomography) are included. Use of heavy charged particles for radiography and tomography is also discussed.

Imaging with Ionizing Radiations will serve well as a reference book for the medical physicist and nuclear medicine specialist. Because of its comprehensive exposition of the subject and clear language, it may also find use as a textbook of imaging theory for courses in medical physics. □

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Rules of law in the deep south

Deborah Shapley

Antarctic Law and Politics. By F.M. Auburn. Pp.361. ISBN 0-905838-39-4. (C. Hurst, London/Croom Helm, Canberra/Indiana University Press: 1982.) £19.50, \$32.50. *The New Nationalism and the Use of Common Spaces: Issues in Marine Pollution and the Exploitation of Antarctica.* Edited by Jonathan I. Charney. Pp.343. ISBN 0-86598-012-8. (Allanheld Osmun, Totowa, New Jersey: 1982.) \$39.50.

THE war in the Falklands has drawn world attention to the far south. F.M. Auburn's account of Antarctic law is thus most timely; although his book went to press before the war, Auburn brings up to date (to 1981) the political complexities of the Antarctic and the weaknesses of the region's system of governance under the Antarctic Treaty. The book will doubtless be much cited as 1991, the date the Treaty is to be reviewed, approaches.

Auburn, associate professor of law at the University of Western Australia at Perth, is one of the few lawyers to have made a long-term study of the Antarctic, and his recital of the tangle of national legal conflicts in the region is a good antidote to the commonly held view that Antarctica is a *tabula rasa* on which the nations of the world, or the Antarctic Treaty powers, can write at will. He tours every aspect of Antarctic law — from the authority of the Treaty parties, now numbering 14, to its jurisdiction offshore (a matter of some controversy) — and presents much relevant information about recent events in Antarctica and their legal ramifications. His general conclusion is that the "system" by which the Antarctic is governed is so pitted with legal loopholes that it may be "inadequate" to deal with the new issues of krill and mineral resource exploitation.

There is an especially useful discussion of the legal status of the bases built on the

continent since the Treaty came into force in 1961, and whether they "count" towards sovereignty claims, now or in the future. The Treaty states explicitly that they should not, but Auburn calls the pertinent phrase "an exercise in unreality". Indeed, his lawyer's mind finds problems throughout the Treaty. He asks how the nations involved could renounce "military purposes" in Antarctica (in Article One which says, "Antarctica shall be used for peaceful purposes only") when many of the parties are not renouncing national sovereignty there, and military power is a key ingredient of sovereign power? And how can the Scientific Committee for Antarctic Research (SCAR), the non-government group that coordinates Antarctic research, call itself non-political when a nation's membership of SCAR is a *de facto* prerequisite for achieving consultative status in the Treaty group?

In his suspicions of the Treaty system, Auburn represents a widely held viewpoint. The original parties to the Treaty have strong vested interests, conduct their business in great secrecy and have systematically excluded UN agencies from involvement in Antarctic affairs. All of this has opened them up to understandable criticism for being a closed club.

It is certainly possible, as Auburn does, to pick the Treaty system apart from the standpoint of law and logic; but the law is not the sole cipher by which the realities of Antarctica's governance may be decoded. The "system" is not really based in law although it uses legal means to accomplish many of its goals. Instead, it is based on the peculiar political balance among the odd mix of countries that happen to have permanent commitments to the region. Although each nation became involved for different historical reasons, their interests now lie in the region's resources. The

delicate balance among the group now rests on its wish to draw up a resource regime without a breakdown in the group or a concerted attack by non-parties to the Treaty. The law just doesn't have much to do with all this.

Auburn's treatment almost inspires wonder that the so-called Antarctic system hasn't broken down. By contrast, *The New Nationalism* . . . reflects a more American view: that the Treaty system is really quite stable and proved its worth in 1980 when the new Convention for the Conservation of Antarctic Marine Living Resources — the first major resource regime for the region — was drawn up. This second book, a collection of papers edited by Jonathan Charney, is better than most writing on the Antarctic in that the authors remain generally neutral towards their subject; many people who write about Antarctica have strong views on whether the continent is "common heritage" and on the merits or otherwise of the Treaty.

The collection includes strong papers: on mineral resources and related environmental issues by James H. Zumberge, the President of SCAR; on suggestions for the design of a minerals regime, by Charney; and on the negotiations that led to the living resources convention by James N. Barnes, an adviser to the United States delegation. There are also four papers on global marine pollution. If the Charney collection has a fault, it is a general tendency to take the Treaty system and the region's political stability for granted. Auburn, for instance, makes a good point in describing the steady growth of Soviet bases and activities on the continent and compares it to the recent shrinkage in the United States' presence. Surely the emergence of Soviet domination of the politics of Antarctica — which could happen in the next decade or so — will affect the working of the Treaty system as much as any legal requirements for the environment or the exploitation of minerals that the group may draw up? But the various authors in the Charney collection stick carefully to the question of the legal regimes for the environment, barely noting this issue.

Given the two different viewpoints in these books, how should the Treaty be judged? Will it sink under the weight of its new burden, namely the mineral resource issue? Certainly the vessel is frail, has 14 captains instead of one and the boiler goes out half of the time. But there is no other ship in sight; the alternatives to the Antarctic Treaty that have been advanced so far offer no practical plan for who will spend the money to run the stations, make weather forecasts, carry out communications in the difficult polar conditions and so on. So we might as well stay on board. It may help if a storm comes up. □

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