IMAGE UNAVAILABLE FOR COPYRIGHT REASONS

Mr. Justice Parker (centre) who headed the Windscale enquiry, with Sir Frederick Warner (left) and Sir Edward Pochin.

energy requirements with nuclear power, especially for developing countries, and that some countries need to build and operate fast reactors and hence to re-process nuclear fuel. Professor Pearce criticizes Mr Justice Parker for not referring in the Windscale Report to the letter to the Foreign Office from Joseph Nye, Presidential Adviser, dated 19 December 1977, yet makes clear on p.90 that the Report could only refer to evidence

given to the Inquiry.

The march of time is also shown by the section on energy futures. This compares the scenario of the Department of Energy in 1977 with those put forward by Leach and Chapman during WPI. Since then the 1979 figures of the Department, which show reduced estimates of supply and demand, have been put to the Belvoir Inquiry. The nuclear component is only slightly less than the 1977 estimate, but coal

comes down from the 170 million tons for the year 2000 to 135, and oil from 150 to 100 Mtce. The Leach demand analysis was discussed in the last report of the Advisory Council for Energy Conservation with the conclusion that with his assumptions the figures are not in basic disagreement with the Department's. Professor Pearce does not accept that official views need be given greater credence than unofficial and (p.155) criticizes "references to some of the forecasts (that of Arthur Scargill of the Yorkshire Area Mineworkers Union) as 'fanciful'. It is presumably not possible to know what is 'fanciful' without having a prior view of what is reasonable". This is the place to use the TCPA/PERG guide (p.57) "Silsoe questioned Scargill's figures for new investment required, and the rate of new pit openings in order to achieve this projected target of 250 million tons by 1992".

Camera Press

Throughout Professor Pearce's book, the Windscale Inquiry receives grudging tributes for doing the job at all, in contrast with the regard in other countries, especially France, for the openness and seriousness of its attempts to hear every voice. It achieved in fact what his new bureaucratic apparatus (p.205) could never do in providing information and guidance which is sought by the public. □

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Reactors from Russia

Jeffery Lewins

Fast Pulsed and Burst Reactors. By E.P. Shabalin. Pp.260. (Pergamon: Oxford, 1979.) £26, \$59.

THIS monograph is translated from the Russian, by W.E. Jones, in the Pergamon tradition of scientific translation. And a good job he has made of it. Generally the translation reads very well with occasional confusion between Russian letters and Roman or Greek letters.

Russian translations do have a minor defect in regard to the double translation of English or American names quoted in references to Russian and back again. Keepin for example will be interested to read of his sea change to Kipin and Paul Gribler for Greebler is in for a similar surprise. More seriously — and a defect avoidable in these days of automated library science — the return translation does not always identify the text the original was (in many cases) pirated from before Russia joined the copyright protocol. I speak as an author pirated without knowing, let alone agreeing, and as an editor of a series left here with only its Russian edition for reference.

But to the book. It is a detailed exposition of the physics of fast reactors used in pulse and burst mode, that is applied as dynamic research tools. Additional material is given on certain engineering aspects such as thermal elastic effects, dynamic control etc., as well as to combined boosters (neutron sources and sub-critical multipliers). The text is completed with a chapter on the peculiar aspects of safety and a look ahead to current and future applications of these devices for physics research.

The text reads well. The first five chapters were, it seemed to me, reasonably clear of misprints but the standard (in a readable typescript production) fell off in Chapters 6 to 10, however. Most of the errors I caught were trivial. Occasionally there were muddles between the el and one so tedious to get correct on a typewriter (for example eqn 6.12), and also eqn 6.3 would benefit from a couple of extra primes.

The book is a valuable summary of the special theory of dynamic fast reactors and a comparative source of their leading characteristics, both Eastern and Western, which I have not met elsewhere. □

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Gel chromatography

Torvard C. Laurent

Gel Chromatography: Theory, Methodology and Applications. By T. Kremmer and L. Boross. Pp.300. (Wiley: Chichester, UK, and New York, 1979.) £16.50, \$45.

ALTHOUGH earlier reports appeared on the separation of substances according to molecular size when chromatographed on granulated gels, the introduction of gel chromatography as a preparative and analytical method can be dated to 1959, to a paper by Porath and Flodin in *Nature* (1959, 1657-1659). The following decade saw a rapid development of the practical and theoretical aspects of the technique, to a large extent due to the collaborative investigations of scientists at the University of Uppsala and Pharmacia Fine Chemicals. During the last 20 years, gel chromatography has become one of the major tools in many fields of research and manufacturing. Many names have been used for the procedure (gel filtration, exclusion chromatography, molecular sieving, gel permeation chromatography etc.) but gel chromatography has now been adopted by most reviewers of the field.

Several books or articles have been