

several hundred metres away from the ring; a bubble-chamber area is envisaged at a distance of 3 km. Apart from roads, and small buildings at the access points, most of the surface constructions would be concentrated in two areas, one around the main control centre and a smaller one in the so-called 'experimental area A'. By using buildings of several storeys, it is planned to keep the area of the central complex less than that of the present CERN site.

The report, as presented, would enable a decision of principle to be taken now on the construction of the accelerator. In fact it was stated in the foreword that the design is at a much more advanced state than was that of the CERN PS when approved by Council at the end of 1953.

According to the construction schedule, if a decision to build the accelerator could be made at the end of 1966 the machine could be finished before 1975. However, before work could begin, a site would have

to be decided and agreement would have to be obtained on the convention governing the new laboratory and its relations with the host country. Both steps would involve a considerable amount of technical and administrative work, and it was for this reason that the request for offers of sites had been sent to Member States after the June Session of Council. At the December Session, offers from four Member States were made known, and others were expected. A closing date of 1 May was fixed, so that a start could be made after then on a comparative evaluation.

Information presented to the Council showed that over a hundred technically possible sites had been considered by the Study Group since the start of the project, although many of them had quickly been found to have obvious disadvantages. Fourteen were still on the list as possibilities and the results of the eliminating examinations had been used to advise experts in the Member States so that only the most suitable sites would be included among the formal offers ●

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BOOKS

Progress in nuclear physics, vol.9, edited by O.R.Frisch (Oxford Pergamon Press Ltd., 1964; £4.10.0).

Even the casual reader, on leafing through this book to page 295, where the contents of previous volumes in the series are listed, will notice that those eight books contain the quintessence of nuclear physics. In fact, one is almost tempted to claim that the presence on one's bookshelf of the complete series makes the ownership of other textbooks on nuclear physics a luxury. To what extent, then, does the present volume follow the example set by its illustrious predecessors?

All but the most critical (and they are never satisfied, anyway) will have to agree that the high standard has been fully maintained. The contents have undergone the usual careful selection and the result is six articles of topical interest, covering spark chambers (J. G. Rutherglen), semiconductor counters (G. Dearnaley), beam design (N. M. King), analysis of collision amplitudes (R. J. Eden), interactions of strange particles with nuclei (E. H. S. Burhop, D. H. Davis and J. Zakrzewski), and the electromagnetic properties of the muon (F. J. M. Farley). In other words,

three articles on applied physics and three articles concerned with results or with theory; a well-balanced diet.

The quality of presentation is so high that it would be invidious to single out any one paper for praise. However, if laurels must be given, then let them go to Eden's exposé of an elegant technique in the domain of theory and to the review of the strange-particle interactions; to the former for its lucid explanation of a difficult and controversial subject, to the latter for the model ease with which a large body of experimental results, often not too well correlated, have been assembled and knit together to make a very readable (and very useful) survey. Needless to say that, as both articles are of interest to the reviewer, he is an unfairly biased judge.

Dare we, after all this praise, ask one embarrassing question? Assuming that *Progress in Nuclear Physics* is intended to present the latest knowledge in an easily assimilable and, at the same time, condensed form, why the long delay between the reception of the manuscript by the publisher and the appearance of the book on the market? With the book dated 1964, the bibliography finishes in 1962

(all references to publications in 1963 are marked 'In press'). Nuclear physics is a progressing field: the results of yesterday are still true today, but their interpretation has more likely than not changed.

But, when all is said and done, signs of maturity may be but a very small disadvantage when one reflects that to produce books of such a calibre must inevitably take a considerable time. It is, I suppose, part of the price we must pay in order to be able to enjoy such a well-edited, clearly written and informative book.

St. L.

Introduction to neutron distribution theory, by L. C. Woods (London, Methuen and Co. Ltd., 1964; 28 s.).

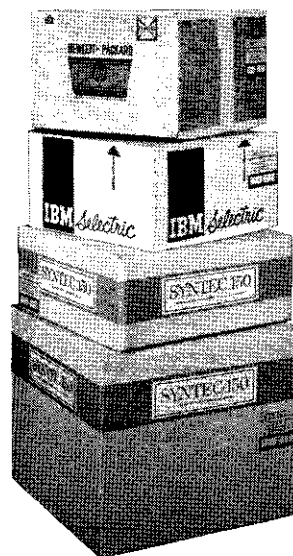
It has always been a source of wonder to me how Messrs. Methuen manage to provide, in their series of *Monographs on Physical Subjects*, such excellent books at such a reasonable price. Lately, however, this wonder has begun to cloud slightly: not on account of the quality and contents of the books, which have maintained their accustomed high standard, but more due to the expense. Here, for instance, we have a volume costing five or six times the usual price of a few years ago. Since the aim of the series is surely to provide brief, inexpensive introductions to topics of current interest in the physical fields for a wider class of reader and not only for the specialist, are the hard covers and the dust jacket really necessary? Judging by a number of opinions I have heard on this subject in the past, a paperback without frills, but at half the price, would be more welcome.

To deal with the book in question: neutron distribution theory is the backbone of the theory of nuclear reactors. Nuclear-reactor technology has been developing with such speed in recent years that its devotees, one has the impression, have had very little time to pause for reflection and to put down on paper a few systematically ordered thoughts. There is a staggering amount of technical literature and a remarkable dearth of good, general books on the subject. We at the fringe should therefore welcome this brave attempt at collecting under one cover a systematic derivation of the basic equations of neutron theory, at a reasonably advanced level, with illustrations of their working when applied to reactor theory. Since the fundamental relations are the Boltzmann transport equations, I am probably not far wrong in saying that this book can be of considerable utility even to those not immediately connected with reactor design and analysis. Again, while the beauty and power of the Boltzmann equations were first demonstrated in the case of gas kinetic theory, their application to neutron physics has led to results which in one way or another seem to involve all of us.

In spite of considerable and necessary compression, the book is very clearly written. However, I do not quite share the author's enthusiasm for presenting the material in this form to honour classes in physics and mathematics. I feel that in order to be able to appreciate best the elegance of the whole technique, one must have passed through the fire that is practice.

Incidentally, what would Boltzmann say to all this? Would he just accept meekly, or would he, heard bristling in support, propound some even more elegant and revolutionary theories? I wonder.

St.L.

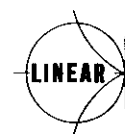


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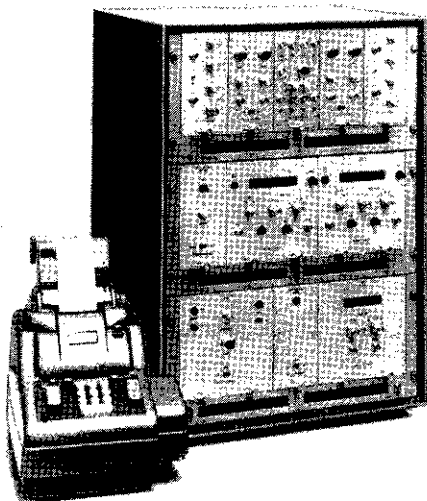
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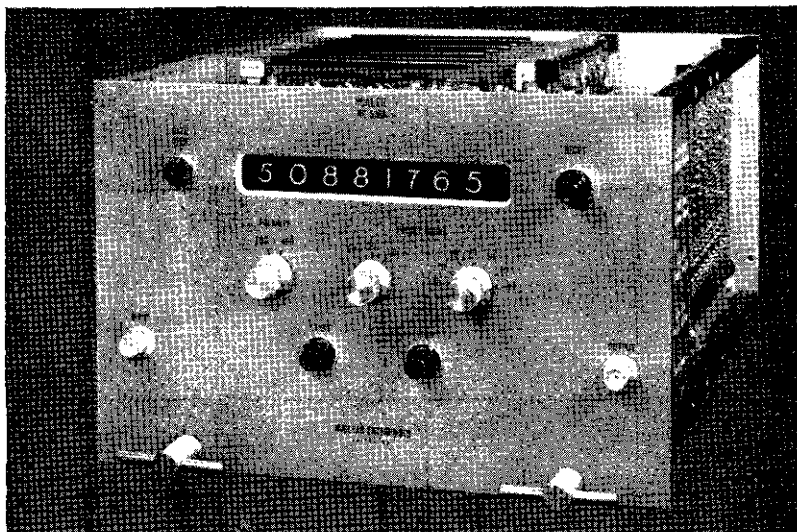
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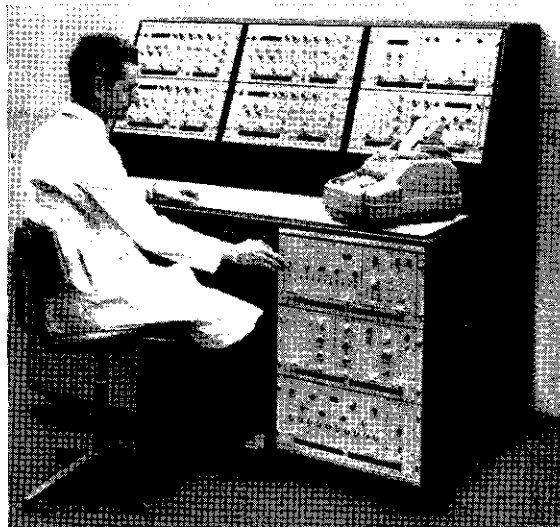
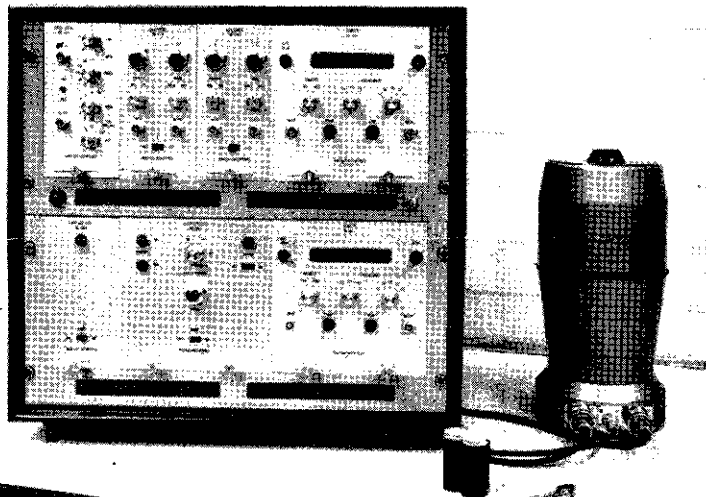
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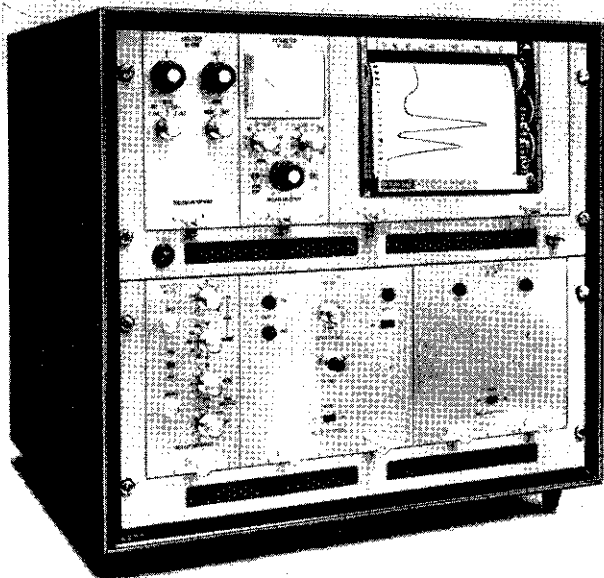
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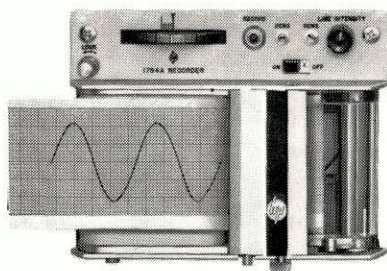
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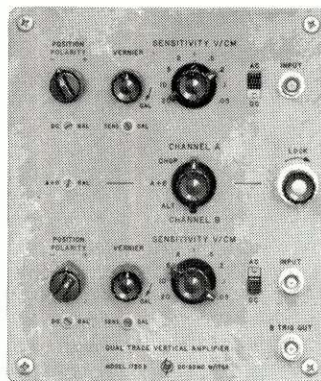


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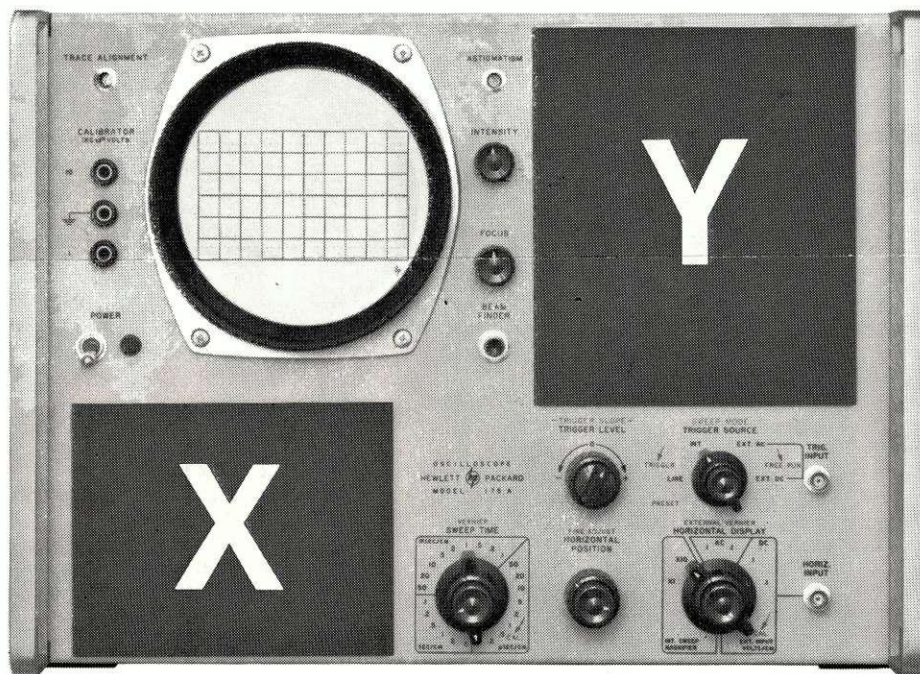
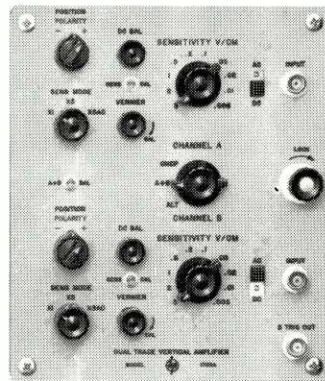


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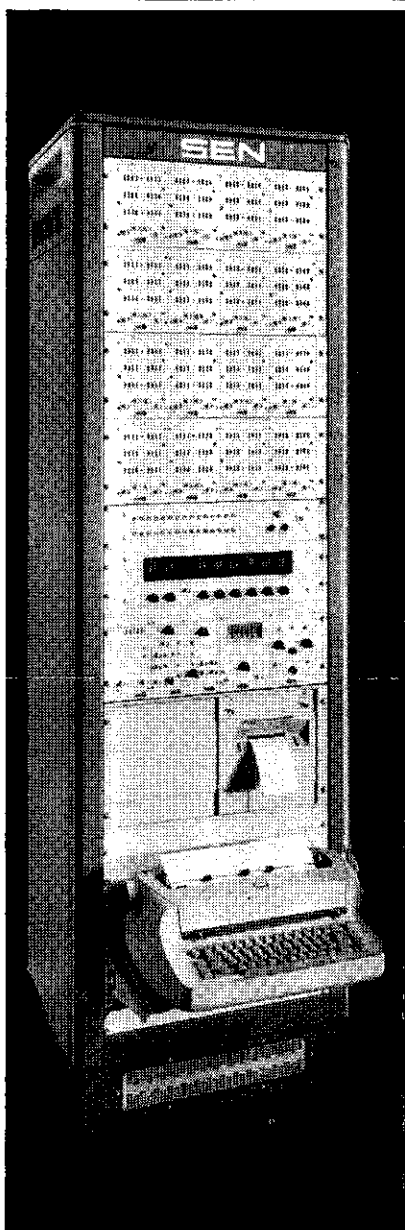
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