# BOOK REVIEW

Selection of books for review is based on the editors' opinions regarding possible reader interest and on the availability of the book to the editors. Occasional selections may include books on topics somewhat peripheral to the subject matter ordinarily considered acceptable.

## TARGETS, HITS, AND MISSES

*Title* Biophysical Aspects of Radiation Quality

*Publisher* International Atomic Energy Agency, 1966

*Pages* 215

*Price* $4.50

*Reviewer* Ernest C. Pollard

This is one of a series of technical reports by the International Atomic Energy Agency and is concerned with the report of a panel on the Biophysical Aspects of Radiation Quality. The report takes the form of the papers given by the panel members and some invited consultants. The discussions following the papers are not presented in the book and would have been of great value if they had been; nevertheless, the papers themselves represent a statement of a position which is quite interesting.

Anyone looking at the papers will naturally select those of interest in his particular area. From the point of view of this reveiwer, the two most interesting papers were by Barendsen on the relative effectiveness of ionizing radiations on mammalian cells, and the paper by Neary on radiation quality effects for chromosome aberrations. The first of these is really full of information and tables and represents a very solid paper in which a conclusion is reached which suggests that about 10 to 15 ionizations are required to occur within a volume of the dimensions of the order of 100 Å, and also that only 25% of the damage at the primary chemical level is oxygen-dependent. Both conclusions are of great interest and suggestive of future work. The paper by Neary represents more of a discussion than a paper, but it, too, closes in sharply on the problem of chromosome damage, with conclusions essentially opposite to Barendsen, though not necessarily in conflict with them because of a difference in the assumed model for a chromosome. The discussion of this whole area by Neary is of great interest.

The whole publication is perhaps too much related to statistical analysis and the feeling that hits and targets are significant. It is quite likely that a good many radiation studies *can* be analyzed in terms of hits and targets, but that feature of radiation action which is sequential, and in which developments follow *after* the hit is not discussed very much in this series of articles. To the reviewer's mind, this is a defect.

The volume is small, interesting, and certainly one that any radiation student would like to have on his shelves.

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