published, not too infrequently, varying estimates of the degree of damage to human chromosomes produced by ionizing radiation. Consequently, in recent years a controversy has developed over how reliable the data from differing laboratories might be.

This conference was thus originated to bring the workers in the field together to discuss, informally, the ramifications of the peripheral-lymphocyte culture technique and what effect they might have on the quantitative data. Such a conference was desirable, but it is perhaps unfortunate that its culmination should be a formal publication of some of the topics under discussion—unfortunate in that, as a cursory glance at the list of invited participants reveals, there are glaring omissions of contributors to the field, as well as absentees among those invited, and the publication, without scientific review, includes some outdated and inadequate papers.

Perhaps the absence of some of the invited participants can be attributed to the timing of the conference. It was held three months after the International Congress of Radiation Research at Cortina d'Ampezzo and would have necessitated two trips abroad within a two-to-four-month period for many individuals. It would have been better to hold the conference as a satellite meeting of the Cortina meetings, as that would have enabled many more interested workers to participate.

With respect to the published contributions, it becomes quite obvious that the major disagreement on the assessment of the chromosomal aberrations is between the British and American workers. Evans pointed out that the coefficients of aberration production reported by the "American workers" are lower than those found by himself and his colleagues. He argues that this is most likely due to the Americans' having selected 72 hours, a time at which the cultures are purported to consist predominantly of cells at the second post-irradiation mitosis, as a time to collect metaphase figures. Evans himself has selected 50 to 54 hours, a time when, he argues, the cells are at first post-irradiation mitosis. An interesting point is that Norman reports, in the same conference, that the coefficients he obtains at a 50-hour sampling time are the same as those found by Bender and his colleagues at 72 hours and are significantly lower than those reported by Evans. It appears there are more complications that affect observed aberration yields than merely the point in the life of the culture when samples are collected.

If I had been asked by a journal to review these articles for publication I would have advised not publishing a large number of them. One paper, for example, discusses the effect of sampling time in the history of culture on the yield of aberrations. A total of 19 sampling times at two doses were examined. At seven of these sampling times 25 or fewer cells were analyzed, and at one point there was only one cell analyzed (a standard error is also given). On the other hand, there were quite interesting presentations concerning relatively new areas of study and recent insights into old problems. Nowell's short paper dealing with the immunological memory of circulating lymphocytes was found to be very interesting, as was the work of Buckton *et al.* on estimating dose-response relationships following irradiation in vivo. These are areas of obvious importance in our understanding of and ability to evaluate the data obtained from laboratory-designed and accidental exposures of human cells to ionizing radiations.

The published proceedings make one point very clear: there are many unknown factors involved in the initially apparently simple peripheral-lymphocyte culture system that make interpretation of the data difficult. Furthermore, it is evident that the time has arrived for a concerted effort by all groups to have an "informal" meeting to attempt to glean some value from an obviously important field.

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Photoreactions

Preparative Organic Photochemistry. ALEXANDER SCHÖNBERG, in cooperation with Günther Otto Schenck and Otto-Albrecht Neumüller. Second edition. Springer-Verlag, New York, 1968. xxiv + 608 pp., illus. $37.

This volume appears ten years after the first edition (which was written in German). The sizable expansion of material in the second edition (which is in English) reflects the explosion of photochemical papers that has occurred since 1958. The new edition consists of 45 chapters of photoreactions classified by reaction type. A 46th chapter, by G. O. Schenck, reviews light sources and filters for use in preparative organic photochemistry. A comprehensive bibliography of previous published reviews of photochemistry is also included. Finally, there is a thorough index of the book's contents according to author, reaction, sensitizer, and compound. The literature is covered up to the end of 1965.

The guiding principle of this volume is to provide a detailed survey of preparative photoreactions for the organic chemist. Only preparative aspects of organic photochemistry are included, so that other monographs must be consulted for theory.

The author has provided chemists with a splendid, comprehensive source of organic photoreactions. Many preparations are described in detail as examples of various reactions. The size of the book, unfortunately, demands a high price. Nevertheless, every worker in the field will want this important reference source in his library.

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Trees

Gehölzphysiologie. HORST LYR, HANS POLSTER, HANS-JOACHIM FIEDLER, *et al.* Fischer, Jena, 1967 (distributed in the U.S. by Abel, Portland, Ore.). 444 pp., illus. $12.90.

There are very few textbooks of tree physiology. The last major work was that of Büsgen and Münch, which appeared in German in the late 1920's and was also made available in English. It is very unlikely that Büsgen and Münch's book will be replaced as a whole, because it contains a great deal of descriptive information on growth habits and growth form which is still valid. Modern writers can therefore concentrate on those topics about which our knowledge has changed and substantially increased. To write a physiology text about a specific group of plants has its problems. First of all, the question arises of to whom the book is directed. Will the readers be mostly students who take it as their only plant physiology text, or will basic plant physiology be a prerequisite? In other words, how broad or how specialized should a tree physiology text be?