Chronic granulomatous disease, which is found predominantly in male children, is characterized by inability of PMN to kill ingested catalase-positive bacteria; those that are catalase-negative are killed. R. L. Baehner and R. K. Root discuss this and other inherited defects of microbicidal functions of human leukocytes. Evidence is presented that the principal defect is the inability of the cells to generate hydrogen peroxide. Indeed, when the defective leukocytes are caused to ingest latex particles coated with glucose oxidase the ability of the cells to kill catalase-negative bacteria is markedly improved.

Several papers discuss leukocyte locomotion and directed migration. A number of interesting observations are recorded, and there is no doubt about the importance of this line of investigation. However, at present there appears to be a need for improvement in techniques for conducting such investigations and for careful attention to the property of cells that is being assessed. Some of these difficulties are underscored in the contribution by M. E. Miller and in the summarizing remarks by J. G. Hirsch.

The volume includes an excellent brief review of the activation and role of complement components in phagocytosis (H. J. Müller-Eberhard), a short discussion of activation of macrophages by lymphokines (J. R. David), and some interesting studies concerned with an apparent role of macrophages in causing precocious humoral immune responses in neonates (R. M. Blaese). For a more comprehensive view of the biological roles of phagocytic cells and mechanisms of phagocytosis, the reader would be well advised to supplement this book with the symposium "Function of Macrophages" published in *Federation Proceedings* (**34**, 1723 [1975]).

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Measuring Stellar Diameters

The Intensity Interferometer. Its Application to Astronomy. R. HANBURY BROWN. Taylor and Francis, London, and Halsted (Wiley), New York, 1974. xvi, 184 pp., illus. $18.75.

This book recounts the entire story of a project from conception through completion. Its subject is the optical intensity interferometer utilizing two large, mobile light collectors built at Narrabri, Australia, mainly for the purpose of measuring 32 stars. R. Hanbury Brown has been the protagonist of the project, being responsible for the original idea as well as for its implementation. His training as a radio engineer permeates the style of the project to such an extent that it bears almost no resemblance to customary optical astronomy facilities.

The book is well written and enjoyable and may be particularly recommended to persons having only a marginal acquaintance with the subject. The initial historical chapter especially deserves to be singled out for its refreshing personal flavor, uncommon in scientific work. It includes a genial narration of the storm of controversy that arose upon initial publication of the idea of intensity correlations. Such correlations presented an awkward discord with naive (and erroneous) notions stemming from a quantum viewpoint. The explanatory theoretical chapters unfortunately lapse back into the passive, and their clarity is slightly diminished as a result. The simple and the elaborate aspects of the theory are conveniently sorted into separate chapters, however.

The book does not replace the author's earlier article, "Measurement of stellar diameters" (*Annu. Rev. Astron. Astrophys.* **6**, 13 [1968]). In that article, for example, the fact that the method is restricted to blue, high-temperature stars was more emphatically clear. As another example, the effects of path difference receive an unnecessarily muddled account in this book. Path differences are tantamount to small pointing errors that jiggle the position of the fringes (illustrated in figure 2.2 of the book) so as apparently to smear them out. On the whole, however, the explanations are remarkably clear.

My principal objection is to the restricted, almost myopic, presentation of the topic. There is not a word on how intensity interferometry complements speckle interferometry and there is only one mention of heterodyne interferometry. Both of these more recent techniques are also used for measuring stellar diameters. And the comparison with the older Michelson stellar interferometry is somewhat unjust, because it presupposes visual detection for the Michelson technique whereas the intensity interferometer profits from the advantages of photoelectric detection. A moderately imaginative use of a Michelson interferometer with photoelectric detection might prove to be very beneficial.

The real problem with any interferometer, it seems to me, is the difficulty of being sure that an absence of fringe visibility (or correlation) is truly a result of resolved source diameter rather than of some spurious cause such as maladjustment. Hanbury Brown has been meticulously thorough in addressing that problem. His success may very well be a result of that thoroughness rather than of inherent advantages of the intensity interferometer.

The book does not discuss applications of intensity interferometry other than measuring stellar diameters. Possible spectroscopic applications were once suggested. Was there some reason, other than neglect, for their fading away? Also absent is the discussion of the remarkable fact that laser light does not exhibit intensity correlations. Some comment on that would have been welcome.

It is indeed fortunate that Hanbury Brown had the idea of the intensity interferometer as early as he did. In the present climate it is unlikely that such an exceptional project would receive support. If the conception had been delayed we probably would have been deprived of both the knowledge attained from the project and a good book.

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Improving Plant Protein

High-Quality Protein Maize. Proceedings of a symposium, El Batán, Mexico, Dec. 1972. Dowden, Hutchinson and Ross, Stroudsburg, Pa., 1975 (distributor, Halsted [Wiley], New York). x, 524 pp., illus. $28.

Nutritional Improvement of Food Legumes by Breeding. Proceedings of a symposium, Rome, July 1972. MAX MILNER, Ed. Wiley-Interscience, New York, 1975. xvi, 400 pp., illus. $20.95.

Dietary protein has been in short supply in the economically disadvantaged groups throughout the world. It has been estimated that within one generation there will be a greatly expanded need for food protein, possibly amounting to 100 million tons a year. The cereals and the food legumes (pulses) are now the major source of both calories and total protein for a large segment of the peoples of the world. There is a consensus that increases in protein quantity or quality or both in these groups of crops can be effected more readily than adequate increases in the supply of animal protein. Furthermore, it is well established that cereal-legume dietary combinations provide an adequate amino acid balance. Thus genetic improvement in both crops would be desirable. The books under review are the proceedings of symposia held to explore the nutritional adequacy of and opportunities for improvement in these two important sources of plant protein.

In *High-Quality Protein Maize*, primary