active involvement of physics, chemistry and biology and, as in the past, this fusion of disciplines should yield exciting results.

The complex photoresponses of fungi, covering the phototropism of spores, morphogenetic effects of light and the biochemistry of pigment variation are discussed by Carlile who also describes some light induced changes in yeasts and cellular slime molds. Photoperiodic effects in algae (Dring) and the photobiology of the circadian rhythms of several groups of eucaryotes (Ehret and Will) bring together considerable information. The last chapter on bioluminescence by Airth and co-workers reverts to the description of a slightly less complex phenomena but has the virtue of adopting a comparative approach to a subject often considered from a purely biochemical viewpoint.

A wealth of stimulating and demanding detail has been assembled in this volume, which is well produced with only a few typographical errors. There are one or two omissions in subjects covered, perhaps an ecological view of photosynthetic microorganisms being the most obvious. The interdisciplinary approach has been successful and the volume should succeed as an advanced text for students and as a guide to research workers.

University of Liverpool N. G. CARR

Chemotaxonomy of the Leguminosae: edited by J. B. HARBORNE, D. BOULTER and B. L. TURNER. Academic Press, London, 1971. xv + 612 pp. £10.50.

THIS volume covers in a reasonably comprehensive fashion what is known about the distribution of most classes of chemical compounds in the Leguminosae. These include lipids, terpenes, amino acids, alkaloids, sugars including polysaccharides, flavonoids and six chapters on proteins and enzymes including the phytohaemagglutinins. The legumes constitute one of the largest plant taxa and many are useful economic plants. It is not surprising, therefore, to find that a great deal of information exists about their chemical composition. However, much of this is scattered and incomplete and whereas some individual species like *Phaseolus vulgaris* have been examined extensively, certain tribes such as Ingeae have been more or less neglected. The Editors and Authors are thus to be congratulated on their presentation, for in each case it must have been a long task to assemble all the information and make a coherent story. Nevertheless it should be stressed that this hardly makes for a taxonomy of the Leguminosae. It is true that there are areas like the non-protein amino acids where the chemical information has been put to good taxonomic use, but in the majority of cases we are faced with a list of occurrences which seem to give as many exceptions as they do regularities. Obviously, we have a really long way to go before we can hope to use chemistry fully in systematic studies, but this volume at least can point one in the right direction. It is, expectably, well produced and with the mine of information it contains is a necessity on the bookshelf of any interested in natural products and their distribution.

T.S.