particular chemical compound, the name of the chemical is looked up first in the Chem PRODUCT index. This volume lists in alphabetical order over 300000 chemicals, including organic and inorganic chemicals, radioactively labelled chemicals, drugs, dyes and polymers. Against each chemical is printed its Chemical Abstracts Service Registry Number (abbreviated as CARNO identification code). New compounds for which no CARNO code number had yet been assigned, are given an Interim Number (iNo).

This CARNO code number is then looked up in the second volume of the set, i.e. the Chem SUPPLIERS directory. This lists the CARNO (or iNo) code numbers for the chemicals in simple numerical order, and against each entry will be found one or more company identification-code index letters which are the respective abbreviations for the companies who supply or manufacture the chemical.

This identification code letter is then looked up in the third volume of the set, the Chem ADDRESS book, which lists the names, full postal addresses, telephone number and telex number of over 23000 companies from 39 different countries, including not only the U.S.A. and Europe, but also Japan, China, Australia, South America and Russia. This last volume lists the companies first of all by their company identification code index for quick and easy location, but also, separately, lists the companies' full postal address and telephone number in alphabetical order, with cross-referencing to branch offices of one company in different countries together with the name of the original company.

Although this seems on paper a complicated procedure, once the idea of using the three volumes in that order has been grasped, it takes only 1 or 2 min to find a list of suppliers and pick out a convenient company. For example, in a typical search for the biochemical 2′:3′-cyclic AMP, ten different companies were found to be listed, one in the U.K., six in the U.S.A., and within a further 30s the full postal address of the British firm had been found.

In summary, the four volumes combine to form a very useful aid to the purchase of chemicals. They are adequately cross-referenced and enable one to find a supplier for any one of a vast range of products. A typical search takes only a minute or so, eliminates the time wasted in the usual catalogue scan and extends the search to truly world-wide markets.

The whole series is aimed to be kept up to date by yearly revision. This would, however, add further to the initial outlay, and would probably be justified only in the largest research establishments.

B. J. BRAMBLEBY

Prenatal Diagnosis of Genetic Disease

D. C. SIGGERS

Blackwell Scientific Publications, Oxford, London, Edinburgh, Melbourne, 1978, pp. 69, £3.25

This booklet covers briefly the major aspects of early prenatal diagnosis of genetic disorders and neural-tube defects. The first chapter clearly describes the main indications for diagnostic amniocentesis for chromosomal disorders. Some practical problems are also discussed. These include the possibility of diagnostic errors because of maternal-cell contamination of amniotic-fluid samples, and the desirability of chromosome analysis when the indication for amniocentesis is non-chromosomal.

The second chapter deals with prenatal diagnosis of neural-tube defects and includes a discussion of the significance of amniotic-fluid and maternal serum α-foetoprotein contents.

The third chapter deals with prenatal diagnosis of biochemical disorders and gives a useful list of those that have been, or can potentially be, diagnosed prenatally. The list is comprehensive; indeed it contains 'lactosyl ceramidosis', a disease which on further consideration probably does not exist. The possibility might have been included that, although some diseases cannot be tested reliably by assay of amniotic-fluid supernatant, others (such as Tay–Sachs and Hunter's diseases) probably can, thus allowing considerable shortening of the delay before diagnosis.

The fourth chapter deals with X-linked disorders and other indications. Again this is a useful chapter, but Menkes' syndrome is tabulated incorrectly as a disorder in which features may not be detectable in female carriers.

Although brevity and dogma are useful in order to put across the main points with emphasis, fuller discussion is sometimes required for complete accuracy, which is sometimes jeopardized in this useful book. Thus it is stated that the α-foetoprotein concentration falls during the third trimester to undetectable amounts. This of course depends on the methodology, since it is clearly detectable by radioimmunoassay. The categorical statement that isolated hydrocephalus cannot be diagnosed prenatally is inaccurate, since prenatal diagnosis can be established by either ultrasound or X-ray.

This book will be useful mainly to non-specialists wishing to have a comprehensive, concise and clear summary of the subject.

P. F. BENSON

The Photosynthetic Bacteria

R. K. CLAYTON and W. R. SISTROM (Editors)

Plenum Press, New York, 1978, pp. 946, £53.55

A glance at *Biological Abstracts* shows that some 300 papers on photosynthetic bacteria are published each year. Why should a group of organisms with very limited medical, industrial and ecological significance be so popular with researchers? One reason is that the mechanisms by which they harness solar energy are somewhat less complex than those of higher plants. Another is their extreme metabolic versatility: many species can grow either by photosynthesis in the absence of oxygen, or by respiration in the absence of light.

This ambitious book is the first attempt since 1963 to summarize our understanding of their biology and biochemistry in a single volume. It contains 50 chapters each by an expert writing about his particular field. It collects together an immense amount of information about these organisms previously only available in a widely scattered form, and the standard of the individual contributions is very high. However, turning all these separate contributions into a single book has created two drawbacks. The first is that there has been a 3-year period of gestation. Some chapters were written or extensively revised in 1977. Others were written in 1975 and have remained unchanged. The second drawback is that it is not possible to write 50 chapters about photosynthetic bacteria without introducing extensive duplication. It may be instructive to have different authors arguing that photosynthetic bacteria evolved from blue–green algae, and that blue–green algae evolved from photosynthetic

Background: Prenatal diagnosis is a subfield of clinical genetics and gynecology that exemplifies the effective integration of theoretical and clinical medicine. Milestones in its history include the development of cytogenetic, molecular genetic, and molecular cytogenetic methods as well as advances in ultrasonography. The latter technique not only improves the safety of invasive procedures, but also enables earlier and more reliable diagnosis of congenital malformations.Â Polygenic and multifactorial diseases cannot be reliably diagnosed by genetic testing at present, although a number of malformations can be ascertained prenatally by ultrasonography. We discuss the applications and limitations of invasive and noninvasive techniques for prenatal diagnosis. Download full-text PDF.