

but no English textbook version has appeared. The presentation of the yield-line theory is good with a clear outline of the basic principles, examples of its application, and a comprehensive list of references.

The remaining chapters in the book deal with the specific design problems of concentrated loads, eccentrically loaded columns, footings, and prestressed concrete. Apart from prestressed concrete these subjects are treated in detail with comparisons between elastic and ultimate load methods. Prestressed concrete is briefly considered and only basic principles are mentioned but nevertheless sufficient information is given for an appreciation of its use to be formed.

There are five very comprehensive appendixes dealing with the area-moment method for deflexions, moment distribution methods, limit analysis for frames, the ACI binding code (in full) and design tables and charts. All of these are exceedingly useful but that on limit analysis for frames is particularly so. The plastic-hinge theory is given in detail with the upper and lower bounds techniques, combination of mechanisms, etc., which form the basis of any ultimate load design procedure for such structures.

This is an excellent book for both the student and the practising engineer and, despite its being written with the requirements of the American code in mind, should be of considerable value to engineers in this country. Its emphasis on ultimate load methods is most welcome at the present time when design procedures are being rationalized with the ultimate strength of various types of structure as one of the design criteria.

Corrosion of Concrete Sewers

Published by the National Building Research Institute of the South African Council for Scientific and Industrial Research. P.O. Box 395, Pretoria. 1st edition, 1959. pp. xiv, 236. Series DR12. Price 20s.

This book is a collection of three self-contained re-

ports on work done under a research fellowship for the investigation of severe microbiologically induced corrosion of concrete sewer pipes in South Africa. The fellowship was proposed by the South African Council for Scientific and Industrial Research and sponsored by the Institute of Municipal Engineers. The problem of corrosion in sewers, though usually associated with warm climates, has been met with recently in this country.

The corrosion is brought about by a chain of events occurring in the sewer starting with the reduction by micro-organisms of sulphur compounds in solution to hydrogen sulphide gas. This gas is then available for bacterial oxidation to sulphuric acid; this occurs on exposed surfaces. The sulphuric acid generated finally brings about the corrosion of susceptible building materials, such as ironwork, stock bricks, mortar and concrete, situated in the sewer above the liquid level.

In these reports Mr A. Gregor gives an account of "Field investigation of sewer corrosion", Dr F. M. C. Gilchrist deals with the "Microbiological aspects of sewer corrosion" and Mr R. Suskin reports on "Concrete technology in relation to sewer corrosion". The findings and recommendations of the research workers are fully reported in a way easily understood by anyone not familiar with this particular problem. These sections contain information of interest to specialists in sewer design, microbiology and concrete technology respectively, and experimental investigational techniques are well described.

Though the complete answer to this problem has not yet been found, these reports provide a guide to better sewer design, a wider understanding of microbiological processes in sewers, and the design of concrete resistant to acid attack.

The book is well printed, though some of the photographs have not been reproduced too well. There is no index and one must refer to the table of contents for specific information.

CORRIGENDUM

We are grateful to the Central Building Research Institute of Roorkee, India, for drawing our attention to a mistake in *Magazine* No. 31. On p. 44 we stated that the *Symposium on prestressed concrete as applied to buildings* was edited by B. N. Chatterjee. Mr Chatterjee is indeed editor of *Indian Construction News* but the work of editing the papers in this special issue was done by a committee with Mr A. Rahman as editor.