The design of prestressed concrete
in accordance with the S.A.A. Code for prestressed concrete

by Henry J. Cowan and Peter R. Smith

Published by Angus & Robertson Limited, Sydney (and London). 1966. 5¾ × 9 in. pp. xviii, 212. Price 90s.

Henry J. Cowan, Professor of Architectural Science at the University of Sydney and Peter R. Smith, a practising architect, make a combination well suited to writing a general text-book covering both the theoretical and the practical aspects of the design of structures in prestressed concrete. Their book is intended to be complementary to undergraduate and postgraduate courses in prestressed concrete. The aims of such a book should be to give the student as wide an appreciation as possible of the possibilities and limitations of prestressed concrete, in both the architectural and the engineering fields, and to explain the basic principles clearly and show how these are applied in common practice. These aims are adequately realized by this book despite—or perhaps because of—its shortness.

The range of subject-matter covered is wide, including the principles of prestressing, uses of prestressing in architecture, properties of concrete and steel, systems, analysis and design for moments, shear torsion, bond and anchorage including a useful section, on the choice of suitable section sizes; also tendon layout, compression and tension members, circular prestressing, continuous structures, shells and constructional details.

It can be seen from the size of the book that none of these subjects is dealt with in very great detail. However, the principles and design approach are described clearly and the text is well backed up with comprehensive worked examples.

Unfortunately for readers in Britain, this book is written strictly within the framework of the Standards Association of Australia's Code for the use of Prestressed Concrete in Structures, C.A. 35. Since this differs considerably from British practice, its usefulness is very limited for students or engineers in this country.

Konstruktionslehre des Stahlbetons
Erster Band: Grundlagen und Bauelemente

(Reinforced concrete design and construction
Vol. 1: Principles and structural components)

by Gotthard Franz

Published by Springer-Verlag, Berlin, Heidelberg, New York. 1966. Second edition. 6½ × 9½ in. pp. xi, 421. Price DM 66.

This text-book, based on the author's lectures in his capacity as a professor in the Technological University of Karlsruhe, goes further than most books of comparable scope in that it endeavours to give the reader real insight into reasons and considerations that govern present-day structural design in concrete. Its object is to keep him in touch with actual construction practice. It enables the designer to make an informed and realistic approach to this task, with a proper understanding of the materials and their possibilities, instead of treating it as a mere academic exercise in working out stresses and steel areas. Whilst it is evidently not intended as a manual of construction practice for the site engineer, the book gives sufficient information of a practical kind, in addition to the standard theory, to help the reader to become a true designer instead of a mere calculator. There are 362 illustrations (almost all line diagrams) and, grouped together at the end, some 700 references.

Vol. I, under review, deals with the materials and their properties and with the design of reinforced concrete and prestressed concrete structural components. Vol. II is concerned more with the over-all design of structures and deals also with shells and folded plates, whilst Vol. III treats the design of various types of building and civil engineering structure.

The practical bias of the book is illustrated by the fact that, for instance, the reader is given adequate information on bar-bending and steel-fixing and that the design and construction of joints, hinges, etc., are dealt with more fully than in most text-books. It is useful also to find prestressed concrete and reinforced concrete treated side by side in the same book as they indeed deserve to be, since there is no really sharp demarcation between the two techniques and in nearly all structures they are complementary.

The three volumes as a whole are probably too comprehensive for the average engineering student, but they appear to be admirably suited to the needs of the practising designer, as an essential accompaniment to the usual compilations of design charts, Tables and formulae.

Formwork to concrete

by C. K. Austin

Published by Macmillan & Co. Ltd, London. 1966. Second edition. 5¾ × 8¾ in. pp. 308. Price 35s.

The second edition of this book is an improvement on the first, but not to the extent that one would want to throw away the old in order to make room for the new. Mr Austin has not rewritten the first edition but rather added to it and, in so doing, has certainly enhanced the value of the book. Amongst the additions is the most recent thinking on mould oils and form linings. Quite rightly, no recommendations are made but guidance is given on the way to produce acceptable surface finishes to plain concrete. A very useful section is included giving a review of methods of achieving