

REVIEWS

Problems in Hydraulics and Fluid Mechanics for Engineering Students.

By J. R. D. FRANCIS and P. MINTON. Edward Arnold, 1964. 134 pp. 24s.

Mécanique Expérimentale des Fluides. Tome III. Recueil de Problèmes.

By R. COMOLET and J. BONNIN. Masson et Cie, 1964. 357 pp. 76 F.

It has been interesting to read through these two books which are aimed at the same type of audience and use almost identical methods to achieve their aims. Each is a volume of worked examples intended to supplement a previously published text, viz. *Textbook of Fluid Mechanics*, by J. R. D. Francis, and *Mécanique Expérimentale des Fluides—Tomes I, II* by R. Comolet. The texts were meant for pass degree engineering students and the worked examples illustrate just about everything that can be done in fluid mechanics without using partial differentiation, which makes only one or two meek appearances in each book. Many of the solutions begin with a paragraph indicating the strategy to be employed. This makes the works worth while and superior to mere collections of solved examination problems.

Francis and Minton work through solutions of 68 problems—at 2·0 pages each—under the following 13 chapter headings: Units and dimensions, Hydrostatics, Streamline plotting, Forces due to fluids in motion, Flow of compressible fluids, Boundary layers, Pipes and conduits, Design and analysis of experiments, Open channel flow, Pumps and turbines, Cavitation, Hydrology, Wave motions. Comolet and Bonnin work through 151 problems—again at 2·0 pages each—and also under 13 very similar chapter headings. Some of the French problems have more of a professional air about them. There is more on lubrication and on such matters as flow in radiators. Many of the problems seem to need more algebra than their counterparts in the British collection.

In an earlier age these books would have been known as 'cribs'. In these days of large classes and of reduced contact between student and lecturer a crib can perform a useful function, but woe to the student who is deluded into thinking that either Francis and Minton *or* Comolet and Bonnin can save him the necessity of struggling towards his own solutions! Nevertheless, this reviewer has now set the first as a reference for his second-year students. He is keeping the second as a source book of problems, for which the student at any rate will *not* know the answers.

P. T. FINK