Book Review

Works intended for notice in this column should be sent direct to the Book-Review Editor (M. M. Woolfson, Physics Department, University of York, Heslington, York YO1 5DD, England). As far as practicable books will be reviewed in a country different from that of publication.

The graphic work of M. C. Escher. Second impression: Oldborne, 1967. Price 42 *s.*

This is a revised and expanded edition of a book, originally published in 1961, presenting reproductions of the work of the graphic artist Maurits Escher. There are now eighty-four prints, four of them in colour, and a dozen or so pages of text in which the author explains his aims and describes individual reproductions.

Many crystallographers will be familiar with Escher's periodic drawings through the monograph prepared by Professor MacGillavry for teaching crystallographic symmetry. Anyone who finds delight in the artistry of the periodic drawings and in the ingenuity with which Escher manages to fill completely periodic space with animals and birds will surely be fascinated by this wider range of examples of his work.

Each picture incorporates some specific idea and more often than not this is closely analogous to one of the intrinsically beautiful forms or laws of mathematics and physics. One finds, for example, visual expression of convergent series, topology, projections, gravity, relativity, and optical phenomena in addition to, and often in combination with, the author's more familiar expressions of periodicity and symmetry.

Escher is particularly interested in the presentation of three-dimensional objects in a two-dimensional print. He exploits various devices which suggest the third dimension and he sometimes combines several viewpoints in one print with the inventiveness of a Picasso. But he also makes fun of the limitations of two-dimensional projections by drawing objects which are susceptible to visual reversal and by using projections which are not self-consistent over the whole print. These ideas are developed in his drawings of impossible buildings which incorporate such features as an endless rising stairway in a finite space and an interesting demonstration of a perpetual-motion machine.

Some of the pictures are very beautiful, some approach the horrific; nearly all of them have a vivid and original impact on the viewer. Altogether this is a fascinating and attractively produced book. It will occupy a proud place on many home bookshelves.

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