BOOK REVIEWS

"Understanding the Computer" by Michael Overman

Published by Lutterworth Press, under $10

This is, quite frankly, a book for the beginner who knows nothing about computing. As such, it is very readable and helpful and would be of considerable interest to Junior High School students, in particular. It not only gives a second introduction to both how and why basic flow diagrams and programs are constructed in the way they are, but it lends much more interest to topics such as writing integers in binary notation. In learning to understand the logic of the computer one gets to know the logic of elementary mathematical thought processes. A good book for the school library.

"Art and Geometry" by William M. Ivins Jr

Published by Dover Publications, $1.60

I have often wondered why the Ancient Greek geometers who almost completed the whole structure of Euclidean Geometry so long ago with such skill and logic never went on to investigate affine or projective geometry. This book, a slim volume of just over a hundred pages, offers one explanation. He claims that Greek art and sculpture shows that always viewed the world in a "static, tactile way"; there was never any attempt to portray matter in motion; the faces of the statues are always empty of emotion or movement. He contrasts this with the Renaissance view of the world essentially through what the eye saw. The Renaissance eye saw parallel lines converging towards each other in the far distant background and the artist painted what he saw and, in so doing, stimulated the thoughts that led to the invention of projective geometry.

An interesting and readable book.

"How to Solve Problems" by Wayne A. Wickelgren

Published by W.H. Freeman & Co., $5.45
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Probably Parabola problem-solvers already use most of the techniques recommended by the author but they may well find new ideas on problem solving here that they will appreciate. There is a good deal of overlap with that classic book "How to solve it" by G. Polya (reviewed in No. 3 of Vol. 8 of Parabola) which I consider to be far and away the best work yet on the subject, but all readers will find much of interest in seeing Wayne Wickelgren applying his methods to the many problems he works out in the book.

"Mathematical Models" by H.M. Cundy and A.P. Rollett
Published by Oxford University Press, under $10

This must surely be the last word on the topic! It not only deals fully with making the five Platonic solids and the other regular and semi-regular polyhedra and other familiar models such as Moebius strips and Klein bottles, but gives practical instructions on the construction of mechanical models and easily built devices for drawing various curves like the Archimedean spiral. In particular an apparatus for trisecting angles will interest many readers who have enquired about the subject.

A fine book for your school library but you'd better keep an eye on it or your teacher will be wanting to borrow it all the time!

"My Best Puzzles in Logic and Reasoning" by Hubert Phillips ("Caliban")
Published by Dover Publications, about $1.50

Here is one of the 100 puzzles in this book.

"Mr Reader's 5 daughters each gave books for Christmas to one or more of her sisters. Each presented 4 books and each received 4 books, but no two girls allocated her books in the same way: e.g. only one gave 2 books to one sister and 2 to another. Bessie gave all her books to Alice; Cissie gave 3 to Edith.

Who were the donors of the 4 books received by Deborah?"

Up to the author's usual good standard.

"Topics in Recreational Mathematics" by J.H. Cadwell
Published by Cambridge University Press, $8.50

This is perhaps a book for the more sophisticated Parabola reader. It assumes quite an amount of mathematical knowledge to start with but not, I know, more than many of you have. You will be richly rewarded as the book includes many topics seldom discussed in such publications. I mention a few in the hope of whetting your appetite:– random walks, ruled surfaces, Newton's polygon as an aid to plotting algebraic curves, and a whole chapter carefully explaining the four-colour problem.

Perhaps a criticism could be made that the author's style is rather formal, so that one must read a bit more intently, but his explanations are nevertheless clear.