

BOOK REVIEWS

Science awakening. By B. L. van der Waerden. English translation by Arnold Dresden, with additions of the author. Oxford University Press, New York, 1961. 306 pp., 133 fig., 28 plates. \$7.50.

Some people, even mathematicians, may wonder why so much time is spent on digging out and on deciphering clay tablet texts with clumsy solutions of trivial quadratic equations, or what is the fun of Theaetetus' horrible theory of irrationalities, and whether we can still learn anything from Archimedes' old-fashioned integration methods. But with the same right, one might ask whether it pays to take up a mathematical problem which has been solved once, and to solve it once more in another way. Mach defined science as economy of thought, though actually it is not a virtue of the scientist to take it easy, but rather to look for problems which can stir up his curiosity. If there is any need for justifying the history of science, it would be its extraction from human curiosity and its power to satisfy this same curiosity. Perhaps in the history of science oddities and deadlocks have been more frequent than trail-blazing ideas. In a faithful image of our scientific past both of them are indispensable, like the background and the theme of a painting. But as soon as we concentrate on the main line, we are struck by the sensation that ancient science is more modern than one might expect. Apollonius' Conics could have been written the day before Descartes invented analytic geometry; Dedekind could have explained his theory of real numbers in a letter to Eudoxus, and I wonder whether today we are not taking up the linguistic-ontological problems which disturbed the sophists, Plato, and Aristoteles and led them to their philosophical theories, just at the point where they stood in the 4th century B.C. I admit such arguments cannot fundamentally justify the history of science. I firmly believe that as human beings we have the duty not only to know our place in the world of today, but also in the chain of the heritage we have received from our ancestors and which we have to hand down to posterity.

This has been to explain why twenty-odd years ago a famous mathematician turned to the history of mathematics and astronomy. It should be added that when doing so he forsook neither creative mathematics nor the spirit of mathematical research. Van der Waerden's zeal for clear and thorough understanding, meticulous exactness and lucid explanation and his intuitive imagination are no less