a distinguished professor of psychiatry (at the Upstate Medical Center of the State University of New York, in Syracuse), this and related statements set the tone of candor and criticism that prevails throughout. In the concluding chapter we read, in like vein:

"It is customary to define psychiatry as a medical specialty concerned with the study, diagnosis, and treatment of mental illness. This is a worthless and misleading definition. Mental illness is a myth" (page 296).

Quickly, then, we pick up a second theme, or objective: "to redefine the problem of mental illness so that it may be encompassed under the general category of the science of man." Szasz is well prepared for such a large enterprise; for in addition to his basic training in medicine and psychoanalysis, he also shows himself conversant with the social sciences and with the history of medicine, philosophy, literature, and political theory.

Conceived in such a broad context, mental illness is seen as more a mode of "communication" than as an illness or disease in the proper medical sense of these terms. And this emphasis permits the author to identify conversion hysteria as the prototype for all forms of personality disorder, since it (and they) effectively translates "problems of living" over into the language of the body, thus giving only the *appearance* of genuine illness. Therefore, so-called mental illness is a "myth."

But the mythical emphasis is, in one way, overextended: it does not do justice to the reality of the suffering which is here involved or to the legitimacy of such suffering, considered in a moral and social context.

This oversight is all the more remarkable when it is realized that, in later parts of his book, Szasz devotes many well-reasoned pages to the necessity for social (moral) rules and the human necessity for rule-following. The book reaches its lowest point of coherence, from my point of view, when Szasz suggests that mental illness consists of an individual's being somewhat confused about the real rules of "the game" and "playing" according to distorted or idiosyncratic ones. This book would have a far greater over-all cogency if it concluded on the note that the "sick" person knows quite well what the rules are and that he sickens, not because of playing the wrong "game," but from *not* playing the game which he knows perfectly well to be the right one. In other words, the basic problem would thus be "evil" rather than mere ignorance.

In short, then, the author is eminently bold and often brilliant in his devaluation of current psychiatric theory and practice, but he falls short of attaining a fully consistent and powerful alternative. As a *try*, it is decidedly in the right direction.

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Early Mathematics

Science Awakening. B. L. Van der Waerden. Translated by Arnold Dresden. Oxford University Press, New York, 1961. 306 pp. Illus. $7.50.

For an earlier generation of graduate students, Van der Waerden's *Algebra* was virtually a household phrase; more recently the author's name has been recalled in connection with a scholarly and beautiful book on ancient mathematics. His *Ontwakende Wetenschap* (1950) was welcomed with justifiable enthusiasm [see *Mathematical Reviews* **12**, 381 (1951)], and the richly illustrated English version, *Science Awakening*, which appeared in Holland in 1954, was also warmly received [see *Scientific Monthly* **80**, 377 (1955)]. The format, illustrations, and text of the 1954 translation are virtually unchanged in this American printing (1961), and the title page makes no reference to the earlier version; but, in a revised "Preface to the English edition," the author refers to the present work as "the second English edition." There are, to be sure, a few changes in the exposition. On pages 73 and 79, for example, one finds new interpretations of two Babylonian problems; and on page 277 the modified description of Heron's *Metrics* no longer stigmatizes it as "a very childish little book." Nevertheless, these revisions do not substantially alter the sound judgments made almost a dozen years earlier. The book remains a model of historical-mindedness, a model in which opinions are independently arrived at from a critical reading of the best sources and authorities. The author, for instance, makes use of Neugebauer's recent valuable research on the role of Babylonian methods in the development of Greek mathematics; but whereas Neugebauer concluded that "the traditional stories of discoveries made by Thales or Pythagoras must be discarded as totally unhistorical" (*The Exact Sciences in Antiquity*, Brown University Press, Providence, R.I., ed. 2, 1957, page 148), Van der Waerden argues (page 89) that this research "knocks out every reason for refusing Thales credit for the proofs and for the strictly logical structure which Eudemus evidently attributes to him." Here and there a reader may question a bold conjecture made by the author. Were the "inner causes" of the "decay of Greek mathematics" really the difficulty of geometric algebra and the difficulty of the written tradition (pages 264–266)? Not necessarily; but then, one of the virtues of this book is that Van der Waerden distinguishes clearly between the historical evidence and the thought-provoking conclusions that he has drawn therefrom.

Science Awakening is as attractively printed as it is accurately written, and only the title is infelicitous. The work is a clearly circumscribed and well-ordered history of pre-Hellenic and Greek mathematics; and while mathematics may be a handmaiden of the sciences, it is not itself—at least in the usual sense of the word—one of the sciences.

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Comprehensive Résumé

The Cell. vol. 2, *Cells and Their Component Parts*. Jean Brachet and Alfred E. Mirsky, Eds. Academic Press, New York, 1961. xiv + 916 pp. Illus. $25.

This comprehensive treatment of cells and their component parts is volume 2 of a series evidently designed as a modern counterpart of E. B. Wilson's classic but now outdated *Cell in Development and Heredity*. The topics included in this volume are given a penetrating treatment by authors outstanding in their respective fields. The contents and authors include: "The cell membrane" by Eric Ponder; "Plant cell walls" by Kurt Mühlethaler; "Ameboid movement" by Robert Allen; "Cilia and