

proof, needs for its greatest esthetic effect a sense of suspense during its development, with the full resolution deferred until the end. If all good things come by threes, we might add the detective story as the third example of this type.

The later chapters deal with philosophy: Dante's philosophy of nature, Proclus Diadochus (the most admired of the ancient mathematicians) on mathematics, number and space with the Neo-Platonists, Goethe's color doctrine, astrology. In all these essays we have an author who has the advantage (the word of course reveals prejudice) of the newer empirical point of view, and yet gives most sympathetic accounts of those idealists who believed that cogitation would disclose the truth about reality. We have, for example, Dante's explanation of why all inhabited land should be in the form of a lunette—with its center at Jerusalem—exactly opposite the divine point of heaven. Originally the Godhead attracted the bulk of solid matter to the opposite side of the sphere. But "Lucifer plunged headlong down from this divine point. When the earth saw him coming, it shrank back aghast. Lucifer was held fast in the center, and above his three heads there appeared a cave, Hell; then earth closed behind him again, and thus there arose the Mountain of Purgatory near the Antipodes." If it is a little less than fair to cite only this example of the working of reason uncontrolled by experiment, we would atone for it by urging that the book itself be read. It is not a necessity for one's library; it is a delight.

E. S. ALLEN

*Lezioni sulla Teoria delle Superficie Algebriche.* By Federigo Enriques. Raccolte di Luigi Campedelli. Parte 1a. Padova, Antonio Milani, 1932. 4+481 pp.

The book contains 481 pages and comprises the first part of a volume assembled by Dr. Luigi Campedelli in collaboration with the author. It is not made clear, however, whether the work is presented as a preliminary edition of a text or as a set of organized lecture notes.

A general introduction of twenty pages embraces birational transformations, examples of singularities, geometry upon surfaces, and exceptional curves. Among this material occurs the fundamental theorem to the effect that a surface  $F$ , having any singularities whatever, may always be transformed, by means of a birational transformation, into another surface having no singularities.

Without listing the actual contents it may be said that there are five chapters embracing sixty-six paragraphs. The chapter topics are: systems of linear curves, systems of covariants and invariants, adjoint surfaces, the genus number and the theorem of Riemann-Roch, classification of surfaces, in particular, regular surfaces.

Chapter 1 contains illustrative examples of the topics under discussion; the same technique is observed in Chapter 3; Chapters 2, 4, 5 have appended bibliographies. Chapter 5 embraces more than one third of the book and includes an extended discussion of canonical surfaces and curves, Cremona transformations, rationality of surfaces and planes in connection with the theorems of Noether and Castelnuovo.

The book has apparently been photostated; the title, chapter headings, etc., are hand printed while the body of the text is in excellently executed script.

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