experiment or by reference to a posteriori information. Space being obtained by abstraction, is unique, and has definite properties, and requires no *axioms* for its development. The theory of parallels is only a side issue of the implications of the straight line. The author leads the reader to expect the conclusion that Euclid alone is valid, yet he says later (page 121), "The result of our argument is quite conservative. It reestablishes the apriority of mathematical space, yet in doing so it justifies the method of metaphysicians in their constructions of the several non-euclidean systems."

There is much vagueness and apparent contradiction in the book. The abstraction process, except in so far as it is purely intuitional, would seem, if definite at all, to be nothing more than an arbitrary process, and hence equivalent to a set of axioms. The author is not concerned with any question of betweenness, or of continuity, except as involved in notions of homogeneity, evenness, his interest being almost entirely in the parallel axiom and its implications.

The book concludes with an epilogue in which the analogy between mathematics and religion is discussed, although the precise analogy is not quite clear.

F. W. OWENS.

Mechanics. By JOHN COX. Cambridge University Press (Cambridge Physical Series), 1904. Demy 8vo. xiv + 332 pp.

THIS book ought to have a far reaching influence on the teaching of elementary mechanics. It contains really good illustrative examples, concrete, practical, and instructive, and at the same time, gives clear and accurate statements of the fundamental principles. It is not overloaded with theory more general than ordinary applications require. Further, principles are expressed in words rather than by formulas. In simple examples it is clumsy to use a general formula, in complicated examples verbal expression often clears the view, in all examples the mere substitution of numerical values in a formula is poor practice.

Two paragraphs from the author's preface are worth quoting. "Some years ago I stumbled on the first German edition of Professor Mach's Die Mechanik in ihrer Entwicklung. . . . Since then my teaching has been based more and more on the lines laid down by Mach, and as I have found it impossible to