States during recent years, that story awaits another narrator; but, if only a desire, on the part of Americans to learn more concerning the place which American chemists occupy in the world's history of chemistry, is awakened, this compilation of facts will not only have been a pleasure but it will have served a worthy purpose."

The book is to be regarded as a "compilation" and not as a history. All American chemists should be thankful to the author for the pains he has taken to collect this material and for placing it before us. It furnishes the basis for the history of chemistry in America which remains to be written.

It is interesting to note the fact that so many of those who are necessarily mentioned in the book were connected with the University of Pennsylvania. It is, therefore, most appropriate that this work of compilation and comment should have been done by the one who at present holds the two important positions in that university of provost and professor of chemistry.

Ira Remsen

Das Relativitätsprinzip. By Lorentz, Einstein and Minkowski. Leipzig: B. G. Teubner. 1913. Pp. 89.

Under the general title Fortschritte der mathematischen Wissenschaften in Monographien, Otto Blumenthal is issuing a series of which number 2 is a collection of six papers by eminent advancers of mathematical physics dealing with relativity.

The first paper is a short note by Lorentz of date 1895 in which the hypothesis of shortening in the direction of motion is discussed, practically for the first time, though both he and FitzGerald had for some time been familiar with it. The second is a translation of Lorentz's very famous Electromagnetic phenomena in a system moving with any velocity smaller than that of light, dated 1904. Here not only the hypothesis of shortening, but the Lorentz group, fundamental in relativity theory, is found.

The third article is Einstein's epochal formulation (1905) of the principle of relativity as a fundamental physical principle independent of any hypothesis of shortening. He goes right at the heart of the matter in that direct way which has been so characteristic of his theories. The next is a short note, not two and one half pages, in which Einstein points out that a consequence of the foregoing work is the proportionality of mass and energy.

Minkowski's Raum and Zeit (1908) is the fifth article. Here the simple four-dimensional formulation of mechanics and of the inverse square law of attraction is first clearly exhibited—yet not so clearly that Sommerfeld's explanatory notes are unwelcome. This address of Minkowski's had been reprinted separately, and to the exhaustion of the edition is perhaps due the publication of the present collection.

The final article is from Lorentz's Alte und Neue Frage der Physik (1910) and forms an appropriate close to a series which presents concisely and at first hand the steps in the development from the Michelson experiment to the full fledged theory of relativity.

E. B. Wilson

Controlled Natural Selection and Value Marking. By J. C. Nottram. New York, Longmans, Green and Co. 1914. Octavo. Pp. 130.

The author of this book advances a new theory to account for the origin of sexual dimorphism and of polymorphism within animal species. He starts with the assumption that the competition in the struggle for existence is frequently between groups rather than between individuals. Thus, family may compete with family, or pair with pair, rather than individual with individual. Conspicuousness on the part of one member of the family (its least necessary member) it is supposed, may insure persistence of the family by drawing the attacks of enemies to the one and thus diverting them from the more valuable members of the family. Thus male conspicuousness, in sexually dimorphic species, is supposed to be advantageous to the female and young. "Controlled natural selection ac-