oped by these early geniuses, who should still be honored. As a manual the work should be in the hands of every student of superficial geology, and must form one of his most valuable works of reference. In a great manner the conclusion of the author will be most acceptable. On other points, differences of opinion will prevail here as in the works of all other philosophic writers. The title of the book is its sensational feature, and might awaken more opposition than its general judicial character would give rise to.

J. W. SPENCER.

The Etiology of Osseous Deformities of the Head, Face, Jaws and Teeth. By EUGENE S. TALBOT, M. D., D. D. S. Third Edition. Revised and enlarged, with 461 illustrations. Chicago, The W. T. Keener Company. Pp. 487.

Dr. Talbot's work is a most ambitious one, and this is perhaps its chief fault. It contains an enormous amount of facts and figures gathered from every source and touching upon every question from anthropology and crime to the useful art of taking care of the teeth. If the doctor could have condensed his book and given it a little more proportion and coherence it would appeal much more to the general and scientific reader. As it is, we find in it much original observation and a multitude of anatomical and anthropological facts which are interesting and should prove useful.

An excellent example of the author's work is shown in his chapter on developmental resources. Here he starts with the simple problem of the palatal arch in idiots and ends in a discussion of the general problem of osseous deformities as related to the different forms of degeneration. Dr. Talbot is manifestly a follower of Morel and Lombroso and adds many facts in support of the view that characteristic stigmata accompany the degenerative state. We must add again, however, that he fails to take what we would consider a properly conservative view of the question, and, while he gives many valuable data regarding criminals, he does not, we think, consider sufficiently the anatomy of the normal man of the low social stratum from which most of his criminals come. Lombroso has himself abandoned anthropometrical measurements as affording much help in establishing a criminal type.

We must add, in conclusion, and in justice to Dr. Talbot, that we know of no American who has made so many personal observations and measurements on the defective classes, and he is entitled to great credit for his work.

CHARLES L. DANA.

DOUBLE REFRACTION IN WOOD.

Doppelbrechung electrischer Strahlen. K. MACK. Wied. Ann. 54, 1895, p. 342.

Bemerkung über die Abhandlung von Herrn Mack. W. VON BEZOLD. Ibid. 54, 1895, p. 752.

Doppelbrechung electrischer Strahlen. A. RIGHI. Ibid. 55, 1895, p. 389.

Mr. Mack's article describes an interesting series of experiments to demonstrate that plates of wood exhibit a double refraction of electric waves. The sender and receiver were so arranged, with spark gap and reflectors, that the waves were 50–60 cm. in length. The test for double refraction in light is the lightening up of the field when the substance is introduced between crossed Nicols; similarly, Mr. Mack tested for double refraction of electric waves by introducing plates of wood between crossed sender and receiver. The first plates were of fir-tree 0,5-1,0 sq. M. area and 2,3 cm. thick, and gave negative results. An octagonal plate of fir about 60 cm. in diameter and 20 cm. thick was afterward used, and showed a decided double refraction when its fibres were 45° to the sender and receiver, and also between parallel sender and receiver showed