limestone simultaneously with the precipitation of the metallic salts.

In chapter vi. a very interesting comparison is drawn between the silver-lead deposits of Eureka and those of Leadville and other localities in America and Europe, but no exact counterpart of these remarkable ore-bodies is anywhere discovered.

SEWERAGE AND HEALTH.

MR. ERWIN F. SMITH, in the Annual report of the Michigan state board of health, has shown the beneficial effects of thorough systems of sewerage on the health and mortality of cities. The work is based upon a large amount of data, chiefly drawn from European cities owing to the paucity and imperfection of American statistics. The author accepts the system of water-carriage as altogether the safest and best. A comparison of fifteen large cities without sewerage, with as many sewered, shows a remarkable difference in mortality. Thus in the first series the average death-rate was 35.8 per thousand inhabitants, while in the latter it was only 26. One of the most striking instances is that afforded by Chicago, where the death-rate has fallen off from 37.91 to 21.40, with the use of good water-sewerage. In the majority of cases, like results have been observed, and in only a few has the mortality remained unchanged. In England the decrease within late years in general mortality has been, perhaps, most noticeable, and in no country does sewerage receive greater attention. Most especially is there a direct connection observed between good sewerage and typhoid-fever and cholera. In Munich the mortality from the former of these causes has decreased from 1.82 to .17 per each thousand inhabitants. In Berlin, since 1879, the typhoid mortality has fallen off two-thirds; and it was further found, that, out of every 43 non-sewered houses, there was one death, as against 137 houses that were sewered. New York and Brooklyn have the best water-supply and general sewerage system of any of our large cities, and the death-rate from typhoid-fever has been correspondingly low, — in New York, during the last decade, only .28; and in Brooklyn, .15. Contrasting these figures with those of some large non-sewered cities, a remarkable difference is apparent. In Palermo and Turin, with defective water-supplies, the deaths from this cause were as many as 1.2 and .8. In St. Petersburg, without any proper disposition of sewage, the mortality was 1.06 in 1883, and .93 in 1884. It may be well to mention, that, in general, Russian mortality is frightfully high, in some provinces reaching 62 per thousand. With cholera similar results bring the conclusions that unsewered cities suffer severely, while sewered cities escape, and that localities subject to typhoid-fever are the ones likely to be visited by cholera. This last is especially significant, and behooves the earnest attention, at the present time, from American cities where the known typhoid mortality is great. As regards diphtheria, the author concludes from the study of abundant data that there is no direct relation between them. Finally, the author concludes that "it is entirely within bounds to say that the general introduction of proper sanitary measures, meaning thereby the provision of an abundant supply of pure water and the proper disposal of excreta, would reduce the annual loss in the United States from one single cause, the preventable typhoid-fever, in money value, at least $25,000,000 a year, — enough, in the course of a few generations, to sewer every city and village from the Atlantic to the Pacific."

The influence of sewerage and water-supply on the death-rate in cities. By E. F. SMITH. Lansing, *State*, 1885. 8°.

ABBOT'S SCIENTIFIC THEISM.

DR. ABBOT'S purpose is to expound a theory according to which the universe is the direct manifestation of the indwelling thought of God, — "a universe in which the adoring Kepler might well exclaim in awe unspeakable, 'O God! I think Thy thoughts after Thee,' — a universe which is the eternally objectified Divine Idea, illumining the human intellect, inspiring the human conscience, warming the human heart" (p. 214). This theory he regards as the best expression of the outcome of scientific thought, and he accordingly seeks to present his doctrine in close relation to the facts of scientific experience. Science, namely, discovers in the world objective relations, and finds these relations united in more or less completely understood groups or systems; science therefore, thinks Dr. Abbot, properly concludes that the world as a whole must be one rationally comprehensible system of relations. But a comprehensible system of relations is, he affirms, inconceivable apart from an intelligence that creates the system or that expresses itself in this system: hence the world must not only be intelligible, but intelligent; and therefore "the universe *per se* is an infinite self-consciousness" (p. 155). This, in the briefest summary, is Dr. Abbot's positive doctrine.

Organic scientific philosophy. Scientific theism. By FRANCIS ELLINGWOOD ABBOT, Ph.D. Boston, *Little, Brown & Co.*, 1885. 16°.