From these facts the author draws the logical conclusion, that beriberi is a parasitic disease, and that the parasites attack particularly the blood, muscles, and medulla. In seeking the origin of the parasite, it was found that similar organisms were found at times in rice-grains. The characteristics of the grains of rice attacked by the parasite are given; and the hypothesis is advanced, that rice is often the vehicle of the microphyte by which it enters the human system, which appears to be in accord with the fact that rice is a principal article of food in the regions subject to the disease.

Contaminated grains of rice, subjected to the same cultivation as the blood of beriberi patients, produced organisms entirely identical in appearance. Injections of the liquid of the rice-culture in guinea-pigs produced death in thirteen, seventeen, and twenty days, with paralytic phenomena, and death by asphyxia; and the microscopic examination of the spinal medulla and muscles showed the presence of the same organisms found in animals inoculated with the blood-culture of beriberi. The author proposes to continue his investigation of the suspected relation between a rice diet and beriberi.

BIOLOGICAL THEORIES OF AN ARTIST.

Morphology. Estimates of intelligence. Vital chemistry. By FRANK B. SCOTT, artist. Buffalo, *Bigelow pr.*, 1883. 16 p. 8°.

THE author says in his preface, "If we fail in proving the truth of what we advance, our labor will not be lost: we may lead the way to further discoveries. Columbus was mistaken in his seeking another way to India, but his mistake led to the discovery of a new continent." In science great continents of knowledge never have been discovered by ignorant adventurers: we therefore do not believe that Mr. Scott will achieve the important success he dreams of, although he is mistaken in perhaps half his statements. We are acquainted with no other publication, purporting to be scientific, which contains so many amusing errors and entertaining hypotheses in so few pages. We need only give the following extracts in our justification. "Without oxygen, hydrogen, nitrogen, and carbon, we have no knowledge of life. . . . There are other elements subordinate to these. There is also some other element not subordinate. . . . Perhaps this fifth element was the *quint*-essence of the ancients. Huxley, in his 'Biology,' calls it electricity." Will the author kindly refer us to authority on the quintessence of life of the ancients; also to the page of Huxley? He further states that the blood at one moment is red with oxygen; the next, black with carbon. We have no doubt that sufficient carbon might blacken the blood, but we are surprised to learn that the mixture occurs regularly during life. The whole pamphlet resembles these samples.

THE ILLINOIS GEOLOGICAL REPORT.

Geological survey of Illinois. A. H. WORTHEN, director. Vol. vii., Geology and paleontology. Springfield, *State*, 1883. 4+373 p., 31 pl. 8°.

THE first two volumes of this series of reports appeared in 1866; and the others have followed at intervals since then, the seventh having appeared during the past year. The leading feature of these reports is paleontology, in connection with which the names of some of the ablest American paleontologists appear.

In his preface to the present volume, Mr. Worthen says, that to complete the paleontology of the state upon the plan originally contemplated will require two volumes more, with from forty to fifty plates of illustrations each, but that this cannot be done until authorized by special legislative act. It is not improbable, therefore, that the present volume will be the last of the series.

Mr. Worthen's chapter, of fifty-one pages, on economic geology, treats mainly of local sections in different parts of the state, principally of coal-measure strata. He announces the discovery of 'coal-oil' in the town of Litchfield, — a dense lubricating-oil, mingled with salt water, which he thinks comes from the base of the coal-measure conglomerate, or one of the upper Chester sandstones.

Four borings have reached the oil at a depth of nearly seven hundred feet, each boring yielding about two barrels of crude oil per day. He also reports the discovery of brine in Perry county. Six borings have been made, each flowing sixteen gallons a minute, from which an aggregate of thirty-five hundred barrels of salt is made annually.

The work on the fossil fishes by Orestes St. John and Mr. Worthen is a very important one, embracing two hundred and eight pages and twenty-six plates. It treats of those characteristic carboniferous families, the Cochliodontidae and Psammodontidae, and also of Ichthyodorulites. The important works on similar fossil fishes, which were published in previous volumes, are well known; and yet the material now published is unexpectedly comprehensive as regards the variety of forms