

Creatine and hypoxanthine are said, in small doses, to have the power of increasing muscular work, and to cause the muscle to recover rapidly after exertion. Creatine particularly is said to have this power to a great extent. Glycogen is also classed with these substances, and is said to have great power of increasing muscular capability.

In practice, however, we all recognize a difference in the action of the popular mixtures, — tea, coffee, cocoa, etc. In many persons tea will stimulate, and in a few it exercises a marked action on the kidneys and bladder. Coffee, again, will keep some people awake, while tea does not have the same effect with them. With some individuals it acts as a mild aperient. Coca does not seem to have any decided action on the digestive organs or kidneys.

We find, therefore, that the reputation for sustaining the strength, appeasing hunger, and temporarily increasing the physical powers, which coca, kola, coffee, and tea have in the respective parts of the world in which they are indigenous, is borne out by experiment. Moreover, there seems a probability that physiological science will shortly be able to provide a satisfactory explanation of the practical value of these substances.

#### BOOK-REVIEWS.

*Francis Bacon, his Life and Philosophy.* By JOHN NICHOL. Part II. Bacon's Philosophy. Edinburgh, Blackwood. 16°. (Philadelphia, Lippincott, \$1.25.)

THIS is the latest issue in Messrs. Blackwood's series of Philosophical Classics. In the first part of the work, Professor Nichol gave an account of the life of Bacon, and in this he gives an exposition of his philosophy. He first recounts the efforts of previous thinkers, ancient and modern, to solve the physical problems of the universe, and shows how most of them failed, owing to neglect of observation and experiment, which we now know to be the most essential means of discovering physical truth. He points out, however, that before the appearance of Bacon's works the right method had come into use, and Copernicus, Kepler, Galileo, and others had made important discoveries by the use of it. Hence Bacon cannot be credited with discovering the new method, but only with being the first to generalize it and give a philosophical theory of it. He shows, as others have done, that Bacon recognized more or less clearly the various experimental methods now acknowledged by logicians, while at the same time he pointed out the defects in the induction of the ancients. Bacon also made a survey and classification of the sciences, which has not even yet lost all its interest, and which at the time it was written was quite remarkable. Bacon must also be credited, notwithstanding the defects in his moral character, with an earnest desire to serve his fellow-men, "believing," as he says of himself, "that I was born for the service of mankind." Such being his merits and such his purposes, it is important to inquire why it was that his own attempts to discover the secrets of nature resulted in nothing but failure. Professor Nichol discusses this question at considerable length, and expresses the opinion that Bacon failed partly because he had too overweening a sense of the power of his method, and partly because he thought the universe a far simpler thing than it really is; and he quotes Bacon's own remark, that he "should presently disclose and bring into sight all that is most hidden and secret in the world," as showing what extravagant expectations he had. But the main reason for Bacon's failure was that in his own researches he was seeking for something that does not exist. His object was to find the "forms" of things, and there has been some difficulty in ascertaining what he meant by this term. He certainly did not mean causes, and the true view is doubtless that expressed by Mill in his "Logic," and adopted by Professor Nichol. The "forms" were something "related to permanent qualities as efficient causes are to changes or events." Or, as Mill says, Bacon "seems to have thought, that, as every event has an invariable antecedent, so every property of an object has an invariable co-existent, which he called its form." But, as both Mill and Professor Nichol remark, there is no such invariable co-existent of each property of a thing; and hence Bacon, in his search after "forms," was pursuing *ignes fatui* with the usual result of landing in a bog. The failure of his own researches, however, should not blind us to his real contribu-

tions to the theory of method; and what these contributions were Professor Nichol has pointed out in the pages of this interesting work.

*Curve Pictures of London for the Social Reformer.* By ALEX. B. MACDOWALL, M.A. London, Sampson Low. 16°.

THIS little book is intended by its author to represent, in a pictorial form, such statistics and other information as are necessary for the social reformer in his efforts to deal with the great problems which he has undertaken to help to solve. Like the leader of an army setting out on a campaign, those who are bent on doing something to right the wrongness of our social state (especially through legislation) should see clearly what *is*, while cherishing an ideal to be realized. To furnish such a guide has been the author's endeavor. Diagrams are given by which one can ascertain for a series of years the following: population; density of population; birth, marriage, and death rates; early marriages; death by disease; suicides; drunkenness; felonies; licensed houses; apprehension; pauperism; education; illiteracy; prices of commodities and prices of meat.

*Marriage and Divorce in the United States.* By D. CONVERS. Philadelphia, Lippincott. 16°. \$1.25.

THE author of this work is a clergyman, and writes from a high-church point of view. He starts out with the remark that "marriage and divorce in the United States are in an unsatisfactory condition," and then goes on to criticise our marriage laws in detail. He calls attention to the looseness of these laws in some of the States, and to the difficulties often arising from the difference in legal requirements in different States. He strongly condemns the common-law doctrine of marriage, according to which all that is necessary to constitute a valid marriage is a mutual declaration by the two contracting parties that they take each other as husband and wife, followed by cohabitation; although he is obliged to admit that this is and always has been the canon law of the Christian church. He condemns marriage with a deceased wife's sister, which he declares to be incest. On the subject of divorce he takes the extreme scriptural ground, holding to the principle "once married, married till death." He would allow separation in case of fornication, but without liberty to marry again; while absolute divorce, such as the law now grants, he considers an abomination. He gives some tables and charts showing the rates of marriage and divorce in the different States of the Union, which will be useful to students of the subject, and also many interesting examples to illustrate the defects and inconsistencies in our marriage laws. The fault of his work is, of course, the extreme view he takes of the indissolubility of the marriage tie, — a view which the mass of men will not accept, and which it is impossible to embody in legislation. Our marriage and divorce laws need reforming, but the work must be done in a sensible and practical way, and not in a spirit of hide-bound conservatism.

#### AMONG THE PUBLISHERS.

IN the *Fortnightly Review* for April (New York, Leonard Scott Publication Company, 29 Park Row), Sir Charles Dilke presents the second of his series on the frontiers of India. These papers, while partly military, are largely made up of descriptions of places seldom visited by Europeans. H. H. Johnston discusses the question "Are our Foreign Missions a Success?" from the point of view of the political economist, and finds their indirect influence in matters of education and enlightenment of positive value. W. M. Gattis tells of some scandals of the English lighthouse boards, Professor J. R. Seeley's address on ethics and religion before the Ethical Society of Cambridge is printed in full. Arsene Houssaye, probably the only living survivor of the poet's friends, contributes the first section of a delightfully gossipy paper on Alfred de Musset. Mr. W. H. Mallock joins the agnostic controversy with a paper entitled "Cowardly Agnosticism," in which he points out a number of startling facts. Two papers from opposite standpoints treat of the enfranchisement of women, by Miss Fawcett and Stuart Glennie, which are especially timely in view of the fact that two bills are now before Parliament giving the suffrage to women.