considerations are, in his opinion, the key to the character of the manual.

Practice and theory are treated in separate chapters, beginning, for stated reasons, with a description of the most successful method of butter-making, and closing with an exposition of the philosophy of the various modes of operation. The discussion opens quite deservedly by dwelling on the importance of cleanliness as the first and indispensable requirement for success in the dairy industry. The first chapter treats of the best indorsed rules for milking, and for setting milk for cream. The setting of milk in open and closed vessels, as well as the proper conditions of the cream for churning, and the management of churning, are carefully discussed. The author very frequently cites well-known authorities in the dairy business — Professors Arnold and Lewis — in support of his statements. A detailed description of the best rules for collecting, washing, pressing, salting, packing, and marketing the butter, closes the first chapter on the scientific method or process.

The succeeding chapter explains the philosophy of the rules of treatment during the various stages of the process, which have been previously enumerated and critically discussed. The different points involved are here stated in an equally instructive manner. More prominence might have been given to a consideration of the chemical character of the various glycerides constituting the fat of milk, and consequently of the butter, as compared with those which constitute other animal fats. The serious influence of exceptionally large quantities of the glycerides of four volatile fatty acids on the successful manufacture and on the keeping of butter is quite manifest, and deserves more than a passing notice. The first part of the book closes with remarks on milk-production, on the natural functions of the cow, on breeding and feeding, on dairy utensils and supplies, on water and its uses in the dairy, and on salt and its proper application in butter-making. The discourse on these subjects occupies about forty pages of the manual.

It is unfortunate that by far the larger part of the pamphlet (the appendix) should be taken up with quotations from agricultural newspapers, and that in the closing paragraphs it should be stated that Mr. Lynch is the owner of the patents on the forms of butter-making appliances which he advocates. The work, with its numerous newspaper extracts and poor printing, has not the appetizing appearance so essential to a new book, and is calculated to repel one at the first glance.

MAN'S FUTURE.

The destiny of man, viewed in the light of his origin. By John Fiske. Boston, *Houghton, Mifflin, & Co*, 1884. 10+121 p 16°.

"The question of a future life is generally regarded as lying outside the range of scientific discussion," says the writer; but yet he thinks it is one upon which an opinion may be legitimately entertained, and he proceeds to say, that opinion "must necessarily be affected by the total mass of our opinions on the questions which [do] lie within the scope of scientific inquiry." His essay is to let us know what the teachings of the doctrine of evolution as to the origin of man seem to indicate as to his final destiny. His conclusion is, that "the more thoroughly we comprehend that process of evolution by which things have come to be what they are, the more we are likely to feel that to deny the everlasting persistence of the spiritual element in man is to rob the whole process of its meaning," and that it goes far toward putting us to 'permanent intellectual confusion;' which, as a well-known authority assures us, is a scientific *reductio ad absurdum*. So, finding "no sufficient reason for our accepting so dire an alternative," our author declares, "For my own part, therefore, I believe in the immortality of the soul, not in the sense in which I accept the demonstrable truths of science, but as a supreme act of faith in the reasonableness of God's work. . . . The belief can be most quickly defined by its negation, as the refusal to believe that this world is all." We must refer to the little book itself for the line of argument which leads up to this *credo*. And if the argument, however scientifically based, is philosophical and even theological in form, it needs only to be understood that this essay is, in fact, an address to the Concord school of philosophy last summer, at the time when the subject of immortality was under discussion.

NOTES AND NEWS.

The following is the full list of papers read at the Newport meeting of the National academy of sciences, Oct. 14–17: On the Columella auris of the Pelycosauria, E. D. Cope; The brain of Asellus, and the eyeless form of Cecidotaea, A. S. Packard; On the theory of atomic volumes, Wolcott Gibbs; On the complex inorganic acids, Wolcott Gibbs; Notice of Muybridge's experiments on the motions of animals by instantaneous photography, Fairman Rogers; Notice of Grant's difference-engine, Fairman Rogers; On the thinolite of Lake Lahontan, E. S. Dana; On the mesozoic coals of the north-west, R. Pumpelly;