

are performed with a good deal of ceremony. If by any chance either operation is not performed, the individual could not obtain a partner in marriage, and would be avoided as uncanny. Besides individual fetiches, there are those which belong to the village. If by any means a European is robbed, he goes to the chief and gets him to beat or abuse the village fetich, which can usually be accomplished by diplomacy. The fetich is accordingly ceremoniously beaten: and the culprit, fearing retribution, soon finds means to return the spoil, and thus avert the wrath of the fetich, which might otherwise be visited on himself. They have also an ill-defined belief in some power of which the fetiches are merely the servants. This is called 'zambic,' but is supposed to be above any personal interest in human affairs.

The trade in ivory is the principal business, and is carried on chiefly by the Bateke as intermediaries between the interior and river tribes. The Batekes are not agriculturalists, but the division of labor between the sexes is more even than between those of the other peoples. Another race is found along the banks, who cultivate the soil, and furnish the Bateke with provisions in trade. These are the Bonbundos. Their habits are much like the other tribes. The Buenses are especially navigators, and make long canoe voyages in search of ivory. The Bangalas are cannibals, and wear ornaments of human phalanges. Their victims are always prisoners of war, for whom they go on hunting expeditions. From Bengala to Buensé, the most interior point reached by the traders, the most numerous tribe is the Basuco. Most of the tribes mentioned wear more or less clothing, at least a waistcloth; but among the Basucos only the men wear any thing. They have the practice of human sacrifices. A certain number of slaves are designated to be put to death at the obsequies of any chief. The idea seems to be that their fidelity for life is thus insured, since their own life depends on that of the master.

The traders do their best, and to some extent have succeeded in ameliorating these customs. Progress is pacific, and force never resorted to. The friendship of the blacks is necessary for the maintenance of their business. The negro is lazy and childish; but, treated with fairness, he does the work required of him, and which would be impossible for whites to perform in that climate. Two hundred and eighty-four special agreements have been made with different chiefs, some of whom control only twenty or thirty men. The process is tedious, but each one gained over is one friend more for the trader, and they cannot be dispensed with.

#### EVOLUTION VERSUS INVOLUTION.

THE growing acceptance of the theory of evolution has led in the last few years to the publication of a large number of books upon the subject, of a more or less popular nature. These are not, as a rule, scientific arguments, for science no longer considers it worth while to discuss a question now so universally accepted. From various stand-points the subject is treated. Now we find a review of its scientific aspects, now of its relation to theology, and now of its metaphysical content. The present book has three objects: it is "a popular exposition of the doctrines of true evolution, a refutation of the theories of Herbert Spencer, and a vindication of theism." In pursuance of the first object, the author gives us an historical review of the question from the time of the Greek philosophers, and then very cursorily reviews the application of the general theory to the development of worlds, of life, of the organic kingdoms, of mind and soul, and of society in its various phases. In this brief summary the evolution theory is accepted in its fullest extent as applying universally. The review is a very hurried one, however, only touching upon a few of the salient points, and recognizing no difficulties in the way of the onward tendency of thought. It would, indeed, hardly give one who was not already acquainted with the subject a very comprehensive idea of the theory of evolution, or the reasons for accepting it. In some parts it is somewhat strained; as, for instance, where a detailed comparison is drawn between the vertebrates, the mollusks and annulosa, the coelenterata, the sponges and protozoa, on the one hand, and the exogens, the endogens, the acrogens, and the fungi and lichens, on the other.

This part of the book, however, though taking up the most space, is secondary to the other two objects running through the whole; viz., the vindication of theism, and the refutation of Spencer. As a vindication of theism, the book is an illustration of the growing conception that evolution is not at all out of harmony with theism. The question of evolution is one which deals entirely with secondary causes, and even Spencer's theory does not attempt to fathom the first cause; while theism deals primarily with first cause. It is fortunate for true science and true theism that this is becoming so fully recognized, — for science, because it removes the feeling of hostility which has been accustomed to be raised in the minds of most people by the simple word 'evolution;' for theism, because it no longer makes it necessary to try to disprove this growing theory of science.

*Evolution versus involution.* By A. Z. BRED. New York, Pott, 1885. 8°.

That there is no contradiction between theism and evolution our author clearly shows. But he goes even further than this, and claims to prove that evolution is radically inconsistent with atheism. He thinks that the two thoughts, when carried to legitimate extremes, lead to suicidal contradictions; leading, in fact, to the extremes of Compitism, and its necessary worship of human nature as the loftiest thing in existence. Now, whatever may be said of this discussion, it is plain that the reader's judgment of this part of the work will depend largely upon his willingness to accept the conclusion. If he reads with a predisposition against the conclusion, the whole argument will be regarded with the same indifference as are all other arguments which try to prove the existence of God. But if he reads, accepting the conclusion, and wishing to find a justification for a belief in theism, he will be abundantly satisfied; for the arguments are keen and forcible, and plainly show that theism is exalted by the conceptions of evolution.

In his attempt to refute Spencer, our author has not been quite so successful. To refute such a system of philosophy as that of Spencer is as difficult as to demonstrate it. It may be easy to criticise Spencer, to show his false deductions and an amount of inconsistency in his writings. This our author has succeeded in doing well enough. But to refute his philosophy is a different matter. An examination of this criticism shows that it is chiefly upon Spencer's ideas of primal cause, and therefore upon his conception of the significance of law, and not at all upon his theory as to the development of the visible universe. Our author first shows that Spencer's philosophy is one of involution, and not evolution,—a fact which Spencer himself recognized. Our author gives a definition of evolution which completely reverses that of Spencer. He makes it a passage from the complex to the simple, rather than from the simple to the complex. What he means by this is not that nature has not seemed to grow more complex, but that this growth has been only the unfolding of forces and tendencies which have existed from the beginning. Evolution is therefore a revealing of that which is hidden, and is thus really a simplification. An egg is more complex than the adult, since, though seemingly simple, it contains in a small space, in addition to that which we can see, forces and tendencies which regulate the growth of the adult. Its development is simply the unfolding of this potentiality. And so the original nebula was really infinitely complex, since it contained in its laws and tendencies the possibility of the system which has arisen from it. This, our author claims, is in direct contradiction

to Spencer's philosophy of a passage from the simple to the complex, and this philosophy is therefore false at its foundation. It is a restatement of the old saying that evolution cannot exceed involution. Now, in reality, our author and Spencer do not disagree so much as at first seems. Spencer has only attempted to explain the visible universe by his philosophy, recognizing his inability to explain or comprehend law. In the visible universe there has undoubtedly been an increase in complexity. Spencer would not for an instant deny that the original nebula contained in its laws and tendencies the potential system. The difference between our author and Spencer is thus only in their metaphysical conception of the significance of these laws and their relation to the first cause which lies beneath them. It is the difference between theism and agnosticism again. Spencer regards the universe as without design: our author regards the working of law as the unfolding of a plan. Spencer looks upon the seeming design in nature as resulting from the natural working of law, without attempting to go beneath this statement: our author goes a step further, and puts the plan in the nature of the laws themselves. These two positions are not necessarily contradictory, though when regarded in certain lights they may be so.

This discussion of Mr. Rred's is therefore valuable as an exposition of the meaning of theistic evolution. It shows that theistic evolution is consistent with all the facts of science, and that the law of evolution, when viewed from the theistic stand-point, contains a significance which is utterly wanting to it when regarded from the stand-point of atheism. But as a refutation of Spencer it is hardly a success; for it has only shown that the conception of Spencer's Unknowable as an intelligent personality is preferable to the agnostic position of Spencer.

#### TWO SCHOOL-BOOKS ON GEOLOGY.

THERE can hardly be found a greater contrast in the methods of treatment of a subject than is presented by a comparison of the school-books on geology lately prepared by Professors Geikie and Winchell. The authors seem to have had scholars of about the same high-school age in mind. Their objects are similar,—for one makes 'an appeal to the powers of observation,' and the other wishes 'to foster a habit of observation,'—and yet how different are their paths to this common end! Professor Winchell begins, after advising teachers

*Class-book of geology.* By ARCHIBALD GEIKIE. London, Macmillan, 1886. 8°.

*Geological studies; or, Elements of geology.* By ALEXANDER WINCHELL. Chicago, Griggs, 1886. 8°.