be proved to be anything further. But this does not destroy anything of importance, or reduce cosmos to chaos, as "common-sense" might suppose. The world of each one's experience is real enough in each one's own mind, and there is no gain in attributing to it any material kind of reality. The concordance, in a general way, of my experience with your experience, is explained by supposing a universal-thinking or dominant Self who is thinking the world. Or, as Berkeley would say, the universe exists as the thought of God.

Our human selves are greater than their present manifestations. For educative purposes, each of us has been given a puppet to work and manage (our bodies, namely), and we can only express ourselves very inadequately through this dull mechanism. Indeed, some of the faculties we are proud of are the results of our limitations—for instance, reasoning. "There is simply no limit to what the mind can think of were it not spoilt by reasoning." Witness the marvellously accurate movements of the fingers in piano-playing, movements which must be supposed to be controlled by intelligence, but which certainly could not be performed at that speed if the slow consciousness had to superintend every muscle-twitch. Similarly with calculating prodigies, who multiply six figures by six figures, not in the way we multiply, but by a sort of instinct.

This philosophy, of course, includes some kind of immortality, for, though the body-puppet dies, the self which worked it is not thereby rendered any less alive; and it goes on experiencing, in other forms, probably not spatial and temporal.

The psychology of the book is quite admirable, and even its farthest-reaching speculations (which are put forward as such, and not as dogmas) are logical and justifiable, from the idealist's point of view. And the philosophic pill is nicely sugared with two love stories which end as happily as the most benevolent reader could desire. J. A. H.

The Relative Volumes of the Atoms of Carbon, Hydrogen, and Oxygen, when in Combination. By Hawksworth Collins. Pp. 107. (London: Morton and Burt, Ltd., 1911.) Price 7*s.* 6*d.*

THE author's views on the volume relations of the atoms in chemical combination differ fundamentally from those of previous observers. The present book deals exclusively with liquids containing carbon, hydrogen, and oxygen. At 15° and atmospheric pressure an atom of hydrogen, when in combination with an atom of carbon, occupies one of four relative volumes, viz., 15·25, 12·22, 9·95, and 5·76. The volume of any one atom of hydrogen is determined by the portion of the carbon atom to which it is attached. There are four portions of the carbon atom, corresponding with the valencies, and the theory implies that the valencies are unequal. The relative volume of the carbon atom is generally 0·71, but in certain circumstances expands to 8·0. From this it follows that the volume of a hydrogen atom may be twenty times that of a carbon atom. Oxygen has three volumes, 2·51, 4·45, and 7·53, depending on the nature of the compound and the position of attachment to the carbon atom.

This remarkable theory of atomic volumes is explained within the limits of four pages, and the remainder of the book is occupied with the graphic formulæ of 100 organic compounds (alcohols, ethers, &c.). In these formulæ the carbon atoms are represented as oblongs divided into four portions, and the positions of attachment and the relative volumes of all the atoms are shown.

The author states that "the theoretical and experimental specific gravities never differ by more than 0·001, although different experimentalists seldom agree to more than two places of decimals." It is difficult to see how these statements can be reconciled. Moreover, the author has the choice of nine volumes for the three elements, whereas Kopp obtained a fair agreement between observed and calculated values for molecular volumes at the boiling point with one volume each for carbon and hydrogen and two volumes for oxygen; it is evident, therefore, that an agreement between observed and calculated values on the former basis can scarcely be regarded as conclusive evidence in favour of the author's theory. The theoretical discussion of the subject is quite inadequate, and it is to be hoped that some of the more obvious omissions will be repaired in the later volumes on the subject which are promised.

Forest Flora of the Siwalik and Jaunsar Forest Divisions of the United Provinces of Agra and Oudh, being a revised and enlarged edition of the Forest Flora of the School Circle, N.W.P., with Analyses, compiled for the use of the Students of the Imperial Forest College, Dehra Dun. By U. Kanjilal. Pp. xxix+457. (Calcutta: Government Printing Office, 1911.) Price 1.14 rupees for public; 1.4 rupees for students.

TEN years have elapsed since the first edition of the "Forest Flora of the School Circle, N.W.P.," was published; meantime the division of the School Circle has received other names for both forest and administrative purposes, which are given in the revised title, and the author has noted certain alterations and emendations that are desirable. The glossary has been revised, family names have been changed in accordance with the Vienna rules, an important addition has been made in the shape of an analytical synopsis of the orders and families which provides ampler details for their determination, and a general revision of the flora has been effected. The teaching experience of the author has suggested but few changes in the list of species described. Only two of the additional species incorporated are trees, *i.e. Diospyros Kanjilali* and *Linociera intermedia*; the former was described in 1905 by Duthie from material supplied by the author. These alterations will serve to increase the usefulness of this pocket flora.

Wilson's Folding Globe. Circumference 40 inches. (London: George Philip and Son, Ltd.) Price 7*s.* 6*d.* net, in cardboard box.

THIS ingenious device will prove of excellent service to teachers of geography in assisting them to correct the misleading ideas which are apt to arise in the minds of young pupils by the exclusive study of flat map projections. The mere fitting up of the globe, with the aid of the simple accessories provided, will impress upon the beginner the distortion entailed by the representation of a spherical surface on a plane. When placed flat, the "gores," which when arranged form the globe, make up an equal scale map of the world. There is sold with the folding globe a map of the world on Mercator's projection, so that a proper understanding of its advantages and disadvantages may be secured by comparing it with the equal scale map.

A Text-book of Geography. By G. Cecil Fry. Second edition. Pp. xxi+468. (London: W. B. Clive, University Tutorial Press, Ltd., 1911.) Price 4*s.* 6*d.*

THE first edition of this book was reviewed in NATURE for March 11, 1909 (vol. lxxx., p. 31). In the present edition more than thirty new maps and diagrams have been added, as well as a number of climatic data for the principal divisions of the world. A new appendix of some 350 examination questions has been introduced.