

Our Bookshelf.

- (1) *Relativity: a very Elementary Exposition*. By Sir Oliver Lodge. Pp. iv+41. (London: Methuen and Co., Ltd., 1925.) 1s. net.
- (2) *Relativity, Meaning, and Motion*. By Claude G. Henderson. Pp. vi+111. (London: Watts and Co., 1925.) 3s. 6d. net.
- (3) *The Common Sense of the Theory of Relativity*. By Dr. Paul R. Heyl. Pp. 44. (Baltimore, Md.: Williams and Wilkins Co.; London: Baillière, Tindall and Cox, 1924.) 5s. net.
- (4) *La relativité dégagée d'hypothèses métaphysiques: exposé des théories d'Einstein, discussion de ces théories, essai d'une théorie nouvelle construite dans l'espace et le temps classiques*. Par H. Vercollier. Pp. xx+542. (Paris: Gauthier-Villars et Cie., 1925.) 50 francs.

(1) This short account of the theory of relativity was given as a lecture to the Literary and Philosophical Society of Liverpool in 1921. The book is—as the title states—a very elementary exposition. It is certainly hopeless to give a popular account which bears even the slightest resemblance to the theory of relativity without drawing on the concepts of ordinary life; and this essay is interesting to read because it shares with the other writings of Sir Oliver Lodge the agreeable characteristic of being filled with vivid illustrations from the everyday experience of the man in the street.

(2) Mr. Henderson's small book is designed for a popular audience, and it is unfortunately not unlike a large number of other books meant for the consumption of the general reader, in that the language and the treatment are frequently obscure. It is indeed difficult to know what useful purpose can be served by introducing the ideas of the theory of relativity into the discussion, on general non-technical lines, of questions such as "the nature of truth," "meaning," "the mind," and so on. The argument from analogy used with no regard for the niceties of problematical inference is a poor instrument.

(3) Prof. Heyl's essay on relativity breaks new ground in popular exposition. The plan is to give first a brief historical account of the development of the data relevant to the law of gravitation, and many interesting pieces of information are to be found in the opening chapters. The author gradually builds up, in the simplest language, the position of affairs before Einstein, and shows how the outstanding discrepancies were accounted for by the theory. This side of the book is good; but there is another side.

The author makes remarks, which may or may not be cryptic to the popular reader, about the "repelling appearance" of Einstein's theory and its "artificial nature," and he quotes the *jeune* observation that it is "repugnant to common sense."

Now it is undesirable to leave the erroneous impression in the mind of any reader that the theory of relativity is fundamentally artificial, however poor his knowledge of mathematics may be. For the nature of the postulates and the new and subtle appeal which they make to the scientifically developed common sense is the outstanding characteristic of the theory of relativity from the point of view of scientific method.

The notion of an "Invariance Postulate" is perfectly simple and can be explained to any intelligent person. This is the really important idea, and is what should be emphasised if an appeal to intuition and plausibility is to be made. There should therefore be an attempt to introduce it in a book which deals with the common sense of the theory of relativity.

(4) Prof. Vercollier's interesting volume should be very stimulating to the student of modern theories of world geometry and mechanics. The work is concerned with the exposition of the mathematical structure of relativity theory and with special interpretations of the results. Whatever may be the verdict on the interpretations, the very detailed account of the mathematical groundwork of modern mechanics should prove useful.

D. M. W.

Tabulae Anatomo-Comparativae Cerebri: a Series of Nine coloured Maps with Description. Edited by Dr. C. U. Ariëns Kappers. Descriptive Text. Pp. 30. Plates 44 in. \times 31½ in. (Amsterdam: The "Kosmos" Publishing Co., 1925.) 20 U.S. dollars.

THE "Tabulae Anatomo-Comparativae Cerebri," edited by Dr. Ariëns Kappers, director of the Central Institute for Brain Research in Amsterdam, consist of a set of nine large coloured plates illustrating the comparative anatomy of the brain and spinal cord. Two of these charts are before us.

The central nervous systems of Acrania, cyclostomes, selachians, teleosts, amphibia, reptiles, birds, marsupials, and primates (man) are to be exemplified by those of certain carefully selected types. The different nuclei and the chief fibre systems are all so represented in different colours that the comparative arrangement of any part of the central nervous system can be recognised at a glance. As the various parts of the central system are represented in sagittal projection, the nuclei and the tracts are all reduced to one plane, and for the sake of clarity some freedom in drawing has been necessary.

The chief interest in the series centres in the evolutionary changes whereby the human brain is the outcome. It is to be made apparent that in the human brain the thalamus proper, and more especially the dorsal thalamus, have undergone striking increase, whereas the tonic and autonomic striatum has increased but slightly. The pallial centres of sensory, visual, acoustic, and olfactory projections, regarding them as a whole, have not increased so much as the centres of correlative functions, which depend not only on inter-cortical systems but also on connexions with sub-cortical nuclei. For example, the increase of the frontal is chiefly associated with the increase of rubro-frontal projections and the appearance of fronto-pontine fibres which have stereopractic functions; the increase of the parieto-occipital is associated with the stereognostic projections of the pulvinar, and is thus correlated with the recognition of external objects by means of the skin, joint, and muscle sensibility. Dr. Kappers wisely refrains from giving any anatomical explanation of the increase of the temporo-occipital region of the cortex, but hints that owing to the connexion of the occipito-temporal lobe with the red nucleus it may, in addition to its acoustio-visual correlations, be some sort of stereognostic centre.