

result of a free intellectual construction. Naturally we choose a scheme that with the simplest assumptions harmonises with the greatest number of facts; this is the reason why Euclidean geometry is that of common life. As Mr. Withers points out, there is very little chance of any change in this respect; for if a series of careful experiments upon the stars were to lead to triangles with the sum of their angles different from 180° , we should be more likely to give up the hypothesis of the strictly rectilinear propagation of light than to adopt a non-Euclidean geometry as that of "actual space." On the other hand, we may some time gain experience of a new kind, presenting itself as spatial, and requiring us to assume more than three dimensions in space.

Mr. Withers sensibly steers a middle course between the extremes of pure empiricism and the *a priori* hypothesis. That we cannot form any clear conception of four-dimensional space to which three-dimensional space is related in a manner strictly analogous to that in which a line is related to a plane in which it lies, shows clearly enough that we cannot do without experience; on the other hand, the definition of a surface as a boundary between two adjacent portions of space involves a concept which cannot possibly be deduced from sense-experience, and the recent theory of sets of points gives still more striking examples. Mr. Withers's main contention is that Euclid's parallel postulate is empirical, and this may be admitted in the sense that his argument requires; at any rate, he shows the absurdity of some statements of the *a priori* school.

Die Reizleitungsvorgänge bei den Pflanzen. By Dr. H. Fitting. Pp. xv+157. (Wiesbaden: J. F. Bergmann, 1907.) Price 3.60 marks.

ALTHOUGH the phenomena of irritability in plants are in a general way easily demonstrated, their elucidation is a matter of extreme difficulty, and in spite of the numerous original experiments that have been devised, absolute proof in support of the explanations offered is rarely possible. A notable instance is furnished by the debated question whether the perception of the stimulus of gravity is localised in the tip of the root. The experiments advanced by Charles Darwin in favour of this view were speedily disputed; Czapek's ingenious glass-shoe experiments, although widely accepted as proof, have been adversely criticised, and now more definite proof is hoped to be obtainable by growing seedlings on a rapidly revolving klinostat in such a position that the tip and growing region situated on different sides of the centre of rotation are subjected to centrifugal force acting in opposite directions. The debatable character of the arguments is one hindrance to a study of the subject, to which is added the difficulty of obtaining the literature, scattered as it is through numerous journals and pamphlets.

Dr. Fitting's monograph helps but little in the matter of literature, as in many cases space does not even permit of stating the arguments put forward by investigators, but as a critical guide to the estimation of the various theories his book will be found very useful.

The book consists of three portions, dealing with the occurrence of the phenomena, the path of transmission of the stimulus, and the manner in which it is transmitted. Owing to the absence of descriptions, the first part is only suitable to the reader who has a full acquaintance with the subject or is prepared to look up the literature. The discussions of the various paths by which the stimulus may travel and of the mechanism involved are the most instructive parts of the book, and particular interest attaches to

the sections on protoplasmic communications, on the fibrillar structure in cells of the root-apex, and on the electrical phenomena connected with stimulation. Dr. Fitting has himself added materially to the facts of irritability phenomena and their interpretation, so that his opinions are extremely valuable, the more so because he is a searching but unbiased critic.

Birds and their Nests and Eggs found in and near Great Towns. By G. H. Vos. Pp. xii+148; illustrated. (London: G. Routledge and Sons, Ltd., n.d.) Price 1s.

To take birds' nests and their contents with the camera is in every way a more satisfactory proceeding than egg-collecting, and the author of this little volume succeeds in making the new movement he ought to obtain the gratitude of all bird-lovers—not to mention the birds themselves. Two things are essential in this pursuit: first, the capacity of "spotting" nests, which seems to be an inborn art, incapable of being acquired otherwise, and, secondly, skill in manipulating the camera. In the latter accomplishment the author excels, but for the former he has had to depend on a friend; and the combination of forces has produced most satisfactory results.

The numerous photographs of nests and eggs in their natural sites are all that can be desired, and as regards these no encomiums are too high. We wish we could say the same with regard to the photographs of the parent birds, which, we are told, are taken from "characteristically stuffed typical individuals placed in natural surroundings, illustrating as nearly as possible the conditions under which they were observed." In our opinion these "faked" photographs are thoroughly unsatisfactory, the birds being obviously stuffed (whether "characteristically," in the sense in which the author evidently uses the term, or otherwise), and appearing ill at ease in their pseudo-natural surroundings. The book would be far better without them. As the nests, which include those of a considerable number of species, were all observed within a radius of sixteen miles from the City, beginners whose homes are in large towns need not be deterred by lack of material from following in the footsteps of the author, to whom amateur photographers in general are indebted for showing how much can be done at a comparatively small expenditure of time and money.

R. L.

Kinship Organisations and Group Marriage in Australia. By Northcote W. Thomas. Pp. xvi+164. (Cambridge: University Press, 1906.) Price 6s. net.

MR. THOMAS has digested everything that has been written on the Australian natives. In this volume he gives us a very useful *résumé* of all the facts of their complex social organisation, separating the attested from the doubtful—a much-needed piece of work. The account is interwoven with Mr. Lang's theory of Australian kinship and marriage evolution, perhaps the most plausible hitherto advanced, though in the matter of totemic origins it may encounter opposition. Mr. Thomas suggests some real improvements in terminology—matrilocal instead of *beena*, matrilinear and patrilinear, matripotestal and patripotestal—these should be generally adopted, as no doubt they will. The author seems to be at his best in the discussion of such a vexed question as group marriage; the argument is closely reasoned, and brings out several new points. There is an excellent index. The book will be indispensable to anthropologists, and sociologists generally will find it an admirable and convenient text-book for the study of the beginnings of social organisation.

A. E. CRAWLEY.