

## THE RIDDLE OF THE UNIVERSE

their respective organs; Flechsig pointed out in 1894 that the "organs of thought," in man and the higher mammals, are those parts of the cortex of the brain which lie between the four inner sense-centres (cf. chapters x. and xi.).

The higher grade of development of ideas, of intellect and reason, which raises man so much above the brute, is intimately connected with the rise of language. Still here also we have to recognize a long chain of evolution which stretches unbroken from the lowest to the highest stages. Speech is no more an exclusive prerogative of man than reason. In the wider sense, it is a common feature of all the higher gregarious animals, at least of all the articulata and the vertebrates, which live in communities or herds; they need it for the purpose of understanding each other and communicating their impressions. This is effected either by touch or by signs, or by sounds having a definite meaning. The song of the bird or of the anthropoid ape (*hylobates*), the bark of the dog, the neigh of the horse, the chirp of the cricket, the cry of the cicada, are all specimens of animal speech. Only in man, however, has that articulate conceptual speech developed which has enabled his reason to attain such high achievements. Comparative philology, one of the most interesting sciences that has arisen during the century, has shown that the numerous elaborate languages of the different nations have been slowly and gradually evolved from a few simple primitive tongues (Wilhelm Humboldt, Bopp, Schleicher, Steinthal, and others). August Schleicher, of Jena, in particular, has proved that the historical development of language takes place under the same phylogenetic laws as the evolution of other physiological faculties and their organs. Romanes