

44.
Study of
homology.

calary type." Especially through palæontological finds, the landmarks were gradually removed which separated the distinct species and groups of organised beings. It had happened to Cuvier only in single instances that he had to record resemblances between widely separated groups. Such resemblances became more and more frequent and perplexing. In the second place, Owen had the great merit of giving more definite expression to the conception of analogies, as developed principally by the school which Cuvier opposed. In fact, he revised and brought into general use the term "homology," which had already been used by French and German anatomists before him.¹ This term signified

¹ Great importance has been attached to the term "homology," which, to a reader uninitiated in the complicated and changing vocabulary of the natural sciences, presents not a little difficulty. It is a good example of the classical saying of Goethe, "dass wo Begriffe fehlen, da stellt ein Wort zu guter Zeit sich ein." In the attempt to define the current term "homology," in seeking for numerous examples of homologies as distinguished from analogies, naturalists were led to the recognition of real, not only of verbal or logical distinctions. In this respect it is most instructive to read Owen's treatise 'On the Archetype and Homologies of the Vertebrate Skeleton' (1848), the enlarged reprint of a Report to the British Association in 1846. In it he gives a pretty full history of the term homology, which in the first half of the nineteenth century became current with special meanings in three independent sciences. With the precision of the usage, both in geometry and chemistry, the vague-

ness of the term as used by naturalists stands in characteristic contrast. "The corresponding parts," Sir R. Owen there says (p. 5), "in different animals being made namesakes, are called technically 'homologues.' The term is used by logicians as synonymous with 'homonyms,' and by geometers as signifying 'the sides of similar figures which are opposite to equal and corresponding angles,' or to parts having the same proportions: it appears to have been first applied in anatomy by the philosophical cultivators of that science in Germany. Geoffroy Saint-Hilaire says, 'Les organes des sens sont homologues, comme s'exprimerait la philosophie Allemande; c'est-à-dire qu'ils sont analogues dans leur mode de développement, s'il existe véritablement en eux un même principe de formation, une tendance uniforme à se répéter, à se reproduire de la même façon.'" After remarking on the looseness of this definition, Owen proceeds to give his own, taken from the "Glossary" ap-