

As the author of the most impressive text-book, *Elements of Comparative Anatomy*, which has appeared since Huxley's, Prof. Carl Gegenbaur is well known to all students of zoology. A fellow-^{Gegenbaur.} student of Hæckel's, he expresses in his work a combination of the methods of comparative anatomy and embryology under the dominance of evolutionary ideas.

Gegenbaur's detailed work is all of importance, but it cannot be summarized here. A single illustration must suffice, concerning a problem with which his name is specially connected—the theory of the vertebrate head. This is “the most complex piece of animal architecture with which anatomists have to deal”, and there has been a long-standing question as to its structural plan. In 1806, Oken stumbled on the first solution. As he was walking in the Harz Forest, he found the blanched skull of a sheep; he picked it up, and remarked, “It is a vertebral column”. This remark was the first expression of his “vertebral theory”, which resolved the skull into three parts comparable to vertebræ. This theory was afterwards claimed by Goethe, who may have reached it independently or by unconscious assimilation, and it was afterwards widely accepted and championed by such an authority as Owen. In 1869, Huxley attacked the problem, and showed that the vertebral theory was anatomically fallacious. He showed, for instance, that when attention was directed to the cranial nerves and the gill-slits, a large number of head-segments were recognizable. Two years later (1871), Gegenbaur took up the subject on a broader embryological basis, and between the two great workers the “vertebral theory of the skull” ceased from troubling. Like many another dream of the “Naturphilosophie” school, it vanished when brought into touch with facts. Gegenbaur showed that the tenth or vagus nerve, which is distributed to several gill-clefts, must be regarded as composite and corresponds to at least four segments; that in the lowest (gristly) fishes, where hints of the original vertebræ might be most expected, the skull is an unsegmented gristly brain-box; and that in higher forms the vertebral nature of the skull cannot