its turn to become functional (Figure 13). We thus find in a carnivorous dinosaur provision for a rapid replacement of teeth functioning in a single row, the mode of succession being identical, so far as we can judge, with that of the existing Gavialis. The inner face of the roots of old teeth is usually slightly concave and it is here that the tips of new teeth are first observed pressing against the old ones which they are later to replace. With the partial absorption of the root of an old tooth, the new one by moving to the centre of the alveolus, directly beneath the old tooth, would gain a position more advantageous for pressure against the tooth, and at the same time make room for the formation of the succeeding germ.

The old teeth were lost alternately to some extent, a provision of nature by which large gaps in the series were avoided This is well shown in the type specimen where the side teeth in full use are seen to alternate rather regularly with new ones incompletely protruded.

Attention is drawn to the fact that the lateral teeth of Gorgosaurus are lenticular in cross section only near the tip, and that they are all similarly flattened on the front and back faces near the base, as well as on the sides (buccal and lingual) as already mentioned, the front keel passing inward so as to be hidden in an outer view of the jaw. In this, as in a number of other particulars, the teeth of Gorgosaurus differ from those of Tyrannosaurus[1] in which there is a transition backward in the jaws from those having a sub-oval transverse section to posterior ones of a lenticular section with the serrated keels on the anterior and posterior border of the crown.

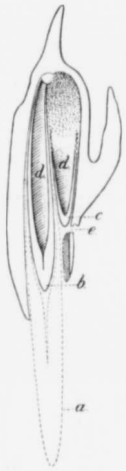

Figure 13. Transverse section of maxilla of Gorgosaurus through alveolus of sixth tooth to show mode of tooth replacement; ½ natural size. Cat. No. 2270. *a*, position of ejected tooth; *b*, new tooth not yet protruded; *c*, germ tooth forming on inner side of alveolus; *d*, pulp-cavity; *e* foramen.

Vertebral Column.

The vertebral formula of Gorgosaurus may be stated to be as follows: C, ?9; C-D, ?2; D, 11; L,1; S,5; C,36∓.

The majority of the vertebræ are either represented or present in the type. Assuming the number of cervicals to be nine, all of them are represented with the exception it is thought of the atlas and axis, possibly of the atlas only. From, and including, the first dorsal the vertebræ are present as a continuous series up to the twenty-second

[1]As described by Osborn. Crania of Tyrannosaurus and Allosaurus: Memoirs of the Am. Mus. Nat. Hist., new series. vol. I. pt. I, 1912.