

This increased supply is probably provided at the expense of the osseous structures, including the teeth, with the result that these structures degenerate. Modern food and cooking, by calling forth less effort in mastication, may also indirectly deprive the jaws of a certain amount of nutrition.

That some form of selective breeding may have had an influence in the production of the narrow arch of the higher classes of the present day is possible. Mr. Tomes,<sup>7</sup> in referring to this point says, "If the type of face now-a-days considered to be beautiful be investigated it will be found that the oval tapering face with a small mouth, etc., does not afford much room for ample dental arches. On the other hand, the type of face which we consider bestial has a powerful jaw development. Perhaps generation after generation seeking refinement in their wives may have unconsciously selected those whose type of face hardly allows the possibility of a regular arrangement of the full number of teeth. At any rate there is something tangible in the hypothesis and grounds for arguing pro and con."

That cross breeding, sexual selection and modern civilization are factors in the production of irregularities is probable; but the fact must not be lost sight of that the variation produced has been more marked in the jaws than in the teeth. The size and shape of the permanent teeth are to a great extent determined during the first two years of life, and they are arranged in their crypts in a crowded condition. In the natural course a rapid growth of the jaws takes place during the period of eruption so as to accommodate the teeth in a normal arch, any condition such as an exanthematous fever or any other severe illness may lead to an arrest of the development of the body including the maxilla and mandible, and in this way a crowded condition of the teeth may be brought about. Irregularities of the teeth are said by Talbot to be more frequent in people congenitally deaf, dumb or blind.

The above remarks on the etiology of irregularities of the teeth are necessarily brief owing to the limited scope of the present paper. Anyone, however, who is interested in the question will find abundant information on the subject in Talbot's work on "The Etiology of Osseous Deformities of the Head, Face, Jaws and Teeth."

*Local Causes.*—Too early removal of the second temporary molar is a fruitful cause of crowding. Removal of this tooth at an early age allows the first permanent molar to move forward and so encroach upon the space which would be occupied normally by the second bicuspid. In a case under notice the temporary molars were retained on the right side for the normal period and no irregularity resulted; on the opposite side the second temporary molar had to be extracted prematurely, with the result that the