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TREATMENT OF  
MALOCCLUSION OF THE TEETH  
ANGLE'S SYSTEM.

Seventh Edition, Greatly Enlarged and Entirely Rewritten,  
With Six Hundred and Forty-one Illustrations.

BY

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Angle, E.H., The Treatment of Malocclusion of the Teeth, 7th Edition, 1907, SS White Dental Manufacturing, Philadelphia, p. 26.

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form and size when the teeth are in normal occlusion, and how pressure abnormally exerted on any tooth or teeth would be resisted by all the other teeth. For example, pressure exerted on the labial surfaces of the upper incisors would be resisted not only by all the upper teeth acting as blocks of stone do in an arch of masonry, but also by the teeth of the lower arch acting through occlusion.

Inversely, then, one arch cannot be altered in shape without modifying that of the other, nor can it be altered

FIG. 8.



in size without soon exercising a marked effect on the other.

Harmony in the positions of the teeth and in the sizes and relations of the arches is further assisted by another force—namely, muscular pressure—the tongue acting upon the inside, and the lips and cheeks upon the outside, of the arches. The latter, if normal in development and function, serve to keep the arches from spreading, as do hoops upon the staves of a cask; the former prevent too great encroachment upon the oral space, and each, if normal in

of three and fourteen years, or during the most important period in the growth of the dental apparatus, and is operative indirectly upon the teeth by causing asymmetrical development of the muscles, as well as of the bones of the nose and jaws, and derangement in the functions of the lips, cheeks, and tongue, while the extent of the general derangement is manifest in proportion to the degree of mouth-breathing and the time it has been practiced. Although it may be lessened or discontinued at the age of puberty, its evil effects may last through life.

In normal breathing an ample amount of air for the needs of the child enters the nasal passages to be warmed, moistened, and strained of impurities on its way to the lungs, where it must give oxygen to the blood. The air while passing through the nose contributes by its presence and temperature to the health of the mucous membrane covering the walls of the nose, the turbinated bones, and frontal, ethmoidal, and maxillary sinuses. Yet it in no way interferes with the delicate balance of pressure between the tongue on the inside and the lips and cheeks on the outside of the dental arches, but allows the normal closure of the mouth and permits the jaws and inclined occlusal planes of the teeth to act for their mutual maintenance in their harmonious relations. Thus function and growth are undisturbed.

If, however, the necessity for mouth-breathing becomes established, all of the beautiful harmony of balance in growth and functions of parts is seriously disturbed, with derangement certain. The air is received directly into the lungs without being cleansed, warmed and moistened. As a result of this imperfect preparation the lungs receive it in insufficient quantities to fully oxygenate the blood, the child becomes pale, anemic, listless, and deficient in size and weight. The lungs lack normal expansion, and the child often becomes flat-chested. Thus weakened, a predisposition to pulmonary and other diseases is established.

ations in the habit as there are cases met with, with resultant corresponding variations in the malocclusion. The difficulty of breaking the habit is even greater than that of overcoming the pernicious lip habits, resting, as it does, almost wholly with the patient and very few having sufficient character and persistence to overcome it.

With our present knowledge of orthodontia these cases are the most difficult to treat successfully. The orthodontist should be thoroughly conversant with their peculiarities, and with the obstacles to be overcome in their treat-

FIG. 95.



ment, before beginning which he should have a complete understanding with the patient and his parents as to the responsibilities of both.

**Nasal Obstructions.\***—Of all the various causes of malocclusion mouth-breathing is the most potent, constant, and varied in its results. It is most prevalent between the ages

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\* See the excellent article by Dr. W. J. Brady in the Transactions of the American Society of Orthodontists, 1902, from which we have here freely drawn, with Dr. Brady's permission.