

Who introduced early treatment to orthodontics?

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Dr. Edward Augustus Bogue (1838).

Abstract

In the 18th and 19th centuries, dentists “straightened” the teeth of adolescents and adults. Angle had suggested that earlier treatment would be advisable but presented very few examples of this approach. In 1912, E. A. Bogue was the first orthodontist to publish articles advocating treatment for children before they reached the age of six by widening arches to create diastemas between temporary teeth and, above all, by eliminating mouth breathing.

KEYWORDS

*Early treatment,
Bogue’s diastemas,
Nasal breathing.*

1 – INTRODUCTION

The term “early treatment,” in the most widely accepted version of the phrase, implies that orthodontic therapy is a procedure of limited duration that can be performed either when patients are quite young or have reached, or are approaching, adulthood. This is the view of the French Social Security system.

But this notion is opposed by a contrasting concept stating that orthodontic treatment should be a continuous process that begins at birth and continues until patients become adults. Pierre Robin⁹ first expressed this position when he replied to the question, “When should we begin treating patients?” by answering, “When

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they are born.” Watry¹⁰, the “pride of Brussels”, one of Robin’s disciples, said that orthodontists should “observe patients regularly from the earliest possible age until the end of the growth period.”

Following this practice, orthodontists can advise parents on how to nurse infants and later whether or not to extract wisdom teeth, in a fluctuating course of preventive measures

and timely interventions aimed at obviating the need for active orthodontic treatment or, at least, minimizing it. This process is less a therapy and more a procedure of managing the growth of the face and the maturation of the dentition from the viewpoint of an orthopedist. Recently, P. Planas, J. Kolf, and M. Limme have advanced arguments supporting the concept.

2 – THE AGE OF PATIENTS IN YESTERYEAR’S ORTHODONTICS

The notion of continuous orthodontic treatment is a latecomer. Dentists carried out the first cases of orthodontic treatment in very brief interventions on adult dental arches.

Fauchard’s orthodontic patients were between 11 and 30 years old, with an average age of 15. In 1757 Bourdet³ treated patients who ranged in age from 10 to 25 years old, with an average of 17. Authors who followed these pioneers did not record the age of their patients until Gaillard⁶ wrote that he had treated the 30 patients he describes when they were, on the average, 17 years old. The orthodontic text of S. H. Guilford⁸, which was approved by the US National Association of Dental Faculties, stated in its

1889 edition, that the best time to begin orthodontic treatment was when patients were 13 to 18 years old.

However, at the beginning of the 20th century the tide began to turn and Angle¹ wrote in 1907, “The best time to begin treatment is when the malocclusion first appears. It can start when the first permanent molars erupt into occlusion.” Even though he proclaimed this principle, Angle presented very few examples of treatment in the mixed dentition and none in the deciduous dentition in his published works. And in 1913 the patients of Gallaverdin⁷, a student of Pont, were 15 years old on average.

3 – BOGUE’S REVOLUTION

The leading advocate of early treatment, one could call him its inventor, was Edward Augustus Bogue, whose name is widely known because of the term “Bogue’s diastemas” that courses of pedodontics and orthodontics frequently refer to.

From 1889, Bogue campaigned against extractions of teeth, temporary as well as permanent. He stressed how beneficial the elimination of malocclusion and mouth breathing would be to healthy growth of children if these maladies could be eliminated

before they reached the age of six and he strongly urged orthodontists to begin their therapies in the temporary dentition.

In 1912 and 1913 Bogue wrote a series of eleven articles² that were called “revolutionary” in which he continued and amplified his earlier work advocating orthodontic treatment of the temporary dentition.

Here are some of the things he wrote, “The best *constructive dentistry* can be performed on six year old children. This will improve growth of their entire bodies in a way that cannot be achieved at any other age.”

“The arches of 5 and a half year olds should have the temporary teeth spread out in a way that corresponds to the sizes of the ten permanent teeth that will replace them*. Temporary teeth that are in tight contact with each other after children are five years old constitute a deformity and an absolutely certain sign that the permanent teeth will be crowded.”

“Inflamed tonsils cause dental, nasal, facial, and thoracic deformities.”

“Faulty functioning begins with open mouth breathing. It alters the action of the cheeks and the tongue

that gives the dental arches their shape.”

“Correcting nasal fossas and deviated septums before children are six years old prevents deformation of the spine, the thoracic cage, and the shoulders.”

“Soft foods are another cause of faulty development. A slice of toasted bread is much better than a foodstuff that is half liquid and can be swallowed without mastication.”

“Artificial alimentation predisposes babies to mouth breathing.”

Bogue believed that orthodontic treatment, which should begin when children are about five years old, ought to consist primarily of arch expansion, sometimes with a palate splitting device always with the goal of creating the essential Bogue spaces between temporary incisors and, above all, assuring permeability of the nasal passages. To convince general dentists, Bogue, full of dreams about “conquering the West”, made this bold comparison, “A human body with a very deep palatal vault can be compared to a beautiful locomotive with a small boiler and limited pulling power”.

4 – BOGUE’S TECHNIQUE

Bogue’s technique, which was not original, usually employed fixed appliances based on two molar bands but sometimes he used removable expansion plates with screws. Most often

the two molar bands, on temporary or permanent teeth, carried vertical tubes by means of which intrusion or expansion pressure could be applied. Bogue used either the Jackson system with a lingual expansion arch to split the palate or Ainsworth’s labial method and also employed inter-arch elastics.

*Delabarre, in 1819, and Lemaire, in 1822, had already noted this phenomenon.

Bogue believed that early treatment was sufficient and would assure that the patients' adult dentitions would erupt in good order and their bodies would be healthy.

But unfortunately he was not able to convince the majority of his colleagues even though we can cite L. De Coster⁴ who wrote in 1931: "We begin our treatments when patients are as young as 3 years old and everyone has been very happy with them." But today orthodontic treatment of the deciduous dentition is rarely undertaken and neither pediatricians nor the general public have shown any interest in it.

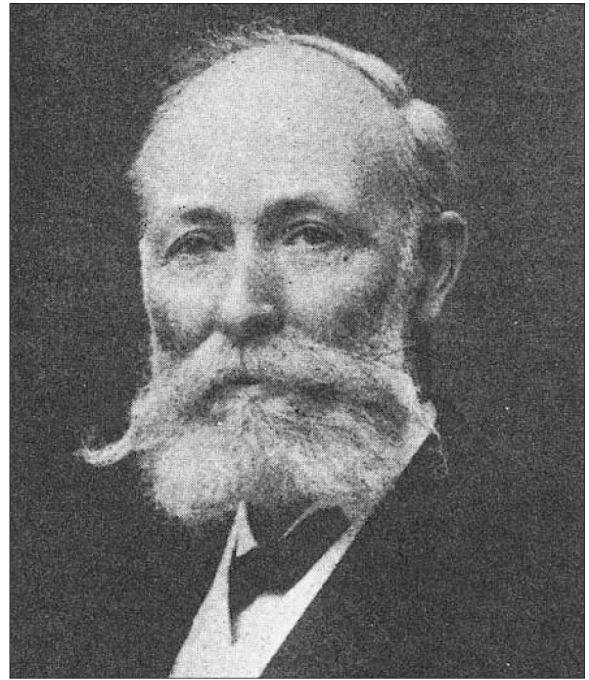


Figure 1
Edward Augustus Bogue.

5 – AN AMERICAN IN PARIS

Edward A. Bogue (fig. 1) was born in 1834 and died 87 years later. He practiced in Chicago and then in New York associated with the illustrious Norman Kingsley.

In 1875, attracted by the city's reputation of being a rich and joyful capital of the arts and medicine, he had the original idea of practicing in Paris during the summer. So he associated himself with several American colleagues who were later joined by Isaac Burnet Davenport, who is the subject of a famous painting by Whistler. In 1877, the group opened offices at

39 Boulevard Haussmann. Bogue became a member of the *Société d'Odontologie* and, of course, of the *American Dental Club of Paris*. This association lasted for 23 years, until 1900 when Bogue limited his activity to his New York office. He died in November 1921.

So it is not impossible that the idea of early orthodontic treatment was born on a lovely summer day in Paris...

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