



# The history of myofunctional orthodontics

## Part I - The beginning and the separation

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**M**yofunctional therapy may seem like a relatively foreign concept to recent graduates, but the reality is it has been practiced for one hundred years and has endured a largely turbulent history over the last century.

Before delving into the history of myofunctional therapy, one should ponder the process undertaken in the scientific community in order to truly understand the beginning of the myofunctional movement. The first step in the Scientific Method is to make an objective observation and if we apply this principle to the origin of myofunctional therapy, it produces curious results.

Documented recognition of distinct oral habits and their effect on human wellbeing stretches into the 19th century. One of the earliest recordings of the influence oral habits can have on health, occlusion and craniofacial development is an offering from American artist and traveller George Catlin, who released a best-selling book titled *Shut Your Mouth and Save Your Life* in 1870.

The 40-page volume detailed his observations of more than 150 Native American tribes and the commonality that existed in all primitive cultures was consistent -

excellent health. Upon returning from his final voyage, Catlin expressed his confidence that breathing was the underlying source of his health observations. "I am compelled to believe, and feel authorized to assert, that a great proportion of the diseases prematurely fatal to human life, as well as mental and physical deformities, and destruction of the teeth, are caused by the abuse of the lungs."<sup>1</sup>

Therefore, any implication which suggests it is a recent realisation that oral habits can act as a causative factor in substandard health and craniofacial malformations should be soundly dismissed with the aforementioned literature in mind.

Despite identifying the influence dysfunctional breathing could have on human health, Catlin believed the subsequent issues could be resolved. "The pernicious (mouth breathing) habit, though contracted in infancy or childhood, or manhood, may generally be corrected by a steady and determined perseverance, based upon a conviction of its baneful and fatal results."<sup>2</sup>

One influential figure that took a strong interest in Catlin's findings was none other than the Father of Modern Orthodontics, Edward Angle. So strong was his interest in Catlin's discoveries, Angle considered him to be one of his heroes<sup>3</sup> and reprinted his book titled *The Breath of Life or Mal-Respiration and Its Effects Upon the Enjoyments & Life of Man* in 1925.

Catlin's written work visibly influenced Angle's perception of orthodontics. This was perhaps most evident in Angle's 1907 book titled *The Treatment of Malocclusion of the Teeth*, which detailed the effects of oral habits on occlusion. Angle wrote "Of all the various causes of malocclusion, mouth breathing is the most potent, constant and varied in its results."<sup>4</sup>

Furthermore, Angle was determined to discover the aetiology of all malocclusions and concluded that the origin was myofunctional. He believed the positions of the teeth and arches were heavily influenced by "muscular pressure - the tongue acting upon the inside, and the lips and cheeks upon the outside, of the arches."<sup>5</sup>

Angle also spent the early decades of the 20th century mentoring aspiring orthodontists at the renowned *Angle School of Orthodontia*. It was at this school that two contrasting factions of orthodontics developed and were later driven by three influential graduates.

One of Angle's students was Alfred Rogers (1903), who in 1918 presented his first paper on *Myofunctional Therapy of Orthodontics* at the annual meeting of the American Association of Orthodontists. His literature described a series of corrective exercises designed to stimulate growth in the maxillofacial region and influence proper occlusion. Thus, myofunctional therapy was officially established one hundred years ago.

The two additional influential graduates that attended Angle's school were Raymond Begg (1924-25) and Charles Tweed (1927-28). Their views on orthodontics directly contradicted those of Angle, who was strictly opposed to extractions.

he had mistreated his patients or unnecessarily extracted teeth, Tweed famously defended his views by declaring "just put your plaster on the table."<sup>7</sup>

As a result, the purely aesthetic approach to orthodontics that was trumpeted by

The forementioned author was one Australian graduate who gained a comprehensive knowledge of traditional orthodontics using the BEGG technique. Inspired by the correlation he observed while treating patients for malocclusion and TMJ/D in the 1980s, he planted the seed for a modern adaptation of myofunctional therapy by questioning popular orthodontic views at the time. He put forward the notion that the aetiology of malocclusion and TMJ/D was myofunctional. Consequently, he established the modern practice of *Myofunctional Orthodontics* in the late 1980s.

The history of myofunctional therapy/orthodontics to date is perhaps best summarised by a metaphor put forward by internationally renowned orthodontic researcher Thomas Graber. "In our search we are not unlike the man who starts a trip from one city to another. He comes to a fork in the road and must choose one road or the other."<sup>8</sup> Is it possible the orthodontic community chose the wrong road to travel with Tweed and Begg?

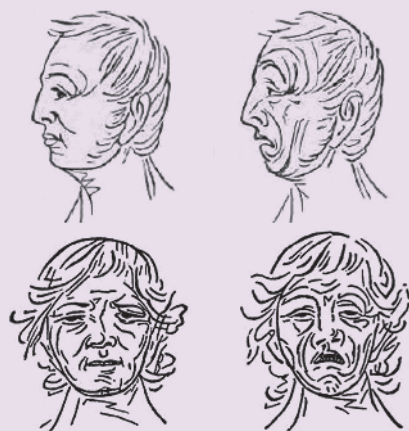
## References

1. Catlin, G, *Shut Your Mouth and Save Your Life* 4th Edition, 1870, N. Truebner and Co., p. 17.
2. Catlin, G, *Shut Your Mouth and Save Your Life* 4th Edition, 1870, N. Truebner and Co., p. 23.
3. Peck, S, *A Biographical Portrait of Edward Hartley Angle, the First Specialist in Orthodontics, Part 1, The Angle Orthodontist: November 2009, Vol 79, No. 6 pp. 1021-1027.*
4. Angle, E.H, *The Treatment of Malocclusion of the Teeth*, 7th Edition, 1907, SS White Dental Manufacturing, Philadelphia, p. 111.
5. Angle, E.H, *The Treatment of Malocclusion of the Teeth*, 7th Edition, 1907, SS White Dental Manufacturing, Philadelphia, p. 26.
6. Proffit, W et al, *Contemporary Orthodontics*, 5th Edition, 2013, Mosby, St. Louis, p. 3.
7. The Charles H. Tweed International Foundation, *The Tweed Years*, viewed 26 April 2018, <http://www.tweedortho.com/about-us/the-tweed-years>
8. Graber, T.M, *Orthodontics: Principles & Practice*, 1961, W. B. Saunders Company, Philadelphia, p. 256.

## About the authors

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Natural.

Changed by habit.

Figure 1. Catlin illustrated the facial differences he observed when comparing humans who breathe naturally through their nose and those who habitually breathe through their mouth. (Figures from *Shut Your Mouth and Save Your Life*, 1870).



Figure 3. Charles Tweed campaigned for extractions to re-enter American orthodontics in the 1940/50s (*The Charles H. Tweed International Foundation for Orthodontic Research and Education*).

Tweed was the loudest advocate for the reintroduction of extraction orthodontics in the United States, while Begg was the leading proponent in Australia. The persuasive figures achieved their shared objective in the 1940s and 1950s as the extraction philosophy became the norm in American and Australian orthodontic circles<sup>6</sup> while interest in myofunctional therapy diminished. When questioned if



Figure 2. Like Catlin before him, Angle observed the correlation between mouth breathing patients and the malocclusions they presented (Figure 33 from *The Treatment of Malocclusion of the Teeth*, 1907).



Figure 4. Raymond Begg pioneered the reintroduction of extraction orthodontics in Australia and revolutionised the use of brackets with his light wire technique. (*History Trust of South Australia*).

Tweed and Begg halted development of biologically-based treatment modalities in the US and Australia for multiple decades.

Begg's light wire bracket technique was a driving force behind his significant influence on Australian orthodontics. His pro-extraction philosophies spread throughout Australian universities as the movement gripped orthodontic communities throughout Australia and the US.