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## THE EDITOR'S CORNER

### Seeking Facial Harmony

Like many other orthodontists before and after me, I have become intrigued with the idea of assessing, quantifying, and measuring facial esthetics in hopes of coming to grips with the psychological construct that we refer to as facial harmony. A few years ago, I was asked to write an article for the *Journal of the California Dental Association* on "Achieving Facial Harmony through Orthodontics". It turned out to be a tougher assignment than I had expected. Perhaps the greatest problem I encountered in my literature review was getting a handle on the concept itself. Although the term "facial harmony" has positive connotations for virtually everyone, it can be difficult indeed to define.

I was able to make some limited headway. After Gene Gottlieb interviewed Dr. Stephen Marquardt for JCO,<sup>1</sup> I reported in my CDA paper:

"Marquardt has explored the application of a 'Golden Decagon Matrix', derived from two- and three-dimensional geometric extrapolations of the classical 'Golden Ratio', to the analysis of facial esthetics with remarkable results. Marquardt has developed a set of 'Facial Masks' that can be superimposed over facial photographs, frontal or lateral, of individual patients for the assessment of the fit of their face to an idealized symmetry based on the Golden Decagon Matrix. The applicability of the facial masks holds up across all races and both genders. While applications of Marquardt's findings to clinical orthodontics have not yet been explored in the orthodontic literature, the prospect of their application, especially in the area of soft-tissue analysis, is quite intriguing."

I still believe Dr. Marquardt's analysis holds great promise for orthodontists. Another author who has taken an unconventional approach to facial harmony is Dr. Leonard Fishman, one of my old professors at the Eastman Dental Center in Rochester, New York. His "centrographic analysis" uses four triangles, constructed over the cranium, upper face, lower face, and overall face on two-dimensional cephalometric radiographs.<sup>2</sup> According to the principles of centroid geometry, the relationships of

the centroids of these triangles and various anatomic structures are appraised for harmony and symmetry.

To develop this technique, Fishman relied on characteristics that he found “common to the human species”. It is interesting to note that Marquardt has also suggested that the identification of attributes contributing to facial beauty is essentially the visual identification of “humaneness”. In addition, both Marquardt and Fishman emphasize the necessity of individualization in the assessment of facial harmony. The more you analyze facial esthetics, the more obvious it becomes that treating to standardized cephalometric facial norms makes no sense whatsoever. As I brazenly admonished in my 2002 article:

“Literally hundreds of papers have been published presenting various cephalometric, anthropometric, and soft-tissue analyses, both frontal and lateral. . . . Many of these present normative or average values for various parameters of facial or dental measurement. The assumption is that these average, or mean, values should be regarded as treatment goals. . . . ‘Treating to the mean’ . . . may or may not result in an esthetically desirable outcome. Sarver<sup>3</sup> states, quite accurately, ‘Any analysis based on cephalometric or facial “normative” values has one inherent weakness, and that is that beauty is not the norm.’ Indeed, if facial esthetics were regarded as falling along a normal distribution, i.e., on a bell curve, beauty would fall in the far-right portion of the curve. Average, or mean, appearance would fall squarely in the middle. Treating to the mean, then, is tantamount to striving for mediocrity.”

I doubt that there are many of us who want to strive for mediocrity, but what do we have to do to achieve excellence? If we follow the direction of Marquardt and Fishman, treatment becomes a matter of teaming an individualized sense of facial beauty in all diagnostic procedures with a biomechanical approach that allows for the customization of treatment options. One philosophy stands out above all others for its embrace of individualism, and that philosophy is focused in the writings of Dr. Charles Burstone.

In this issue of JCO, our Associate Editor, Dr. Ravindra Nanda, presents the first installment of a two-part interview with Dr. Burstone, who modestly states, “I was greatly influenced by some of our most significant leaders and pioneers in orthodontics.” Having been a full-time teacher of orthodontics for nearly 20 years now, I can attest that very few “leaders and pioneers” have influenced so many young orthodontists in so many ways as Dr. Burstone has. While his name has become almost synonymous with orthodontic biomechanics—indeed, every year I present a series of lectures entitled “Burstonian Mechanics”—his scientific explorations of facial esthetics and facial harmony have had every bit as much impact on the orthodontic literature. In this part of the interview, although you will find some themes reminiscent of other authors, Dr. Burstone, as always, gives a unique and insightful interpretation of the subject. Stand by for Part 2.

RGK

### REFERENCES

1. Gottlieb, E.L.: JCO Interviews Dr. Stephen R. Marquardt on the Golden Decagon and human facial beauty, *J. Clin. Orthod.* 36:339-347, 2002.
2. Fishman, L.S.: Individualized evaluation of facial form, *Am. J. Orthod.* 111:510-517, 1997.
3. Sarver, D.M.: *Esthetic Orthodontics and Orthognathic Surgery*, Mosby-Yearbook, St. Louis, 1998, p. 3.

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### CORRECTION

In a Case Report by Dr. Randol Womack, “Four-Premolar Extraction Treatment with Invisalign” (JCO, August 2006), the first item in the Discussion section (p. 499) should read: “This patient required minimal mesial movement of the posterior teeth. If 4-5mm of mesial movement is needed to close the extraction spaces, I use fixed appliances rather than the Invisalign system.”