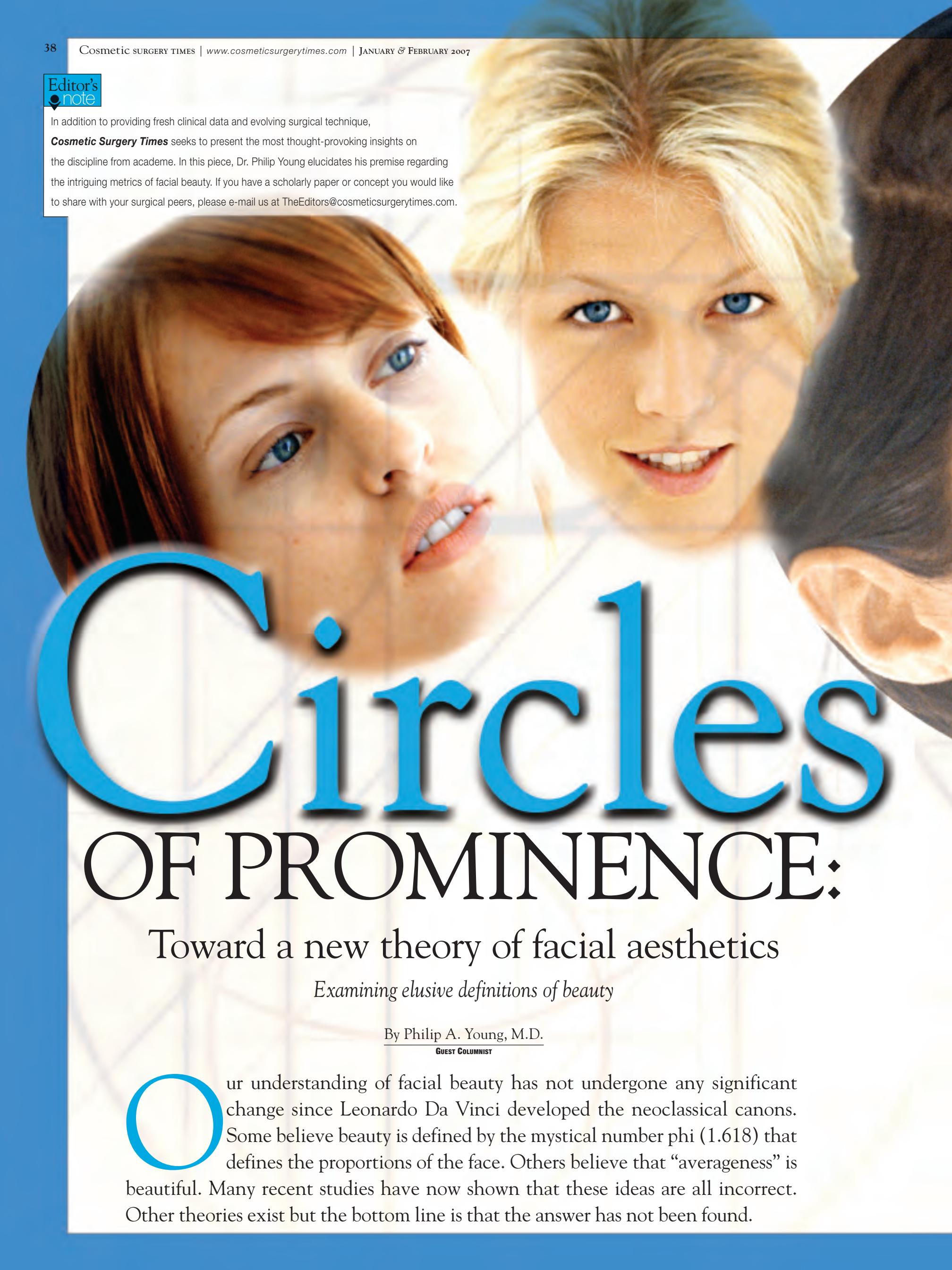


**Editor's
note**

In addition to providing fresh clinical data and evolving surgical technique,

Cosmetic Surgery Times seeks to present the most thought-provoking insights on the discipline from academe. In this piece, Dr. Philip Young elucidates his premise regarding the intriguing metrics of facial beauty. If you have a scholarly paper or concept you would like to share with your surgical peers, please e-mail us at TheEditors@cosmeticsurgerytimes.com.



Circles OF PROMINENCE:

Toward a new theory of facial aesthetics

Examining elusive definitions of beauty

By Philip A. Young, M.D.

GUEST COLUMNIST

Our understanding of facial beauty has not undergone any significant change since Leonardo Da Vinci developed the neoclassical canons. Some believe beauty is defined by the mystical number phi (1.618) that defines the proportions of the face. Others believe that “averageness” is beautiful. Many recent studies have now shown that these ideas are all incorrect. Other theories exist but the bottom line is that the answer has not been found.



PREVIOUS THEORIES The problem with previous theories is that they were based on external landmarks that observers of a new face find unimportant. The canons were based on landmarks such as the trichion, glabella, subnasale and mentum, which have little relevance to what people concentrate on when determining beauty.

Neuropsychologists have studied eye movements when people look at pictures of a face. They find that they concentrate on the eyes, nose and mouth and then other landmarks but return repeatedly to the eyes, nose and mouth. Specifically, the eye movements are centered predominately on the iris. When we think of how we talk to one another, we can come to the realization that we do indeed spend most of our time focusing on the iris from an everyday point of view.

CIRCLES OF PROMINENCE With that in mind, Circles of Prominence (COP) theorizes that the size of the iris determines every dimension on the face. Every shape and distance has a precise relationship on the face and thus has an ideal value. Between zero and infinity there has to be a median that the brain prefers. Because we spend so much time focusing on the iris, COP holds that it is the size of the iris or a proportion of it (i.e., $1/2$ to 1 iris width, etc.) that defines the ideal. Application of this premise reveals that the nasal dorsum, nasal tip, alae, the distance from the subnasale to upper lip, and height of the lower lip are all one iris width (IW) in dimension (Figure 1).

SYMMETRY, BEAUTY The face is simply a collection of shapes within a larger oval with the eyes, nose and
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Figure 1 The Circles of Prominence: a collection of shapes and angles based on the iris, nasal tip, and lower lip that define facial beauty qualitatively and quantitatively. The iris, nasal dorsum, nasal tip, alae, and lower lip are all one iris width (IW) in dimension.

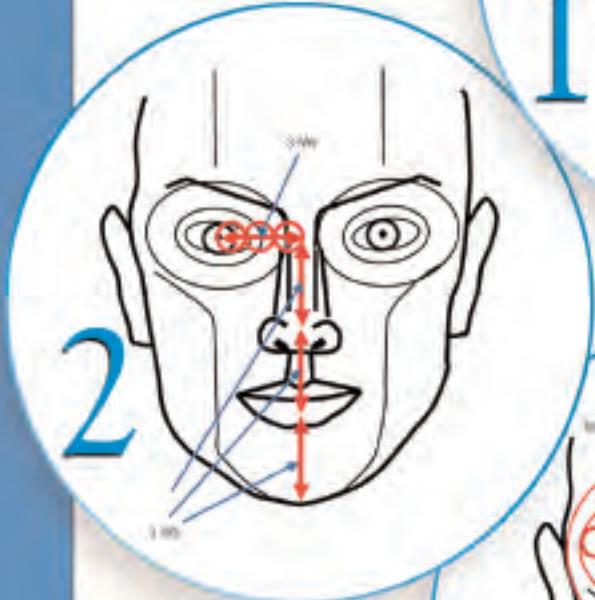
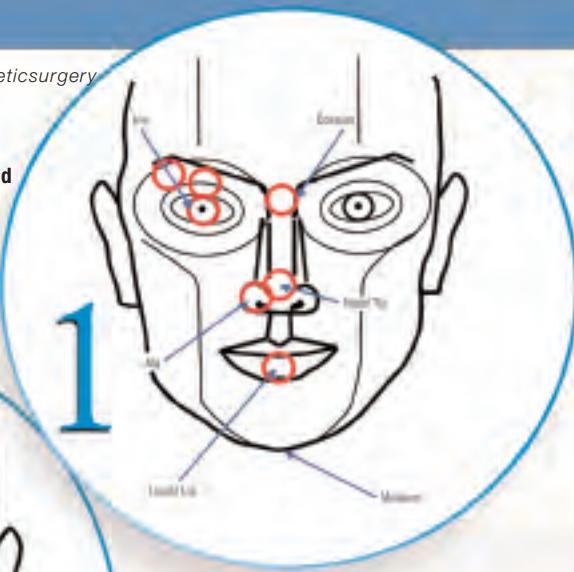


Figure 2 The basic Circles of Prominence (COP) are the iris, nasal tip and lower lip. These shapes serve as centerpieces from which successive COP arise to define the face. Distance between these basic shapes is ideally at three iris widths (IW).

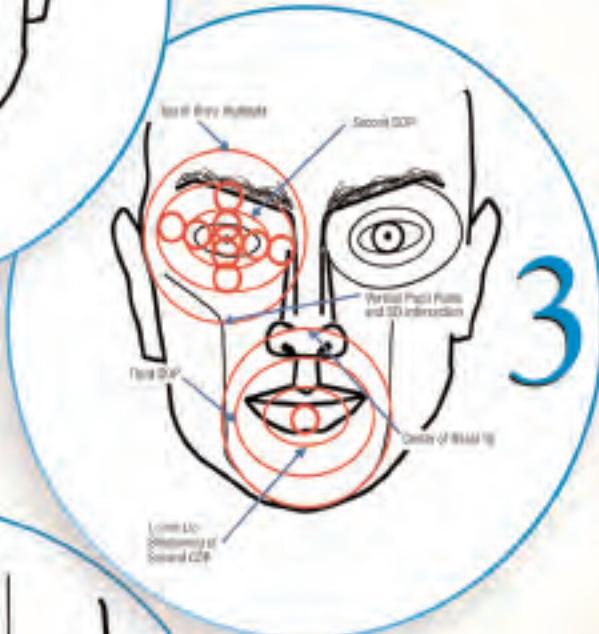


Figure 3 The COP in the eye and mouth are equal in size and shape. All dimensions of the face are defined by the width of the iris; SO indicates second oblique.

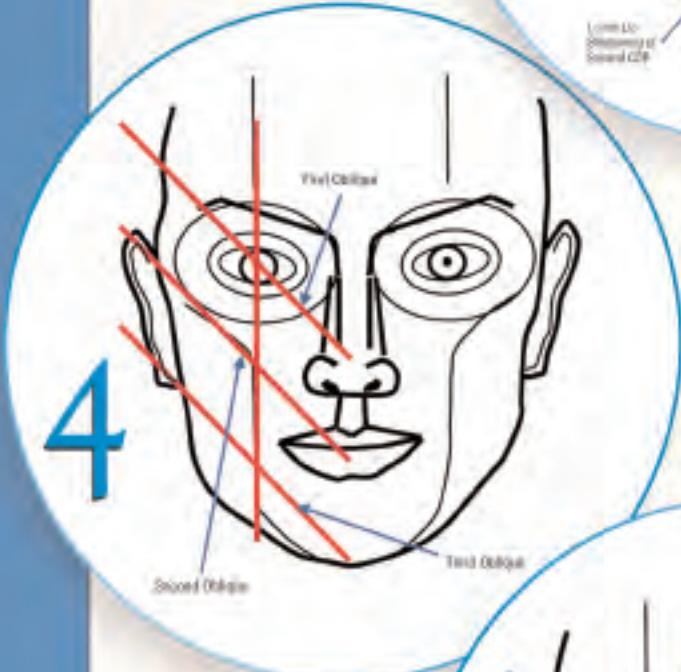


Figure 4 The basic COP are central in forming three obliques and one vertical that define the face and bring attention to the eye.

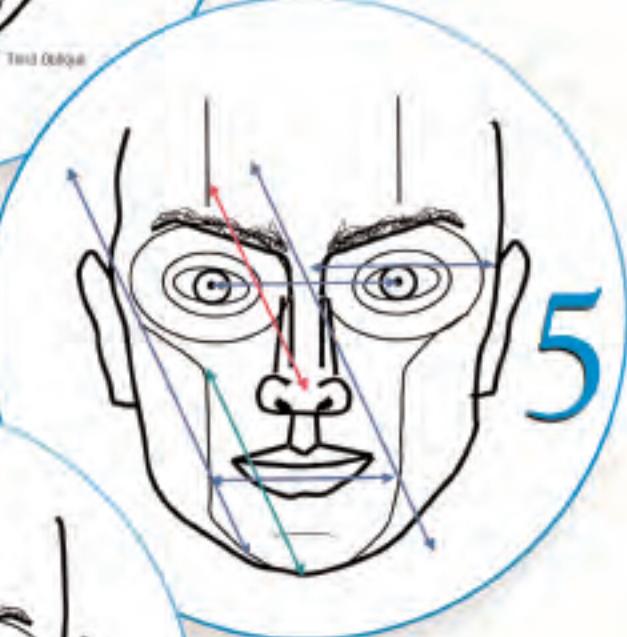


Figure 5 Everything in the face is related. The largest COP (fourth) of the eye and mouth are equal to the interpupillary distance and half-face width. The eye and mouth are further related by 67.5°.



Figure 6 The angles of the medial and lateral eyebrows, nasal tip to alae, and lower lip to commissures are each 18°. The angle of the horizontal palpebral fissure is 9°. Everything in the face is related by shape, size and angles.

Circles



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mouth as major shapes within the oval. When people are asked to judge whether a circle within a box is more aesthetically pleasing right in the center versus an asymmetric position, the majority will prefer the central location. This preference for order applies in the face as well. Because the eyes, nose and mouth are the main structures of the face, the distance between them should be separated symmetrically. Within these major structures, the iris, nasal tip and lower lip are the primary COP or centers of the eye, nose and mouth.

THE EYES Hence, the distance from the pupil to midline, from the horizontal level of the pupil to the nasal tip, from tip to lower lip, and from lower lip to the mentum should all be three IWs (Figure 2).

The size of the iris also determines the distance between all structures. Within the eye there are four COP (Figure 3). The first and primary COP is the iris. The next COP is two IWs high and three wide.

The second COP is explained by the following: the distance between the limbus to the medial or lateral canthus is one IW; the distance from eyelid ciliary margin to palpebral fold is 1/2 IW, which is also the distance from the lower lid margin to the bottom of the shadow produced by the pretarsal muscle bunching. This creates the 2 x 3 IW dimension of the second COP.

The third COP is four IWs high and five wide. This COP is delineated by the top of the eyebrow, lateral edge of the nasal dorsum, lateral orbital rim and the center of the cheek highlight. This is explained by the 1/2 IW distance from the palpebral fold to the bottom eyebrow and 1/2 IW height of the eyebrow. From the bottom of the pretarsal bunching, the center of the cheek highlight is one IW inferior. It is one IW from the medial canthi to the lateral edge of the nasal dorsum, and it is one IW from the lateral canthi to the lateral orbital rim.

The fourth eye COP is a circle centered at the pupil that is three IWs in radius delineated by the midline, lateral edge of the face, and top of the highlight produced by the brow prominence, and inferiorly by the junction of the vertical plane through the pupil and the second oblique (see below).

The pupil, nasal tip and the highlight produced by the brow's prominence below the lateral portion of the eyebrow form an association coined the first oblique (FO). The alignment of these structures directs attention toward the eye. The second oblique (SO) is parallel to the first, begins at the lower lip, and delineates the upper border of the lateral cheek shadowing along with the vertical plane through the pupil. It also defines the ideal location for the top of the ear (the ideal location of the ear has never been determined). The intersection of the vertical plane through the pupil and the SO defines the lower edge of the fourth COP. The third oblique (TO) begins at the mentum, is parallel to the first two and defines the ideal location for the lower part of the ear (Figure 4).

THE MOUTH The mouth is associated with the eyes subconsciously and geometrically. The mouth COP are identical in size and shape to the eye COP. The first mouth COP is the height of the lower lip — one IW (Figure 1). The second mouth COP is two IWs high and three wide. The height of the upper lip is 1/2 IW and the shadowing below the lower lip's protuberance produces shadowing 1/2 IW. The puckering of the lower lip produces a highlight that is three IWs wide — the exact horizontal dimension of the horizontal palpebral fissure.

The third mouth COP is four IWs high and five wide, delineated by the subnasale, commissures and center of the chin highlight. This is explained by the one IW distance from the upper lip to the subnasale, the one IW distance from the lateral edges of the puckering to the commissures, and the one IW distance from the lower lip shadowing to the center of the chin highlight.

The fourth COP is a circle three IWs in radius centered at the lower lip, delineated by the center of the nasal tip, melolabial folds and the mentum (Figure 3). The importance of the eye-mouth relationship is how animation of the mouth through speech, smiling, etc. brings life to the eyes. This effect is enhanced the more these two major structures resemble each other.

SHADOWING The beauty of the eyes is also emphasized by the shadowing produced by the forehead when its flat plane takes a posterior sloping course aligning with the vertical plane of the pupil. The shadowing produced by the dental arches as they slope posteriorly also aligns with the vertical plane of the pupil (Figure 4). The diameter of the largest COP of the eye and mouth is equal to half face width and interpupillary width. They are further associated by 67.5° (Figure 5). The angles of the medial and lateral eyebrows, nasal tip to alae, and lower lip to commissures are each 18° (Figure 6). The angle of the horizontal palpebral fissure is 9°. All of the structures and shapes of the face are ideally adherent to either 90°, 67.5°, 45°, 18°, 9°, or 0° (Figures 5 and 6).

These elements — combined with the shapes, distances, and obliques defined by the IW — emphasize the iris and the eyes as well as promote harmony, symmetry and proportion.

ELEMENTS OF BEAUTY When the shapes are symmetrically set within the face's oval shape, when the sizes of the shapes are equal and thus in harmony, when the progressive circles increase in equal proportions, and when all shapes are oriented together in a unified way (through angles), "beauty" is achieved. There are many

reasons why the answer to facial beauty has eluded us all of this time. The right side of the brain has been shown to play a predominant role in appreciating beauty, while the left side of the brain is analytical. Hence our reasoning was separated from this appreciation, connected only by the corpus collosum. Also, beauty is appreciated from the visual cortex to the homunculus all the way down to the brainstem. The limbic system plays a very strong role as well. This further explains the difficulty our left brain has in piecing the parts together. In addition, the elements of

beauty are determined by subtleties that are hard to define — shading that changes with angles of light and minor variations in faces that are close to the ideal. All further confound our ability to find the exact ideal. ◀

For more information

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This column was adapted for **CST** by Dr. Young from: Young, PA, Sinka U, Rice, DH, Stucker, F. Circles of Prominence: A New Theory on Facial Aesthetics. *Arch Facial Plast Surg.* 2006; 8:263-267.