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# The "Beauty" of Homo sapiens sapiens: standard canons, ethnical, geometrical and morphological facial biotypes. Publication 1: an explained collection of frontal north-europíde contemporary beauty facial canons - Part II -

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(Original version in English and Italian)

**Abstract:** Universal Beauty canons for "Europíde" faces have been collected in some books and interspersed in a very large number of international publications. I will discuss them all by realistic images of two famous supermodels of opposite sex selected according to meticulous ethnic-geometrical criteria. We will point out together the positive aspects of such canons but also their evident limits. The ratios of the visages represented here agree with those of the Beauty canons resulting from long and expensive anthropometrical investigations. Such statistical face models had been obtained by measuring the ratios of hundreds of individuals who were chosen because of their "attractiveness". Operators could take advantage of such models if they would represent appropriate guidelines for their regularly observed patients' facial types. International canons are actually a satisfactory reference for some facial types but also an approximation restricted within the limits of the Europíde ethnical-looks of the oval face. The lower third of the face is, however, transversally slenderer than the upper and middle thirds. Not having suitable images with which to describe the canons (although by using my pictures you would get the appropriate indications for their interpretations), many operators refuse to refer to such guidelines; other operators, on the other hand, use them very accurately because they are a result of very scrupulous research. I suppose that the faces selected for these studies had either been only oval-shaped or they consisted of various geometrical forms with the majority being oval. If the faces had chosen in relation to the harmony existing between the single facial components and facial geometrical peculiarities, we would have universal models for more facial types today. In future publications I will deal with this aspect finally. Consequently, I will standardize other faces of contemporary supermodels as an ideal reference for the changeable facial types of our patients. The most famous research in this field did not always use elegant and proportionate drawings to illustrate canons for Beauty. The question I asked myself is, "Why would one not describe them (and other typologies) directly on real images taken from fashion magazines? In this work, I will discover a coefficient of sexual dimorphism of 97,5% ± 1 that appears in many facial ratios.

## Second part: (first part: http://www.vjo.it/044/beauty.htm )

## b) Morphological ratios - (19 data) (HORIZONTAL / VERTICAL % ratios)

Secrets of the "beautiful" face can also be analyzed through morphological correlations. It means ratios connected only partially to the pure vertical relations seen above. When you consider horizontal data in relation to vertical ones and vice versa, variations in their percentage values depend on mutual significance of the numerator and / or of the

denominator. On the one hand we can have decrease / increase of the numerator, on the other hand an increase/decrease of the denominator and the third possibility is the combination of both facts. In the context of facial thirds, each single third must have requisite of mutual horizontal / vertical morphological harmony. These kinds of morphological relations are not very easy to be understood directly just by looking at. But in any case, the untrained human eyes can lead us to express clear aesthetical judgments just by perceiving the morphology in its totality, exactly as you did at a glance by looking at the visages of the two supermodels used in my pictures (both that you like or did not like).

**DENOM: Physiognomic height (Total facial height) / Tr-Gn**

| DEFINITION OF NUMERATOR | NUM / DENOM | "Beautiful women" | "Beautiful" men |
|---|---|---|---|
| 6) Classical bitemporal width / | ft-ft / Tr-Gn | 72% ± 1 | 69% ± 1 |
| 7) Actual bitemporal width / | Ft-Ft / Tr-Gn | 77,5% ± 1 | 76% ± 1 |

Remarks: data 6 and 7 in males are 97,5% ± 1 of the women values and represent a relation between the upper facial third width to its own height (i.e. a morphological value). What is the meaning of this coefficient of 97,5% ± 1? It is presumably a factor of sexual dimorphism. That is to say a factor that gives evidence of proportional deviations existing between the opposite sexes. We will check out this supposition later. In anthropometrics, ft-ft of data number 6 is a value similar to the actual forehead width. The authentic visible upper third width, however, is wider than this classical bifrontale distance ft-ft. Women have to have a transversally and sagittal more dominant (and rounded) foreheads than the men. These are typical proportional kids' features. As I observed above, I introduced through data 7 the Ft-Ft width, obtained by intersecting the horizontal line drawn through the constructional landmark Perseo with hair attachment at that level. The point of Pe has been traced taking reference to the Central face landmark (Cf), which is collocated at the middle vertical line at the half of the nose height N-Sn. In this publication, I can only tell you that Cf, Pe and Ft will be essential for the building of a quadrangular grid. By using it, you are able to measure the proportions of the facial shape context and define-classify, also considering other outline features, the facial geometries human face, which are different from the classical oval-shaped one. The oval face, and faces with lower thirs slender than the upper third, are sadly the only facial geometries that has been considered by the Beauty canons.

| | | | |
|---|---|---|---|
| 8) Zygoma width / | Zy-Zy / Tr-Gn | 80,5% ± 1 | 80,5% ± 1 |

Remarks: the information 8 compares the middle 1/3 width with the total face height. There is no difference of the values between the two sexes.

| | | | |
|---|---|---|---|
| 9) Physiognomic index: (i.fis.) / | Tr-Gn / Zy-Zy | 124% ± 1 | 124% ± 1 |

Remarks: the mutual value of data 8 is the famous Physiognomic index. Anthropologists, who over valuated its significance, have frequently used this parameter. Alone it is in fact inadequate to describe when a face is really long and/or narrow, short and/or wide or just of middle dimensions (meso-facial). The two supermodels, that I analyzed, are meso-facial, if you consider the numbers above. But visually, the female model, is

relative wider in the upper and lower thirds, so that her face seems globally rounder; practically broader and/or shorter than that of the male. This is another aspect that contributes to the bigger "childlike" appeal. Other childlike contributions come also from mutual proportions between facial components inside the geometry (facial internal components) and from quantitative and qualitative rearrangement of the soft tissues, especially in lower cheeks at both sides of the mouth and in the malare-zygoma areas. In this way, the female face appears wider, rounder and tenderer than that of males.

| | | | |
|---|---|---|---|
| 10) Biocular width/ | Ex-Ex / Tr-Gn | 59% ± 1 (52%) | 57% ± 1 |
| 11) Biocular width/ | em-em / Tr-Gn | 59% ± 1 (52%) | 57% ± 1 |
| 12) Biocular width/ | Go-Go / Tr-Gn | 59% ± 1 (52%) | 57% ± 1 |

Remarks: data from 10 to 12 are calculated in relation to the total face height and are in males 97,5% ± 1 of the female values. If you take as reference the lateral outline of the face, you will notice a light prevalence of the biocular width in female face. It is important to take in consideration that, in females, also the upper and lower 1/3 are proportionally wider to each other. In the male face the lateral-external contour of the eyes, Ex-Ex, and the upper-lower third are relatively narrower than in the female faces. (See data 26 and 27).
The values of such measurements for males are 97,5% ± 1 of the corresponding data for females.

DENOM: Morphological height (sum of the lower and middle 1/3s) / G-Gn

| DEFINITION OF NUMERATOR | NUM / DENOM | "Beautiful women" | "Beautiful" men |
|---|---|---|---|
| 13) Classical forehead width / | ft-ft / G-Gn | 101,5% ± 1 (92%) | 100% ± 1 |
| 14) Actual forehead width / | Ft-Ft / G-Gn | 110% ± 1 | 110% ± 1 |
| 15) Zygoma width / | Zy-Zy / G-Gn | 114% ± 1 (105%) | 117% |
| 16) Biocular width/ | Ex-Ex / G-Gn | 83% ± 1 (70%) | 83% ± 1 (70%) |
| 17) Biocular width/ | em-em / G-Gn | 83% ± 1 (70%) | 83% ± 1 (70%) |
| 18) Biocular width/ | Go-Go / G-Gn | 83% ± 1 (70%) | 83% ± 1 (70%) |

Remarks: in the relationships from the 16 to the 18, we notice equal values in the two sexes. This happens because women, having biocular and bigonial width relatively bigger than in men, have also values of denominator G-Gn (morphological face) relatively greater, and this of an enough degree so that we do not have dimorphism between the two sexes. The value of datum 15 is bigger in the man, since here, otherwise from as it happened in the case of the three widths just named, i.e. that Ex-ex, em-em and Go-Go, the numerators (Zy-Zy) referred to the total facial height coincide in the two sexes, while the denominator of data 15 does not.

DENOM: Height of the correspondent facial third: upper 1/3 / Tr-G

| DEFINITION OF NUMERATOR | NUM / DENOM | "Beautiful women" | "Beautiful" men |
|---|---|---|---|
| 19) Classical bitemporal width / | ft-ft / Tr-G | 248% ± 1 (234%) | 222% ± 1 |
| 20) Actual forehead width / | Ft-Ft / Tr-G | 267% ± 1 | 244% ± 1 |

Remarks: the relationships of above are analogous to those previously already exposed in data 6 and 7. Such relationships put in correlation the width of the upper third with its own height and provide more a confirmation of previous and following data than new practical information.

DENOM: Height of the correspondent facial third: middle third / G-Sn

| DEFINITION OF NUMERATOR | NUM / DENOM | "Beautiful women" | "Beautiful" men |
|---|---|---|---|
| 21) Zygoma width / | Zy-Zy /G-Sn | 227% ± 1 (234%) | 233% ± 1 |
| 22) Biocular width/ | Ex-Ex / G-Sn | 167% ± 1 (140%) | 167% ± 1 (140%) |
| 23) Bimalare width / | em-em/G-Sn | 167% ± 1 (140%) | 167% ± 1 (140%) |

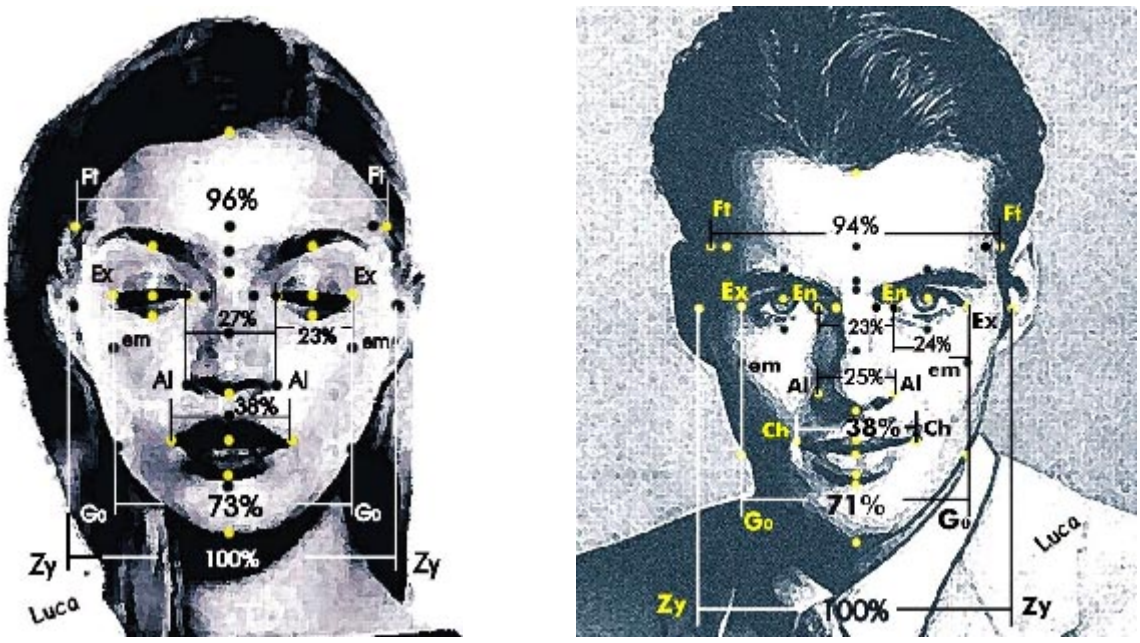
Remarks: datum 21 for females is smaller than that of males because the denominator is now the middle facial third, i.e. a portion of face that we know to be vertically more represented in the female model. Such datum points out the middle 1/3 width in comparison to its own height. In women, we do not have only a vertically more important middle third, but also more important transversally measures Ex-Ex and em-em.

DENOM: Height of the correspondent facial third: lower 1/3 / Sn-Gn

| DEFINITION OF NUMERATOR | NUM / DENOM | "Beautiful women" | "Beautiful" men |
|---|---|---|---|
| 24) Bigonial width / | Go-Go / Sn-Gn | 167% ± 1 (155%) | 167% ± 1 (155%) |

Remarks: datum 20 reported what happens at the level of the upper part of the face. The datum 24 points out, in analogous way, how much the lower 1/3 is wide, in comparison to its height. The datum 24 coincides with the datum 22 (datum 30: Go-Go = Ex-Ex). This happens because Ex-Ex is relatively bigger in women than in men, of the same quantity in which the lower third, always in women, is vertically bigger than in men (see considerations related to the datum 3). Information of the actual bifrontal width - datum 14 -, of the bimalare width - datum 17 -, of the biocular width - datum 16 - and bigonial width - datum 18 - can be compared directly to each other, because referred to the same quantity G-Gn. They are particularly important because they suggest that the universal canons of beauty for the europíde face represent, to all the effects, a clear "simple oval shape " type or however, slender and narrow down on the face. Geometric shapes wide down (trapezoidal, rectangular, elliptic, etc) show, in both aesthetically ideal men and women, bigonial values always larger in compare to the biocular/bimalare width. We see that constant bitemporal predominance is typically feminine. I have now documented proof that these and other remarkable differences among the varied geometric shapes of the face exist. We need, therefore, standardizations also of the other typologies (see following publications).Let's give particular attention to the fact that in the oval-europíde face described by standard canons, when referring to the facial context, the male face has to be relatively narrower in comparison to that of females, so that it is (at the upper and lower levels) the 97,5% ± 1 of the relative value found in women. Let us realize that, in the face of both sexes, the relationship bigonial / bizigomatica (datum 27) has always been similar, as the bigonial width is bigger of around 2/3 of the width of the middle face (73% in women and 71% in the men). It means that the diameter Go-Go will be around 2/3 of the bizigomatica diameter Zy-Zy, both in men and in women and sexual dimorphism is evident. In fact, the denominator Zy-Zy referred to the total facial height is

coincident in the two sexes and what makes the difference is the lower 1/3 relative greater transversal female representation, as more times underlined (see, for instance, datum 12). Such greater relative representation always results connected to the oft-underlined coefficient of sexual dimorphism. Let's give particular attention to the fact that in the oval-europíde face described by standard canons, when referring to the facial context, the male face has to be relatively narrower in comparison to that of females, so that it is (at the upper and middle levels) the 97,5% ± 1 of the relative value found in women. At the zygoma level there is, instead, a perfect correspondence. This factor of the 97,5% ± 1 is common in many data of the canons of universal beauty, when related to the ratios between the inside components of the face and the geometry of the face. Such factor of the 97,5% ± 1 (in this way identified) will be considered, by now, as a relative dimensional factor for the sexual dimorphism. It shows that a relative measure of an anatomical component - that describes how much this has evidence in the context of the face of one sex - is the 97,5% ± 1 of the corresponding relative value quantified in the face of the other sex. In contrary words, that this last is more evident as it happens in the face the opposite sex (it is the 102,5% ± 1) (it is clear whether to say that a generic value A is the 97,5% ± 1 of B, it is also to say that B is the 102,5% ± 1 of A). To simplify things in rigorous way, I preferred, conventionally, always to point out such 97,5% ± 1, rather than its mutual.




**FIGURES 5: horizontal relations of total face**

**b) Horizontal balance - (5 data) - (HORIZONTAL / HORIZONTAL % ratios)**

DENOM: Zygoma or middle 1/3 width: / Zy-Zy

| DEFINITION OF NUMERATOR / | NUM / DENOM | "Beautiful women" | "Beautiful" men |
|---|---|---|---|
| 25) Classical bitemporal width / | ft-ft / Zy-Zy | 88% ± 1 | 85% ± 1 |
| 26) Actual i.ft-zyg / | Ft-Ft / Zy-Zy | 96% ± 1 | 94% ± 1 |
| 27) i.mand-zyg / | Go-Go / Zy-Zy | 73% ± 1 | 71% ± 1 (76%) |

Remarks: in the data 26 and 27, the male values are the 97,5% ± 1 of those of females. The date 27 for the male deviates from standards because the lower third of our top-model is slender, it means more feminine. The male lower jaw is slightly narrower than that of the female, but this does not necessarily compromise the vigor that can be attributed to it. In fact, the soft tissues of this anatomical part result more tonic (and hairy) in men than in women.

DENOM: Bigonial or lower 1/3 width: / Go-Go

| DEFINITION OF NUMERATOR / | NUM / DENOM | "Beautiful women" | "Beautiful" men |
|---|---|---|---|
| 28) Classical bitemporal width / | ft-ft / Go-Go | 122% ± 1 | 120% ± 1 |
| 29) Actual bitemporal width / | Ft-Ft / Go-Go | 131% ± 1 | 131% ± 1 |


**FIGURE 6: top-models' superimposition of the two sexes with the same Tr-Gn**

Remarks: in data 26 and 27, we have put in relationship the upper and lower widths of the face to the width of the middle third and therefore, also in relation to each other (in the woman, Ft-Ft has a percentage value of 96, while the lower jaw width is of 73, that means quite a lot smaller). Zy-Zy has been therefore considered equal to 100%. These three relations are important as the three vertical facial thirds and I will be calling them: "transversal facial thirds". From such and other relationships, we can illustrate in detail the geometric characteristics of a face. In the standard canons, however, the gathering of data has been particularly generous and the literature supplies us many further meaningful information. Consequently, the datum 29 furnishes us another way of saying that the forehead width is larger than the lower third, if we assume the bizigomatica distance as unit of measure. Finding a value in comparison to Go-Go, in the canons of beauty, gives us, therefore, relationships in comparison to Ex-Ex. Do not forget, in fact, that Go-Go is equal to Ex-Ex (datum 30). In addition, from the figures, it is demonstrable that the relationship between the width of the actual visible forehead and the zygoma width shows sexual dimorphism (datum 26). Nevertheless, the visible forehead width, referred to the lower 1/3 width, is practically constant in the two sexes (datum 29). In fact, it is a consequence of the fact that female and male geometries are two very similar ovals, with the difference that the female one, overall, appears slightly wider (and therefore relatively more shortened). The width of the forehead (ft-ft), as traditionally

considered, is a not precise and repeatable value in both sexes. This width is, in fact, inadequate to establish the real width of the visible forehead, since the temporal line on which to draw the anthropometrical point ft represents, at least in the photo, an anatomical component not sufficiently defined. This fact could conduct different operators to draw it with too frequent individual error. From figure 4, we can also verify that the zone, which has for borders the two vertical straight lines passing through Ex, is approximately divided in four equal sectors, with some differences in the two sexes dependently mainly from the mouth sexual dimorphism (see also subsequently).

**...To be continued (next issue)**

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