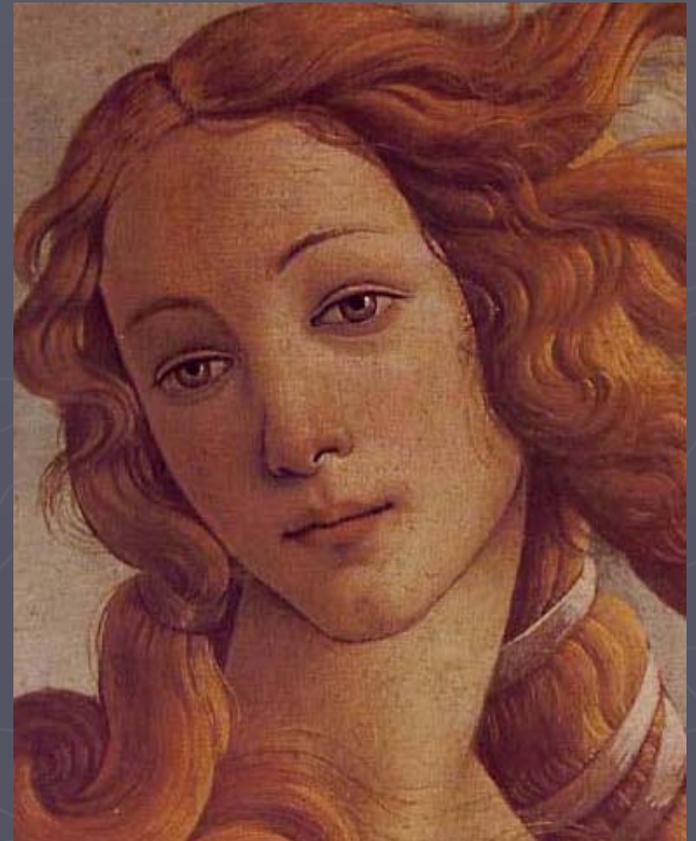
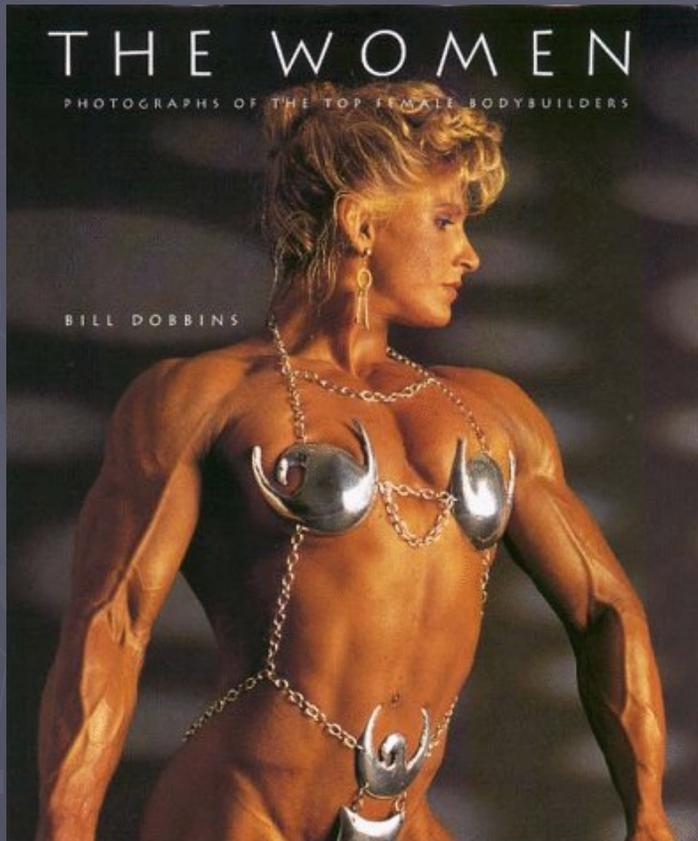
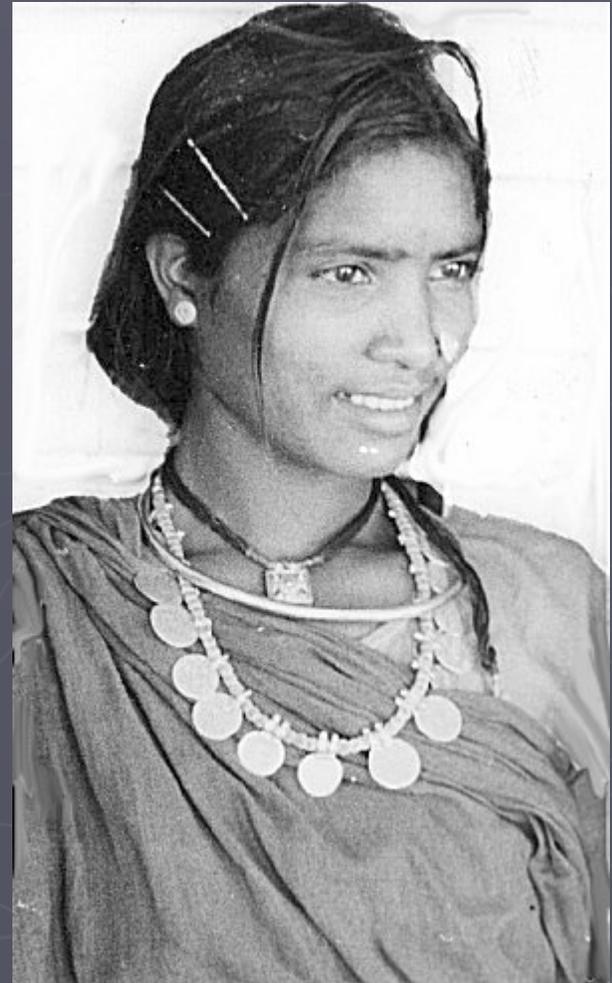
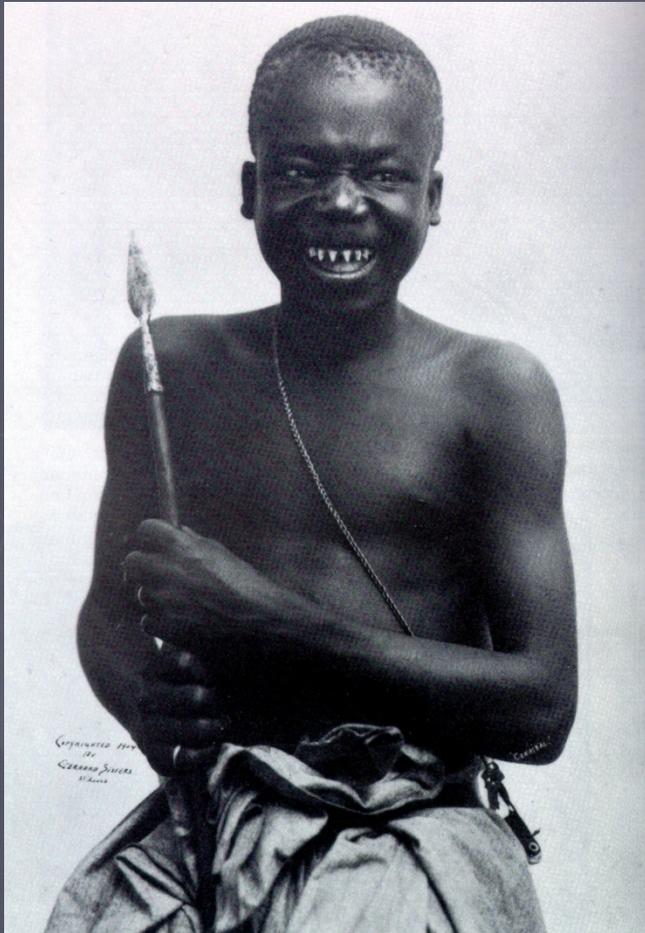


“It is certainly not true that there is in the mind of Man any universal standard of beauty with respect to the human body”

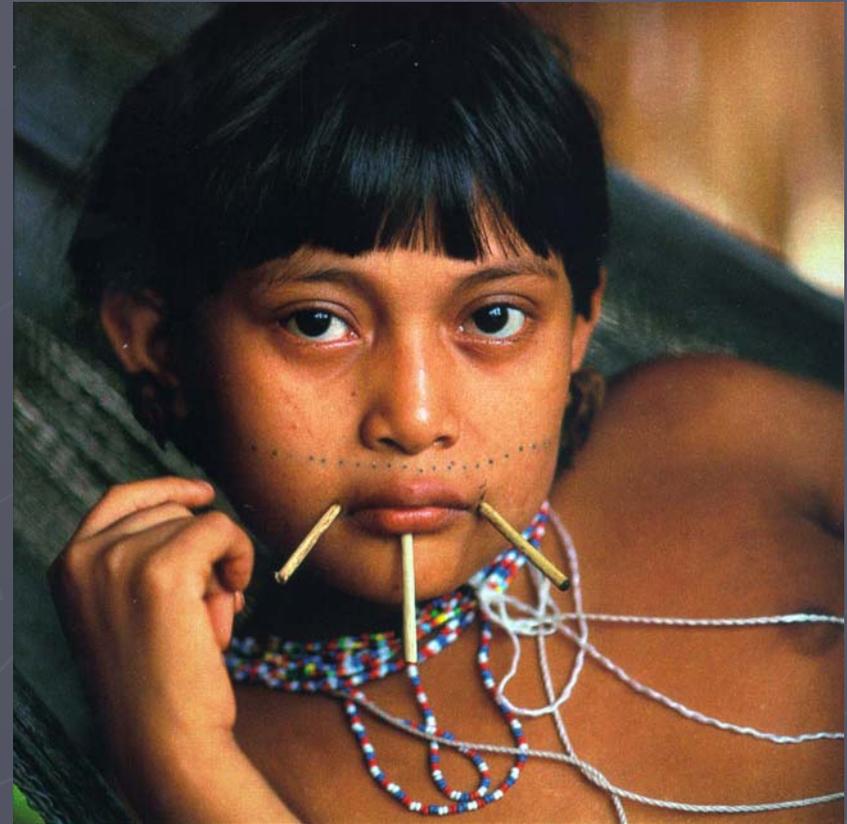
The Descent of Man, and Selection in Relation to Sex (p. 584) by Charles Darwin, 1871



Examples of Arbitrary Cultural Standards



Arbitrary Cultural Standards



Arbitrary Cultural Standards



Beauty is in the eye of the beholder, or is it?

- ▶ The standard claim is that conceptions of beauty are culturally determined and therefore arbitrary.
- ▶ Research over the last dozen years or so reveals that how we evaluate beauty in the human body appears to be based on a universal set of standards. Therefore, some conceptions of beauty are not culturally determined.

What is Beautiful?



Relative and Absolute Standards in Attractiveness

- ▶ **Universal model:** holds that there are absolute standards that people use to assess attractiveness
- ▶ **Assortative model** (like attracted to like): holds that standards are relative to the viewer. That is, we are attracted to those who are similar to us. Also known as **positive assortative** mating.
- ▶ We will begin with the universal (or absolute) and follow with the assortative (or relative)
- ▶ Finally, most of the research has focused on female attractiveness

Universal bases for female physical attractiveness

General

Symmetry: low fluctuating asymmetry (applies to males also)

Body form

Waist to hip ratio of approximately 0.7 (?)

Face

Average (applies to males also)

small lower jaw (nasion to chin)

high upper and lower lips

small mouth (width)

large eyes

light skin

homogenous skin texture

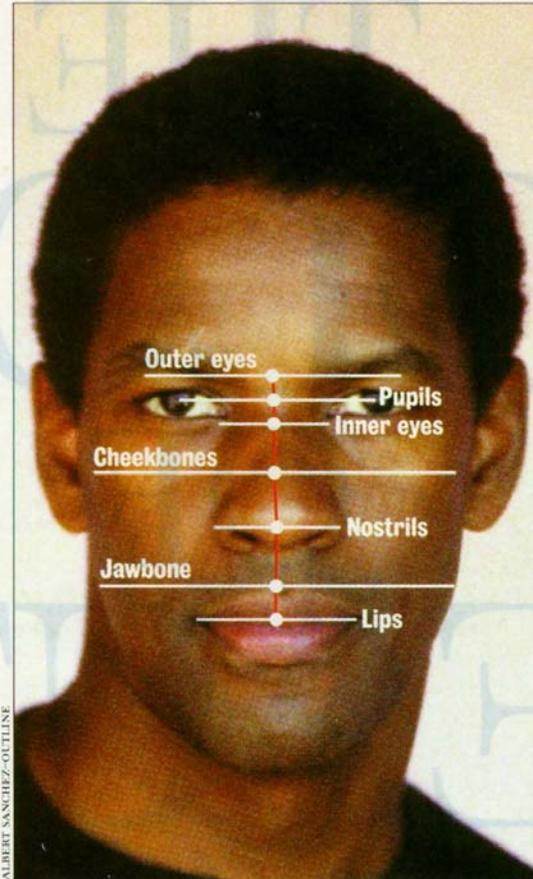
Symmetry



How symmetry is measured

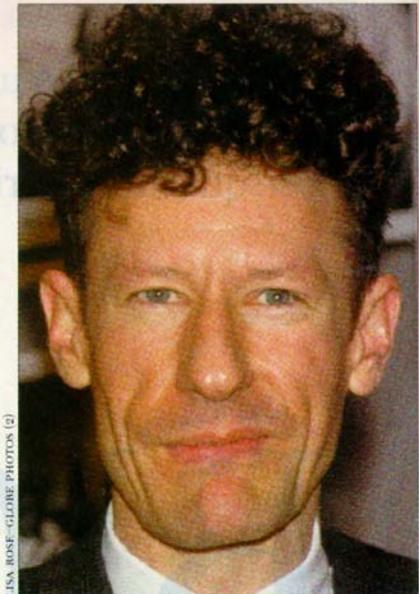
BALANCING ACT

One key to physical attractiveness is symmetry; humans, like other species, show a strong preference for individuals whose right and left sides are well matched. Denzel Washington's face, below, is almost completely symmetrical. Lyle Lovett's, on the right, is not—as revealed by a computerized image made up of his left side repeated on the right.



ALBERT SANCHEZ-OUTLINE

Golden mean: By drawing lines between paired features and marking the midpoints, researchers get an index of asymmetry. In Denzel Washington's case, the midpoints line up almost perfectly.



LISA ROSE/GLOBE PHOTOS (2)

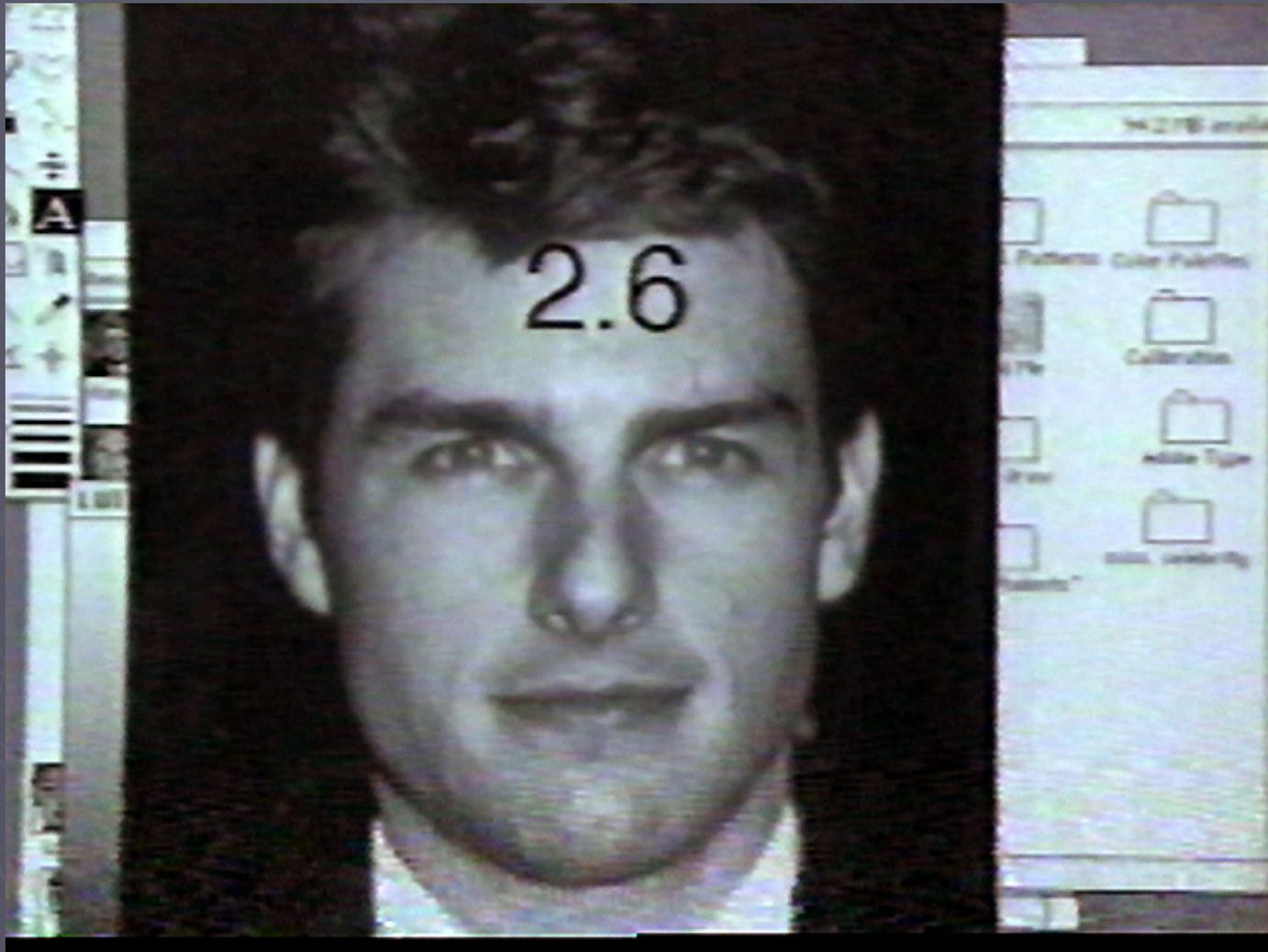
Asymmetrical Lyle: *The real Lovett*



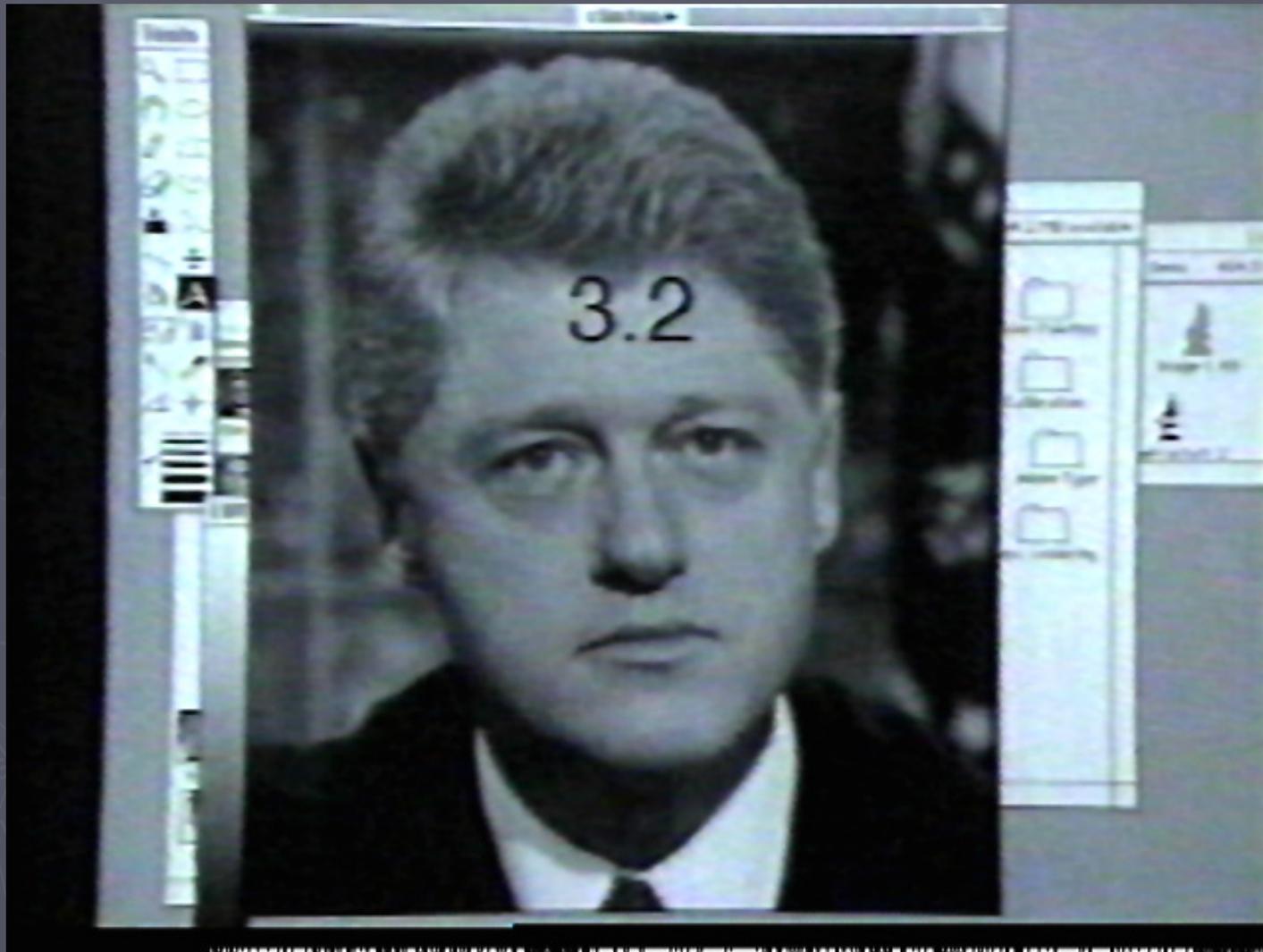
COMPUTER MANIPULATION BY TONY KLEVA

Symmetrical Lyle: *Two left sides*

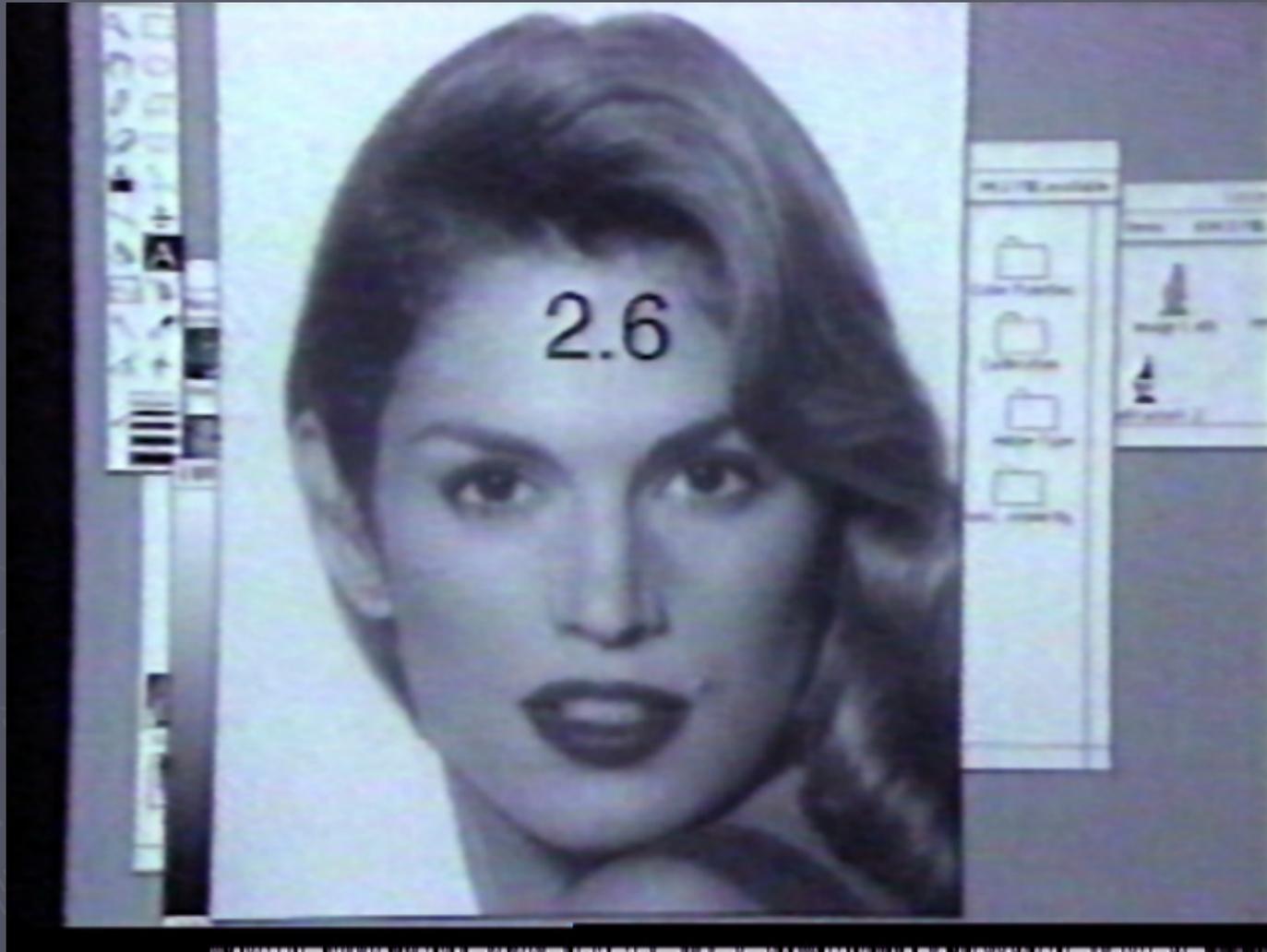
Symmetry measures: 1



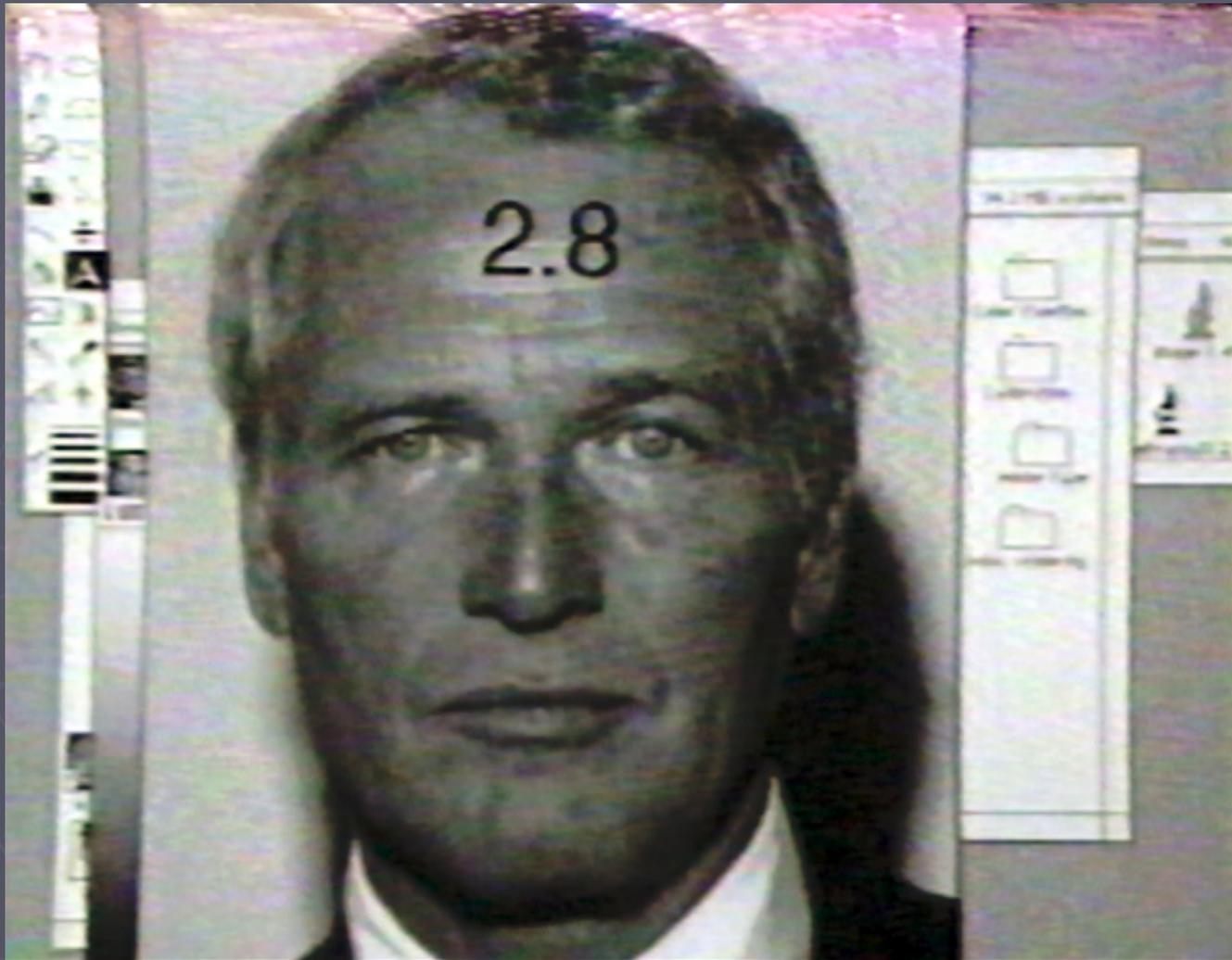
Symmetry measures: 2



Symmetry measures: 3



Symmetry measures: 4



Symmetry measures: "What? Me Worry?"



Physical development and symmetry are regulated by:

- growth rates
- hormone levels
- nutrition
- disease
- ✓ The level of symmetry is a measure of developmental stability.
- ✓ Developmental stability is an indication of an individual's ability to withstand genetic and environmental stress during growth.
- ✓ High FA is **very weakly and perhaps inconclusively** associated with increased morbidity and decreased heterozygosity
- ✓ It may be the case that modern medicine has broken the relationship between symmetry and health. Research needs to be done on populations with poor access to health care to evaluate the utility of symmetry as a sign of fitness.

Symmetry is **positively** associated with

- ▶ Stature
 - Tall males less asymmetrical (positive association)
 - Small females less asymmetrical (negative association)
- ▶ IQ
- ▶ Number of lifetime partners and RS (males & females)
- ▶ Running speed
- ▶ Aggression
- ▶ Depression

Facial Averageness

“Attractive faces are only average”.

Langlois & Roggman. *Psychological Science* (1990)

Computing Averageness

Source: The
Evolutionary
Psychology
of Facial
Beauty.
*Annual
Review of
Psychology*
(2006)
Gillian
Rhodes

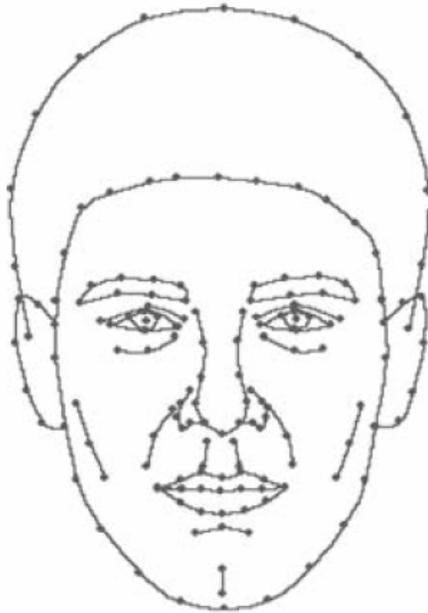


Figure 1 Landmark points used to create averaged composites. Lines have been added to illustrate how points capture the layout of internal features and the face outline, but only the points are actually used. Averaged composites of Caucasian and Chinese female (*top*) and male (*bottom*) faces. Each composite is created from 24 faces.

Examples: creating an average face (Asian)

Evolutionary theory and prototypes: pro

- gender prototypes
- effects of cognition
- individual prototypes
- heterozygosity effects

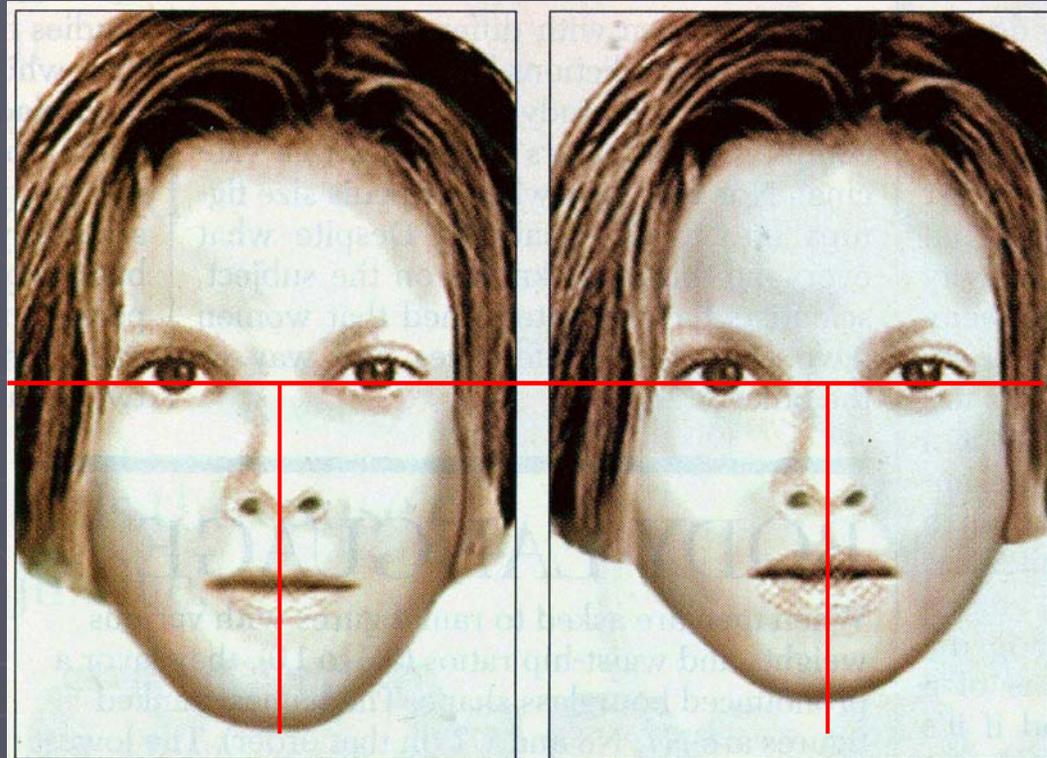


Creating an average face (N. Amer.)



Average plus reduce jaw and peaked lips leads to an even more attractive face

Length of nasion to chin in red to indicate smaller lower face.



Average proportions

This computer-generated face has the dimensions typical of Caucasian 20-year-olds.

Ideal proportions

Most visions of the perfect female face have small jaws and abnormally lush lips.

Averageness is associated with

high levels of heterozygosity which, in turn, is associated with enhanced pathogen resistance. That is, average looking people tend to be healthier. ***But the effect is very moderate and needs further study.***

Other Factors Associated with Attractiveness

- ▶ Facial Smoothness
- ▶ Skin coloration
- ▶ Specific facial features

Facial smoothness: absence of blemishes and lines indicative of youth. In addition, skin darkens with age.



Subject on left retouched to enhance facial homogeneity

Male and Female Differences in Skin Color

- ▶ Men are darker than women
 - Result of heavier concentration of hemoglobin in blood and melanin in skin and thicker subcutaneous fat layer in women
 - Universally, men prefer women who are lighter than average (relative to local population) and women prefer men who are darker than average (relative to local population).
 - But one can be too dark or too light in local population

Skin Color and Attractiveness

- ▶ Frost reports that out of 51 different cultures in the HRAF, 44 cultures favored lighter complexions on either only women (30) or on both sexes (14). In only 3 cultures was fair skin preferred on men only, and in just 4 cultures was darker skin desired in women.

Male Attractiveness, Masculinity, and Specific Facial Features

- ▶ Prominent cheek bones and longer lower faces are both judged as attractive in males.
- ▶ When these two factors are combined a masculinity index is created, and this index is more strongly correlated with attractiveness than cheekbone or longer lower face alone.
- ▶ Finally, male facial symmetry and the masculinity index were correlated.

Feminine and Masculine Faces

- ▶ Males favor women with feminine faces
 - Small chin and high cheek bones
 - Fuller and more peaked lips
 - Large eyes (relative to face)
- ▶ Females favor males who are slightly to moderately facially masculine but not extremely so
 - Chins broader and longer
 - Large brow ridge

Body Form: Waist to hip ratio

WHR is a reliable index of age, hormonal status, parity, fecundity, and health. Before puberty boys and girls have similar ratios. However, with females pelvis widens and fat is deposited on hips and thighs at puberty. Healthy women have ratios of 0.67 to 0.80 while healthy men have 0.80 to 0.95. For attractiveness, ideal for men is 0.90 and female ideal is 0.7 (for Western populations only).

Waist to Hip Ratio: standard stimulus set

I



WHR **0.7 (U7)**



0.8 (U8)



0.9 (U9)



1.0 (U10)

II



WHR **0.7 (N7)**



0.8 (N8)



0.9 (N9)



1.0 (N10)

III



WHR **0.7 (O7)**



0.8 (O8)



0.9 (O9)

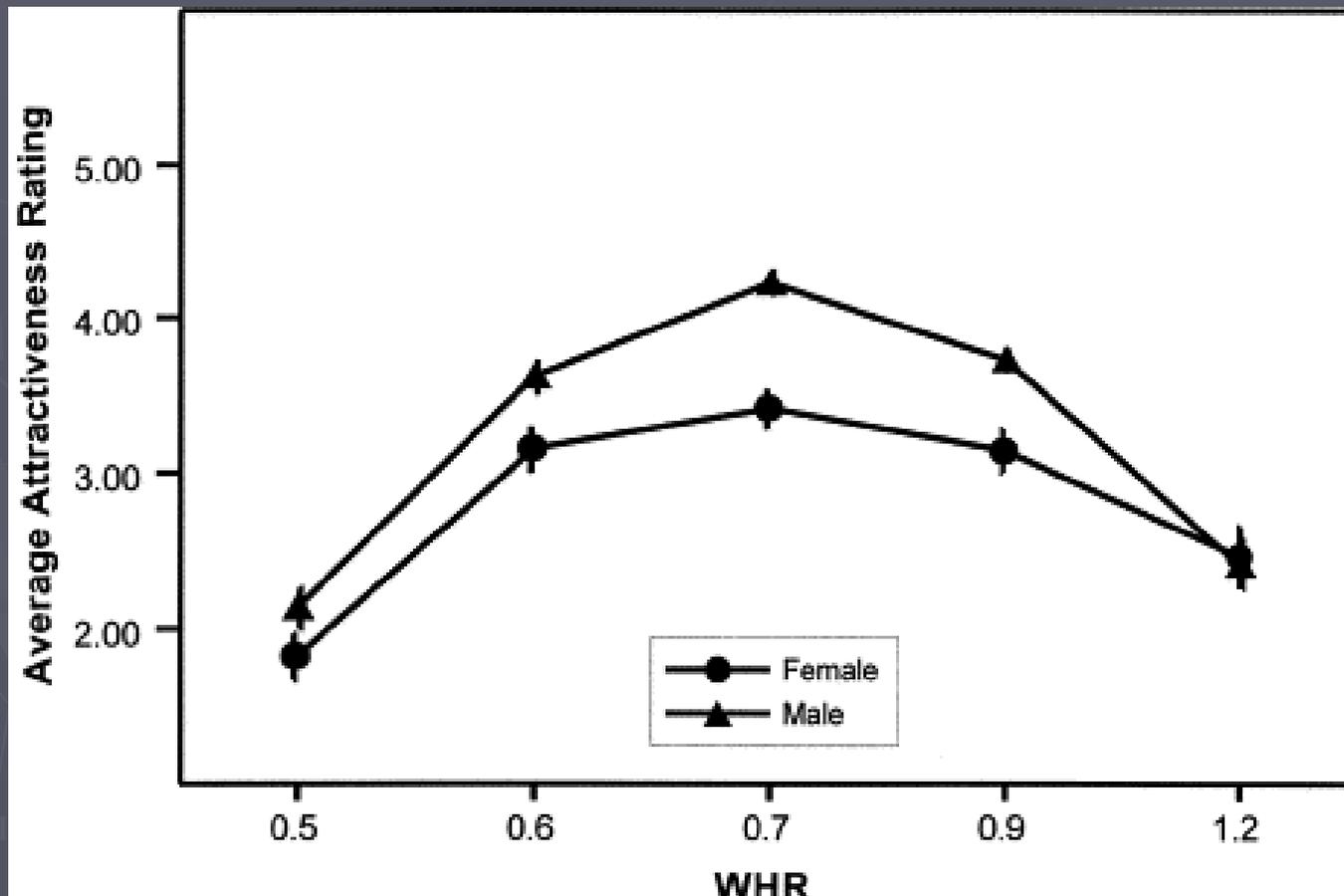


1.0 (O10)

WHR and female mate value

WHR increases with each pregnancy and increases slightly with age. However, a 17 year old will have nearly the same WHR as a 22 year woman and at menopause it reaches the level of a male's WHR (about 1). High WHR is strongly negatively associated with the probability of conception and positively associated with age.

Male and female evaluations are parallel but males place greater emphasis on WHR



Streeter, S.A. & McBurney, D.H. (2003) Waist-hip ratio and attractiveness: New evidence and a critique of "a critical test", *Evolution and Human Behavior*, 24, 88-98.

WHR ratio and health correlates

High WHR in women is a sign of:

- menstrual irregularity
- hirsutism (abnormal growth & distribution of hair)
- elevated plasma triglycerides
- diabetes and insulin intolerance
- hypertension
- stroke
- gall bladder disease
- reproductive cancers (endometrial, ovarian, and breast)

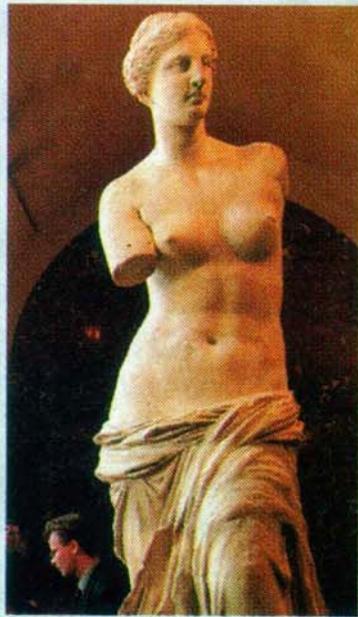
WHR and Behavioral Correlates in Women

- ▶ Positively correlated with age of first intercourse.
- ▶ Negatively correlated with number of life-time sexual partners and EPC's,

Examples: both figures have a 0.7 WHR (the more things change, the more they stay the same)



Further example of WHR's



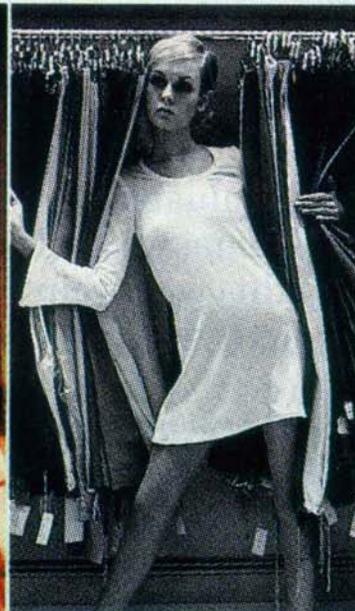
Venus de Milo
Objet d'art .68



Marilyn Monroe
Actress .66



Sophia Loren
Screen gem .68



Twiggy
British model .69

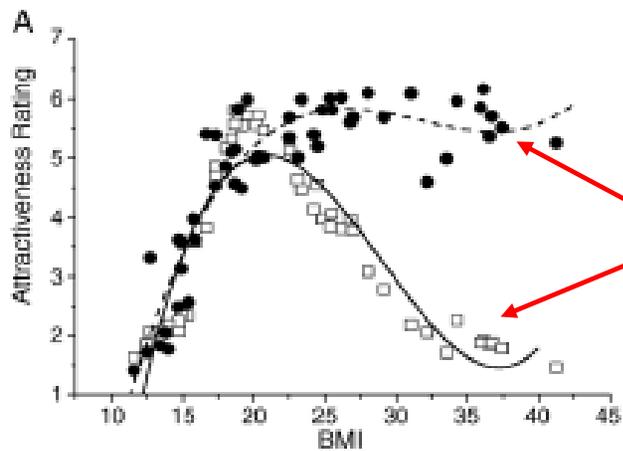


Kate Moss
Waifish model .68

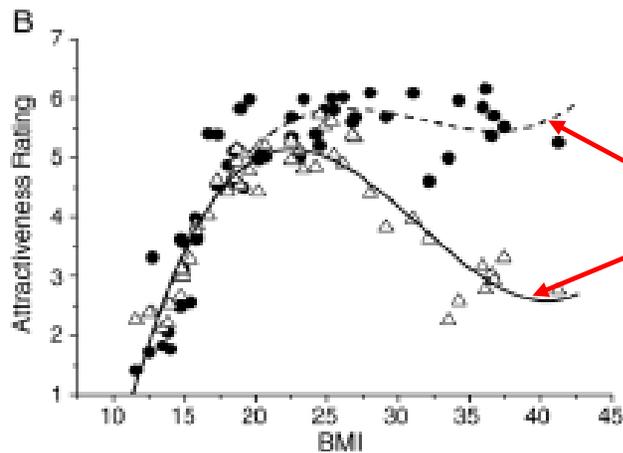
WHR of 0.7 a reflection of Western standards?

- ▶ Recent research by anthropologists reveals that a WHR ratio of about 0.8 is preferred in the following ethnic groups:
 - Hadza
 - Shuar
 - Machiguenga
- ▶ Greater than 0.7 WHR may be a consequence of living in a food short environment which suggests that men are concerned with energy status when it is relevant (i.e., not relevant in the West but relevant in tribal populations)
- ▶ **BMI**: additional research in the West suggests that BMI is more important. The problem with BMI and WHR is that they are strongly correlated with each other. Thus, it is unclear which is the signal of reproductive potential.

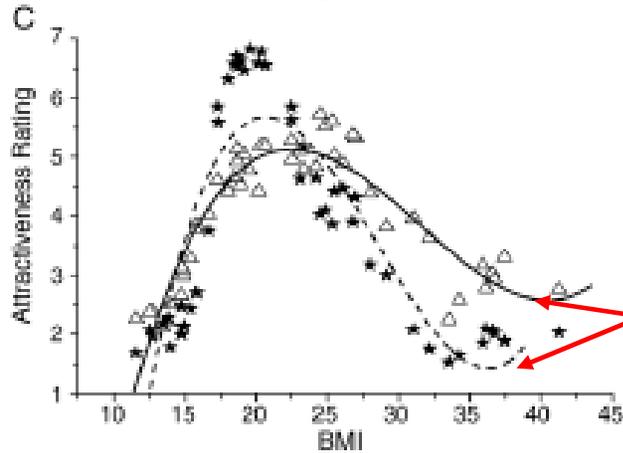
BMI/WHR and Culture



Brits &
SA Zulus



Brit Zulu &
SA Zulus



Brits of African Origin &
Brit Zulus

“Changing perceptions of attractiveness as observers are exposed to a different cultures”

B. Martin J. Toveé et al.
Evolution and Human Behavior (2006)

Local conditions may matter

Poverty & Hunger: People in rural South Africa are living in a low-resource, economically deprived society. Fifty-six percent report going hungry, and most households do not have electricity, running water, or significant amounts of household durable goods. In South Africa a higher female body weight is perceived to reflect affluence, high status, and good health. It is therefore not surprising that our results suggest that a higher female BMI is regarded as attractive.

Health Problems: These preferences may be reinforced by the current **health** problems prevalent in South Africa. There are long-standing problems with infectious diseases, including lower respiratory tract infections, meningitis, diarrhea, septicemia and TB, which, when combined with low levels of immunization, make potential infection a serious possibility. The health consequences linked to these serious diseases include weight loss, and this is reflected in the perception that a lower body mass may signal potential parasitic infection or disease

SHR: shoulder to hip ratio an introduction to a male sign

► Measurement:

- hip measured as largest circumference around the hips and buttocks.
- Shoulder measured as greatest width of shoulder blades with arms at sides.

► Results:

- Men ranged from 1.03 - 1.40, mean of 1.18
- Women ranged from 0.9 - 1.22, mean of 1.03

SHR in men: behavioral correlates

- ▶ Negatively correlated with age at first sexual intercourse (narrow shoulders=later first sex)
- ▶ Positively correlated with:
 - reported number of sexual partners; and
 - EPC (extra pair copulations) or cheating on your own partner (broad shoulders=more sex)

Height and Attractiveness

- ▶ In the west males prefer females who are shorter than average while females prefer males who are taller than average.
- ▶ In the west tall men have higher RS than shorter males and shorter females have higher RS than taller females.
- ▶ **But** in rural Gambia this relationship seems not to hold.
 - Tall women had higher fertility & higher survivorship of their children
 - While taller men were only very slightly more likely to have higher RS than shorter men

Height in Gambia

- ▶ In Gambia tall women are more reproductively successful (higher fertility) than short women.
- ▶ There is no correlation between height and fertility among men.
- ▶ However, taller men contract more marriages than shorter men.
- ▶ No correlation between height and health for Gambian men and
- ▶ for Gambian women the relationship is inverted U-shaped.

See "Height and reproductive success: how a Gambian population compares to the West" (2005)

Assortative or relative models: "Self seeking like"

- ▶ People marry those who resemble themselves
- ▶ Known as positive assortative mating
- ▶ Correlations for most physical traits (height, weight, hair color, etc.) and many behavioral traits (interests, personality, etc)
- ▶ Two potential explanations for this relationship:
 - Optimizes outbreeding to avoid excessive genetic variance that would interfere with coadaptive gene complexes
 - Competition and matching hypotheses

Self perception and mate choice in Western society

- ▶ The standard evolutionary argument is that men are attracted to beauty, youthfulness, sexual fidelity, and health while
- ▶ Women are attracted to men who are ambitious, wealthy and have high social status
- ▶ But as Mick and Keith note “You can’t always get what you want”

Self perception and mate choice in Western society: Buston and Emlen

Potentials attract

- ▶ This has led many to successfully predict that mate choice would be based on **reproductive potential**. That is
- ▶ attractive women, for example, would match up with wealthy men.
- ▶ The problem with this argument is that it ignores the problem of stability in marriage, a key to RS

Marital Stability

- ▶ If mate choice were based on reproductive potential then
 - Reproduction might be delayed waiting for an exceptionally beautiful or wealthy mate.
 - Furthermore, these marriages would be unstable if a more beautiful or more wealthy mate came along. One would be tempted to “trade up”.

Relativism in mate choice

- ▶ Women lower their self-assessed beauty when exposed to beautiful women and men lower their self-assessed attractiveness when exposed to socially dominant males.
- ▶ In addition, each sex lowers their assessment of the other when their mates were compared to more highly rated members of the opposite sex

The question

- ▶ Potentials attract: are choices based on **absolute** criteria (e.g., beauty and wealth)? or do
- ▶ likes attract, a **relative** criteria: how similar are they to the seeker in a number of crucial dimensions?
- ▶ Ten questions asked that can be divided into 4 evolutionary categories:
 - Wealth and status
 - Physical attractiveness
 - Fidelity
 - Family commitment

Results I

- ▶ If the potentials model is correct then attractive women would have had stronger preferences for wealthier men and vice versa
- ▶ This pattern was observed to be statistically significant but it explained very little of the variance (around 5%)

Results II

- ▶ If the likes attract then there should be a positive correlation between self perception (e.g., fidelity or attractiveness) and importance of that same factor in a mate.
- ▶ This pattern was found **and** the correlations were much stronger: ~35% for women and ~12% for men.

Conclusions

- ▶ Human mate choice in Western society seems to be more strongly based on preference for long-term partners who are similar to one's perception of self across a number of evolutionarily relevant categories of traits.

A Final Thought on Beauty, Similarity, and Mate Choice

- ▶ In the EEA potential mates are in short supply because females tend to be married immediately after puberty.
- ▶ Furthermore, the pool of potential mates is very small relative to modern populations
- ▶ Consequently, to maximize fitness males must marry the first available female or face the consequence of delayed competition.
- ▶ This makes choice based on beauty or similarity difficult, or impossible.