

Anatomy 5217

Seminar 4 Study Questions and Answers

Anatomy of Beauty

1. What is fluctuating asymmetry?

Fluctuating asymmetry is the measure of absolute differences in the size of the same structure on the left and right sides of the body, regardless of which side is larger. High fluctuating asymmetries in the body are thought to reflect lower overall fitness.

2. How might high fluctuating asymmetry be indicative of lower fitness?

High fluctuating asymmetry is considered a result of developmental instability. Symmetry between the left and right sides of the body reflect such breeding qualities as disease resistance, desirable genes, healthy diet and potential reproductive success. Disease, poor genes, poor diet (i.e., both genetic and environmental factors) that perturb development can reduce symmetry in the body.

3. In terms of sexual signaling of male and female fitness, what are examples of "true" versus "false" advertizing?

Waist to hip ratios for females is an example of true advertizing in a female; i.e., women who have body proportions that are close to what males find most attractive do typically have high Darwinian fitness.

Beards in males are more likely to a sign of false advertizing, at least in modern western society; i.e., there are no data I know of showing that men with larger beards have more offspring.

4. What is the golden mean?

It is the number 1.618... If a line segment AC is divided into two segments, a large AB and a smaller BC, the golden mean is the ratio of the larger segment (AB) to the smaller segment (BC) that it is identical to the ratio of the whole (AC) to the larger segment (AB).

5. What are examples of the golden mean in human body proportions?

*The position of the navel compared to the total height.
The relative length of the phalanges in the hand.*

6. What have morphing photographs of human faces established about what most people consider to be a beautiful face?

The more faces used to make up the composite, the more beautiful the face is generally considered to be. Thus a beautiful face is not per se beautiful because it is unusual. Rather it is beautiful because it overall closely represents the average face. What appears to make faces beautiful is not that they are exceptional, but that they are not extreme in any feature.