



## COMMUNICATING SCIENCE SERIES

### **THE HUMAN ANIMAL: BIOLOGICAL BASIS OF MATE CHOICE**

Tuesday, 9 March 2010

The Meeting Rooms, The Zoological Society of London, Regent's Park, London NW1 4RY

**Chair: Dr S. Craig Roberts, School of Biological Sciences, University of Liverpool**

#### **Evolution and human mate choice**

*Robin Dunbar, University of Oxford*

Humans are mammals and must contend with the general constraints on reproduction that the mammalian strategy imposes, namely the fact that females have opted for internal gestation and lactation – a strategy intended mainly to enable them to produce large-brained offspring. Large brains are advantageous, but they are very costly to produce in offspring, and in most birds and mammals this has necessitated biparental care. This has a number of important implications for human mating strategies and human mate choice, including an expectation that females will be choosier than males, females should emphasise rearing and mate quality while males emphasise mating. I will review data from a variety of sources that test these hypotheses.

#### **The human form as an ornament: perfect faces, perfect bodies, perfect genes?**

*Karl Grammer, Department for Anthropology – Faculty of Life Sciences, University of Vienna, Austria*

Humans tend to judge and sort parts of their social and non-social environment permanently into a few basic categories: those parts they like and those parts they don't. Indeed we have developed aesthetic preferences for the things and people we are exposed to. And, needless to say, these preferences shape our behavioural choices – our tendency to seek out or avoid what the world has to offer to us. Humans and other animals have evolved preferences for food and habitats, for naturally occurring sensations, such as smells and sounds, as well as for the broad array of culturally created artefacts.

Humans have also evolved aesthetic preferences for their sexual and social companions. In this talk I will review the current approaches in attractiveness research. I will discuss the obsession with beauty and review the biological constraints which create the bases for beauty traits as honest mating signals. If evolutionary approaches to beauty are correct, beauty signals should have a direct relation to health and reproductive success<sup>1</sup>.

The pillars of beauty identified to date are averageness, symmetry and sex-hormone markers, which find their expression in form, skin texture, body motion, body odour, voice and hair. I suggest that the content of these signals is redundant, and points in the same

direction<sup>2</sup>. In addition, I will argue that these preferences are general preferences which are the same throughout the animal kingdom.

I propose a model which is based on biologically based construction rules for “what is beautiful and suitable as a mate” and not on the content of the signals themselves. These construction rules can be modified by several constraints like female cycle, socioeconomic status or self-perception – making beauty perception a plastic concept which is able to adapt to a range of socioeconomic situations and environments<sup>3</sup>.

If this is the case, beauty should be related to reproductive success. I will explore this possibility and present data in favour of this hypothesis.

A longer version of the presentation can be found at: <http://prezi.com/fzqri7h6dv1j/>

## References

<sup>1</sup>Grammer, K., Fink, B., Møller, A.P. & Thornhill, R. (2003). Darwinian Aesthetics: Sexual Selection and the Biology of Beauty. *Biological Reviews* **78**: 385–407.

<sup>2</sup>Grammer, K., Fink, B., Juette, A., Ronzal, G. & Thornhill, R. (2001). Female faces and bodies: n-dimensional feature space and attractiveness. In *Advances in Visual Cognition. Volume 1: Facial Attractiveness*: 91–125. G. Rhodes & L. Zebrowitz (Eds). New York, USA: Ablex Publishing.

<sup>3</sup>Johnston, V.S., Hagel, R., Franklin, M., Fink, B. & Grammer, K. (2001). Male facial attractiveness: Evidence for hormone mediated adaptive design. *Evolution and Human Behavior* **22**(4): 251–267.

## Preferences in humans: learning from other animals

*Anthony Little, Department of Psychology, University of Stirling*

Humans are an important species but we are certainly not unique in trying to find attractive partners. The mechanisms and phenomenon seen in other animals can also apply to human mate preferences. We know that evolution is concerned with survival and reproduction and, as evolution favours only necessities, both the appearance and behaviour of animals fulfil these functions. Such thinking raises the question of what exactly facial attractiveness is for – what function does it serve? Many non-human species rely on external factors (such as feathers, fur, etc.) to attract mates and human faces may serve a similar function. This talk will review recent studies concerning similarities in patterns of mate preference between humans and non-human animals. Four main lines of research will be discussed: symmetry preferences, condition dependent preferences, imprinting, and mate choice copying. Learning from other animals may provide an answer to questions concerning our incredible interest in faces, in that they may signal important biological information, and why we may see both agreement on facial cues to attractiveness and individual differences in preference for faces. In this way research can also help in understanding human individuality and human behaviour in an evolutionary context, as well as documenting the similarities and differences between our own mental processes and those of other animals.