

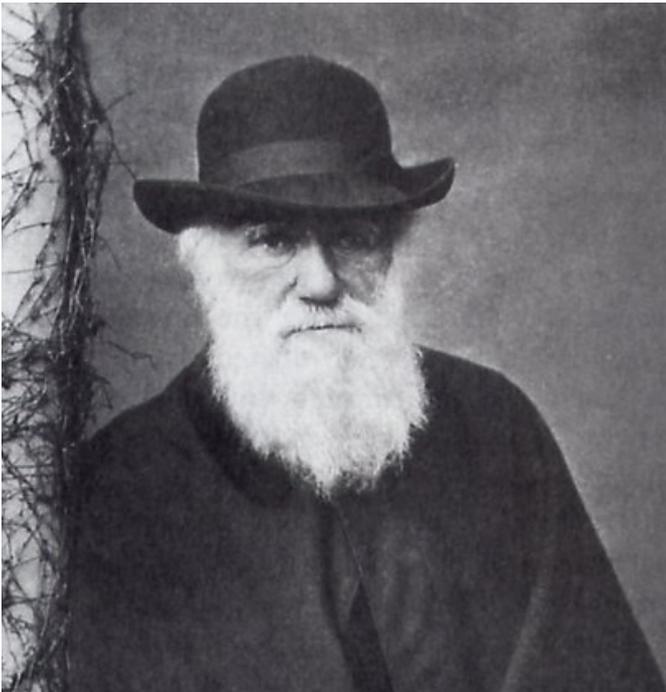
ISHE

International Society for Human Ethology

Summer Institute

University of Maine at Orono
Wells Commons

July 5-9, 2009



This 2009 ISHE Summer Institute celebrates the 200th birthday of
Charles Darwin
and the 150th anniversary of the publication of his *Origin of Species*

I would like to welcome you to the 2009 ISHE Summer Institute hosted by the University of Maine at Orono. ISHE Summer Institutes are designed for advanced graduate students and researchers around a few important themes derived from emerging research trends in the field of human ethology, broadly conceived as the study of human adaptation and behavior from an evolutionary perspective. This year our plenary speakers share a common focus on evolved characteristics of the human mind.

Besides the 3 plenary addresses, there are 7 workshops, 20 oral presentations and 8 poster presentations. We hope you will find the diversity of topics stimulating. I'd like to thank the members of our program committee for their help in reviewing papers: Mary Anne Fisher, Dan Kruger, Lisa Oberzaucher, and Patrick Stewart.

We have also planned a canoe outing, a banquet at a scenic Maine Inn, and a fieldtrip to Acadia National Park the day after the conference. We hope you can join us for these activities.

Should you have any questions during your stay please contact one of the members of the local arrangements committee: Julia Craner, Lee Davis, Rachelle Smith, or myself.

Best Wishes,

Peter LaFreniere
Conference Organizer

Sunday, July 5th

5-7 PM Opening Reception, Registration
Wells Commons

Monday, July 6th

8:30 Registration

9:00-9:30 Tribute to Charles Darwin

9:30-11:00 Plenary Talk: **Daniel Povinelli**
Cognitive Evolution Group, Univ. of Louisiana -
New Iberia, USA
Humanizing the Human Mind

11:00-11:15 Break

11:15-12:15 Workshop: **Wulf Schiefenhövel**
Human Ethology Group, Max-Planck-Institute for
Ornithology – Andechs, Germany
*Fieldwork Methods in Cross-Cultural Human
Ethology*

12:15-1:15 Lunch

1:15-2:15 Workshop: **Daniel Kruger**
University of Michigan – Ann Arbor, USA
*Understanding Statistics with Tinbergen's Four
Questions*

2:15-3:30 **Paper Session I**

Susanne F. Schmehl
Ludwig Boltzmann-Institute for Urban Ethology –
University of Vienna
*Sex-Differences in Humor-Appreciation: An
Observational Approach*

Patrick A. Stewart
University of Arkansas – Fayetteville, USA
*The Influence of Self-Deprecatory and Attack
Humor on Leader Evaluation: The case of the
2008 presidential election.*

Susie Lee

Seoul National University – S. Korea.

The categorization of “Bad animal” and its relation to animal appearances: A study of 6-year-old children’s perceptions

Benjamin Crosier¹, Justin R. Garcia^{2,3}, Glenn Geher¹, Gad Saad⁴, Daniel Gambacorta¹, Laura Johnsen¹, Elissa Pranckitas¹

¹ Psychology Department, State University of New York at New Paltz

² Laboratory of Evolutionary Anthropology and Health, Departments of Anthropology and Biological Sciences, Binghamton University

³ Institute for Evolutionary Studies, Binghamton

⁴ Marketing Department, John Molson School of Business, Concordia University

The Interdisciplinarity of Evolutionary Approaches to Human Behavior

John L. Locke¹, Cathy Flanagan²

¹Lehman College – City University of New York,

²Cognitive Therapy Center – New York, USA
Human Needs

3:15-3:45

Break

3:45-4:45

Workshop: **Karl Grammar**

Ludwig-Boltzmann-Institute for Urban Ethology – Vienna, Austria

Reverse engineering ~ a new approach to behavior analysis

Tuesday, July 7th

9:00-10:30

Plenary Talk: **David Geary**

University of Missouri – Columbia, USA

The Origin of Mind: Evolution of Brain, Cognition, and General Intelligence

10:30-11:00

Break

- 11:00-12:00 Workshop: **Peter LaFreniere**
University of Maine – Orono, USA
Evolutionary Developmental Psychology
- 12:00-1:15 Lunch
- 1:15-2:00 Workshop: **John Richer**
Paediatric Psychology, John Radcliffe Hospital –
Oxford, UK
*Diagnostic schemes in child psychiatry, where
they help and where they hinder, and
ethologically based alternatives*
- 2:00-3:00 **Poster Session**
- Daniele Marzoli, Francesco Moretto, Ornella
Tocci, Luca Tommasi**
University of Chieti, Italy
*Environmental determinants of mate
preferences as assessed by a virtual scenario
experiment*
- Julie M. Rouette, Maryanne Fisher**
Saint Mary's University – Halifax, Nova Scotia
- Home Advantage in Men's and Women's
Competitive Sports: Territoriality in relation to
Aggression and Field coverage*
- Steven P. Moxon**
Independent Scholar
*Dominance as Adaptive Stressing and Ranking
of Males, Serving to Allocate Reproduction by
Differential Self-suppressed Fertility*
- Daniel J. Kruger & Melissa A. Munsell**
University of Michigan – Ann Arbor, USA
*Maternal somatic investment is inversely
associated with neighborhood structural
deterioration*
- Anna M. Keber, Elisabeth Oberzaucher, Karl
Grammer**
Department of Anthropology – University of
Vienna
Sex differences in risk taking behavior

Lara Eschler

University of Cambridge

Individual variation in female orgasmic capacity, sociosexuality and 2D:4D

Serge J Gallant,¹ Maryanne L. Fisher,¹ & Anthony M. Cox²

¹Saint Mary's University – Halifax, Nova Scotia

²Centre for Psychology and Computing

Mating strategies and self-presentation in online personal advertisements

Francisco G. Abati¹, C. Jenaro, Glenn Weisfeld², and Carol Weisfeld²

¹University of Salamanca, Spain, abati@usal.es

²Wayne State University – Detroit, USA,

weisfeld@sun.science.wayne.edu

Love and marriage satisfaction in polygynous families from Central Africa: Preliminary analyses

3:00-4:00

Paper Session 2

John L. Locke

Lehman College – City University of New York, USA

Displays of vocal and verbal complexity: a fitness account of language, situated in development.

D. Kimbrough Oller

School of Audiology and Speech-Language Pathology

The University of Memphis

Konrad Lorenz Institute for Evolution and Cognition Research, Austria

A new ethological approach for human vocal communication: Representative sampling by all-day recording supplemented by automated analysis

Ulrike Griebel¹, D. Kimbrough Oller²

¹Dept. of Biology, University of Memphis,

²School of Audiology and Speech-Language Pathology, Univ of Memphis

^{1,2}Konrad Lorenz Institute for Evolution and Cognition Research, Austria

Ethological perspectives on human vocal communication in a comparative evolutionary framework: Methodological and theoretical considerations for observation and description

4-6 PM

Canoe Outing Penobscot River

6-8 PM

Officer's 2nd Meeting (Dinner)

Wednesday, July 8th

9:00-10:30

Plenary Talk: **Kevin MacDonald**

California State University – Long Beach, USA

Effortful Control, Explicit Processing and the Regulation of Human Evolved Predispositions

10:30-11:00

Break

11:00-12:00

Workshop: **Elisabeth Oberzaucher**

Ludwig-Boltzmann-Institute for Urban Ethology – Vienna, Austria

Observational Methods in Research on Emotional Expressions

12:15-1:15

Lunch

1:15-2:15

Workshop: **Glenn Weisfeld**

Wayne State University – Detroit, USA

Ethological perspectives on the basic emotions of pride and shame

2:15-3:15

Paper Session 3

Thomas R. Alley, Alison C. Raetzke, Sarah Ashley Mello, Amber M. Standridge

Clemson University – South Carolina, USA

Food Sharing as a Contributor to Heterosexual Attraction and Bonding: A Preliminary Report of an Ethological Study

Iris J. Holzleitner

Ludwig Boltzmann-Institute for Urban Ethology – University of Vienna

Eternal Beauty. Introducing the 4th Dimension to the Research on Facial Attractiveness

Daria, A. Dronova & Marina, L. Butovskaya

Institute Ethnology and Anthropology RAS

Moscow

The choice of marriage partner in India

3:15-3:30

Break

3:30-4:30

Paper Session 4

V.J. Simpson & C.A. Hendrie

Institute of Psychological Sciences - University of Leeds, UK

The Effects of Morphology on Female Mating Strategies in Humans

C.A. Hendrie & M. Distefano

Institute of Psychological Sciences - University of Leeds, UK

On the adaptive significance of permanent breasts in females

C.A. Hendrie¹ & G. Brewer²

¹ Institute of Psychological Sciences - University of Leeds, UK

² School of Psychology - University of Central Lancashire, UK

Preliminary evidence to suggest that kissing is a female adaptation to protect against male sexually transmitted disease

G. Brewer¹, G. Morgan², & C.A. Hendrie²

¹ School of Psychology - University of Central Lancashire, UK

² Institute of Psychological Sciences - University of Leeds, UK

On the adaptive significance of female copulatory vocalizations

6-9 PM

Banquet at the Lucerne Inn

Thursday, July 9th

9 AM - 1 PM

Bar Harbor & Acadia Tour

1-3 PM

Lunch at Seaside Restaurant

ISHE Summer Institute 2009 Abstracts

Francisco G. Abati¹, C. Jenaro, Glenn Weisfeld², and Carol Weisfeld²

¹University of Salamanca, Spain, abati@usal.es

²Wayne State University – Detroit, USA,
weisfeld@sun.science.wayne.edu

Love and marriage satisfaction in polygynous families from Central Africa: Preliminary analyses

In this preliminary study, we interviewed four polygamous families, all residing in central Africa and consisting of 4 husbands, with their respective 2 or 3 wives. All wives and husbands were interviewed in each family. To determine marital satisfaction, two equivalent measures, one for husbands and one for wives, were developed for the current study. An additional measure on satisfaction with co-wives was developed. Adequate reliability levels were obtained, with Cronbach's alpha = .84 for the Marital Satisfaction Subscale, and Cronbach's alpha = .97 for the Satisfaction with Co-Wives Scale. Findings suggest that polygyny is less satisfactory for wives, even though adequate levels of marital satisfaction were found in men and women. Second wives were the least satisfied. First wives were less satisfied with their co-wives than were second wives. Cultural differences across countries (Mali, Nigeria, and the Central African Republic) may help explain obtained differences in satisfaction with co-wives and marital satisfaction as well as on the three components of the triadic model of love from Sternberg (1988, 1989), with Malian wives experiencing "companionate love", wives from CAR "consummate love", and Nigerian wives "nonlove".

Thomas R. Alley, Alison C. Raetzke, Sarah Ashley Mello, Amber M. Standridge

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Food Sharing as a Contributor to Heterosexual Attraction and Bonding: A Preliminary Report of an Ethological Study

Food sharing in adults may serve as a means to increase or maintain intimacy in couples, or to attract mates. Two specific types of food sharing are expected to be particularly good indicators of such use: feeding and sharing of food that has been 'contaminated' by one's dining partner. Two previous studies indicate that food sharing can influence the perceived relationship in couples, but no research has examined

actual food sharing behaviors in heterosexual couples and associations with relationship status. The methods and preliminary results from an ongoing observational study of 192 dyads are reported. Each dyad was covertly observed dining in a public location by trained observers. At the end of the observation period (at least 15 minutes), each person was asked to complete a brief survey form. The reported data support a number of expectations based on evolutionary theory. These include finding that food sharing is more commonly observed in couples who are romantically involved, married, or the like, as opposed to dyads who are just friends or co-workers. Similarly, we found that food sharing, particularly sharing of 'contaminated' food and feeding, occurs more often in dyads who also display affection (kissing or hugging) during the observation period.

G. Brewer¹, G. Morgan², & C.A. Hendrie²

¹ School of Psychology - University of Central Lancashire, UK

² Institute of Psychological Sciences - University of Leeds, UK

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On the adaptive significance of female copulatory vocalizations

Human female orgasm is not a consistent copulatory response, nor necessary for conception. Previous hypotheses speculate that these responses are associated with maintenance of pair bond or sperm retention. However, these interpretations are based on the presence / absence of the orgasm response rather than a detailed knowledge of its form in the overall context of a copulatory bout. Therefore the present study was designed to gain a greater understanding of the timing of the female orgasmic response within self-reports of human copulation. Data showed firstly that females make more vocalisations during sexual intercourse than when reaching orgasm alone and that the actual orgasm and intensity of orgasmic vocalisation were dissociated, with greatest reported frequency of orgasm occurring during foreplay but greatest intensity of vocalisation during intercourse immediately prior to or during male orgasm. These findings indicate that human female vocalisation during intercourse function to terminate the males' copulatory effort. Further, females report deliberately exaggerating these sounds to exploit this effect. These data together indicate that females have evolved strategies to promote male sexual exhaustion with the effect of reducing the likelihood of male infidelity and increasing the strength of the pair bond and subsequent paternal investment.

Benjamin Crosier¹, Justin R. Garcia^{2,3}, Glenn Geher¹, Gad Saad⁴, Daniel Gambacorta¹, Laura Johnsen¹, Elissa Prancickas¹

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⁴ Marketing Department, John Molson School of Business, Concordia University, bencrosier@gmail.com

The Interdisciplinarity of Evolutionary Approaches to Human Behavior: A Key to Survival in the Ivory Archipelago

In recent decades, the influence of evolutionary theory has increased in the behavioral sciences - allowing for biological-based theorizing to be integrated within psychology. A key to evolutionary psychology's (EP) increased influence is its interdisciplinarity, a crucial element to the continued success of any scientific field (Barry, 2001). We collected data to examine the degree to which EP champions interdisciplinarity. By analyzing the departmental affiliations of 1,000 first-authors from ten premier psychology journals - belonging to five major perspective-based areas - it was shown that EP is considerably more interdisciplinary than other fields. This fact was true when examining the total number of first-authors outside psychology per journal as well as the total number of non-psychology disciplines included. In light of the current nationwide push for interdisciplinary evolutionary studies programs, the key to the future of EP may well lie in its interdisciplinary nature.

Daria, A. Dronova & Marina, L. Butovskaya

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The choice of marriage partner in India

The choice of marriage partner in India was realized in three ways. The first, traditional one, is agreement between parents of a bridegroom and a bride. The second appeared under the influence of technical progress, - acquaintance through the Internet. The third way, which is theme of our work, is search of marriage partner with the help of newspaper ads. The aim of research is attempt to confirm gender differences in strategies of the choice of marriage partner in the context of the theory of reproductive success and parental investment offered by R. Trivers and D. Symons (Trivers 1972, Symons 1979). Significant gender differences were found concerning the preferred characteristics of desired permanent partner. Two regions of India: north and south were subjected to

analysis. Significant regional differences were found. Furthermore, we did comparative analysis of our results with data from research done by Russian indolog A. Gendin in South India (Gendin 1986). Data was analyzed in SPSS-13. Materials were collected from newspaper ads in 2008. Totally there were data on 1100 ads (563 ads from men and 537 – woman, aged between 21 and 49 years).

Lara Eschler

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Individual variation in female orgasmic capacity, sociosexuality and 2D:4D

The aim of this study was to explore the relationship between variation in female orgasmic response (from coital and non-coital activities) and its behavioural/psychosexual correlates (sociosexuality, number of sexual partners, etc). In addition, the link between pre-natal androgen exposure (indirectly assessed using finger ratios) and both sociosexuality and orgasmic ease was explored. As predicted, women who reported being able to orgasm from coitus reported a higher lifetime number of sexual partners, a higher number of one-off sexual encounters and a higher number of extra-pair partners. These women also had higher scores on the sociosexuality inventory (SOI), i.e. had a more permissive sexual attitude. However, while being orgasmic from coitus was linked to sociosexual variation, actual coital orgasmic frequency was not. Both orgasmic capacity and sociosexuality were also significantly linked to sexual desire. In addition, coital orgasmic ability was significantly correlated to 2D:4D. The current findings suggest that female sexual reward (orgasmic ease) may contribute to variation in socio-sexual orientation and number of sexual partners. Further research is needed to replicate these findings, to establish possible common underlying mechanisms linking those traits, such as androgenisation, and also to pinpoint the modulatory effects of differential orgasmic ease on sexual behaviour and attitudes.

Serge J Gallant,¹ Maryanne L. Fisher,¹ & Anthony M. Cox²

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Mating strategies and self-presentation in online personal advertisements

The purpose of this study was to examine whether the photographs that accompany the online advertisements of women and men differ depending on the type of relationship they are seeking. While there have been explorations into the written content of personal advertisements, there has been no attention to the accompanying photographs. The research undertaken has remedied this issue by examining 300 photographs of women and men along three different relationship types, to determine whether the ways individuals display and promote themselves support Buss and Schmitt's (1993) sexual strategies theory. According to the theory, mating strategies are highly dependent on the type of relationship the individual is seeking (i.e., short-term mating or long-term mating). Men need to ensure they mate with willing and fertile women - regardless of whether the relationship is a short-term one or a long-term one. Women, on the other hand, need to find potential partners who are willing to provide them and their offspring with resources. Based on this information, photographs were coded along a newly created coding guide that examined these points. Results are currently being analyzed to determine whether support exists for the aforementioned evolutionary theory of human mating.

David Geary

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The Origin of Mind: Evolution of Brain, Cognition, and General Intelligence

Natural selection will result in the evolution of brain, cognitive, and affect systems that are sensitive to and process the types of information that have covaried with survival and reproductive prospects during the species' evolutionary history. For humans, the corresponding systems compose the domains of folk psychology, biology, and physics. The primary pressure that has driven the evolution of these competencies is competition with other people and groups of other people for resource control. Social competition also results in difficult to predict variability in social dynamics and thus creates pressures for the elaboration of systems of brain and mind that can anticipate, mentally represent, and devise behavioral strategies to cope with anticipated variation in social dynamics. These systems create self-centered mental models that enable the simulation of the 'perfect world', a world in which other people behave in ways consistent with one's best interest, and biological and physical resources are under one's control. The systems that evolved to support the use of mental models are known as general fluid intelligence, working memory, and attentional control. The combination of these

systems and folk knowledge is the foundation upon which human intellectual and cultural advances have been built.

Karl Grammer

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Reverse engineering ~ a new approach to behavior analysis

In human machine interaction one of the aims is to integrate a computational model of emotional processes within the architecture of embodied systems (interactive virtual characters). In recent years such systems have made considerable progress and now are able to produce almost lifelike virtual stimuli. This allows for the construction and development of completely new methods for behavior analysis in various topics, because facial form and appearance of an embodied system can be held constant or varied systematically. On this basis we have developed “Reverse engineering” - this method combines observation of real life data in valid ecological settings, development of a computer based simulation and control architecture for various emotional expressions and finally test the results for their validity. This new method allows to compare different theoretical approaches to the generation of emotional expressions and test them for their inherent features based on the simulation results. I will demonstrate this method in four steps: 1) Observing and analysing real world data on facial expressions and body postures. This includes various approaches to low level empirical data collection and analysis of facial expression and body postures and the transfer of raw data, their principal components or multiple regressions on independent variables to the embodied agent. 2) Implementing emotional expression in a computer based virtual system. The second section will deal with the implementation of joints and muscles based on anthropological measurements onto the embodied agent in a 3D environment. This allows one to simulate muscle flexion and joint movement. 3) Development of a computer simulated environment for the generation of emotional expressions. Then I will explain how to generate control architectures for expressive behavior based on appraisal and emotion theories. As examples we will test discrete emotion theories which use basic emotions and emotion theories based on circumplex models which incorporate pleasure, arousal and dominance as basic variables. 4) Simulation and hypothesis testing with the emotion engine. Finally, we will have a look at the results and then compare how they fit into real world data as a validity test. After the workshop participants who have brought their own laptop will be able to test a preliminary version of the “emotion-machine”.

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Ethological perspectives on human vocal communication in a comparative evolutionary framework: Methodological and theoretical considerations for observation and description

The study of vocal development and evolution of language in humans requires theoretical foundations that focus attention on infrastructural capabilities required for language. Among these are contextual flexibility of vocalization, the ability to learn new vocalizations and to imitate vocally. Animals that are capable of elaborate vocal communication are required to begin with such primitive capabilities, and even the development of human language requires these primitive capabilities as precursors. Evolution of language can be viewed as dependent on these infrastructural precursors at a phylogenetic level. The presentation will outline both similarities and differences in communication capability across a wide variety of taxa from insects and other invertebrates to primates, illustrating certain methodological and theoretical requirements of sensible comparison and evolutionary modeling within a comparative approach.

C.A. Hendrie¹ & G. Brewer²

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Preliminary evidence to suggest that kissing is a female adaptation to protect against male sexually transmitted disease

Kissing, involving contact with tongues and exchange of saliva is uniquely human and seen in approximately 90% of the world's population. Consequently, the causes of this behaviour should also be uniquely human. In this context, males are almost universally infected with the Human Papilloma Virus (HPV). Therefore it was hypothesised that kissing may have developed as a means by which females are seeded with male HPV antibodies, prior to intercourse thereby conferring the females some protection. Data showed that patterns of kissing prior to sexual intercourse were consistent with this suggestion and that frequency decreased in established relationships. These results are highly indicative of the acquisition of benefit, which once achieved

no longer requires this behaviour to be maintained, as kissing also contains a risk of non-HPV related infection. Together these findings are consistent with the development of kissing as a behaviour that protects females from a universal male sexually transmitted risk. At this stage, it is clearly not possible to state with any certainty what this risk factor might be but in view of the widespread infection with HPV further studies are underway to investigate this hypothesis further.

C.A. Hendrie & M. Distefano

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On the adaptive significance of permanent breasts in females

Adult human females have permanent breasts. However, apart from lactation, very little is known of their function. The most obvious conclusion given their prominence is that breasts act as signalling devices. The current paper reviews a number of experiments conducted within this laboratory designed to investigate this hypothesis. These studies revealed that (i) men show a preference for women with B/C cup sizes rather than those with very large breasts; (ii) breasts become less attractive if the nipples are placed higher or lower than the point where they protrude the most; (iii) pointed breasts are more attractive than flat breasts; (iv) areole size is not important; (v) men are attracted to all breasts except those that signal non-fertility, although they prefer some breast configurations to others and (vi) facially beautiful women are not rendered unattractive by unattractive breasts. These data together indicate that facial beauty is a good indicator of quality, whilst breasts are an important indicator of a woman's current reproductive condition, both in terms of available energy stores and exposure to sex-hormones. More detailed studies have confirmed that females exploit differential male sensitivity to each of these signals according to desired outcome.

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Eternal Beauty. Introducing the 4th Dimension to the Research on Facial Attractiveness

It is now widely accepted in evolutionary psychology that attractiveness and beauty developed as adaptations, signaling for example fertility or health status to potential mates. Still, there remains a main demur

against an evolutionary account - it seems irrefutable that beauty ideals of past historical epochs are inconsistent with modern aesthetical evaluation. To counter this objection, I will add a fourth dimension - time. Are there some kinds of beauty standards that persisted over the centuries? I will do 3D scans of statues from different historical epochs and equip them with photorealistic textures. A rating study will be conducted to assess created stimuli concerning attractiveness, health, and personality attributes. I expect to find that the variance in ratings of attractiveness between historical epochs does not differ significantly from that within groups, or is even smaller. This would mean the factor 'historical epoch' does not account for differences in attractiveness. If the results allow me to refute that different historical epochs differed in their beauty ideals, this study will provide new evidence in favor of an adaptive value of beauty and attractiveness.

Anna M. Keber, Elisabeth Oberzaucher, Karl Grammer

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Sex differences in risk taking behavior

Trivers' theory of asymmetric parental investment and sexual selection proposes that men faced greater intrasexual selection pressure, as they competed for access to reproductive partners. Showing high-risk behavior could be a strategy to impress both women and competitors. Therefore we hypothesized that human behavior shows a sex difference in risk-taking, even when not directly linked to reproduction. We analysed the behavior of 10 women and 10 men in a driving simulation. We measured risk taking in terms of driving errors and driving speed. These measurements were linked to Zuckermann's sensation seeking questionnaire. Additionally we sampled saliva to determine saliva cortisol levels. We expect the amount of mistakes and the calculated driving speed to be higher in men than in women. Moreover, there should be a negative relation between cortisol and risk taking. This study complements empirical knowledge about sex differences in sensation seeking tendencies with observational data.

Daniel J. Kruger & Melissa A. Munsell

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Maternal somatic investment is inversely associated with neighborhood structural deterioration

Life History Theory is a powerful framework for understanding variation in life strategies as functional adaptation to environmental conditions. Here we examined the relationship between neighborhood structural deterioration and maternal somatic investment in Flint, Michigan. We used Geographical Information Systems software to calculate the proportion of dilapidated structures, premature births, and low birth weight births in 0.5 mile square areas. We extracted the variance accounted for by maternal education, paternal education, and private insurance status at the individual level before calculating neighborhood proportions. There was a significant inverse relationship between structural deterioration and maternal somatic investment, as indicated by the concentration of premature and low birth weight births. These adverse birth outcomes may partially result from mechanisms that facilitated reproductive success in ancestral environments by evaluating environmental conditions and regulating investment trade-offs.

Daniel Kruger

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Understanding Statistics with Tinbergen's Four Questions

Statistical techniques have evolved considerably in the past century. Scholars of human behavior may encounter a diverse range of techniques and an enhanced understanding of statistical techniques may facilitate comprehension of the diverse literatures relevant to human behavior.

The processes of statistical evolution are quite different from the processes of natural and sexual selection underlying biological evolution. Yet, we may still benefit from an understanding of statistics inspired by Tinbergen's Four Questions. The Phylogeny of statistical techniques follows the evolution from simple to more complex forms, and the branching of correlational and comparison techniques. The Mechanisms involved in statistical techniques follow from the basic properties of data and how they relate to statistical results. For Ontogeny we will cover the research designs associated with each type of statistical test and the sequence of procedures for examining data and clarifying or elaborating results. Adaptation in the context of scientific understanding will be partially tied with Phylogeny, as more elaborate techniques may be needed to promote understanding once the "easy" questions have been answered. Significant advances may also be made by transplanting standard techniques in one area to answer a different range of research questions.

Peter LaFreniere

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Evolutionary Developmental Psychology

Evolution and development are not separate forces governing the genesis of life forms, but rather interdependent biological processes. Development is directly linked to evolution because the phenotype, which is the target of selection, is shaped by developmental processes that unite genetic and environmental determinants. Developmental advances occur, not by chance, but as an interaction between the organism's internal structures and the ecology in which these structures are embedded. In this workshop, examples of human adaptation and maladaptation are reconsidered from a developmentally informed ethological perspective. Ethologists have long argued that "behavior takes the lead in evolution" because genetically based morphological changes often follow the path initiated by behavioral innovations. Thus behavior helps to create the environmental conditions under which morphological traits are then selected. Novel adaptive traits can be environmentally driven because the organism can respond to new situations that recur with a novel trait, which then is able to spread via selection for the ability required to produce the trait. These adaptive behavioral shifts in the utilization of the environment are thus crucial factors in macroevolution and in all major adaptive radiations.

Susie Lee

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The categorization of "Bad animal" and its relation to animal appearances: A study of 6-year-old children's perceptions

This study was motivated by anecdotal observations of preschool children's demonizing some animals while playing with animal figures. In an attempt to understand what children value as 'bad,' current study focused on perceptual cues associated with evil representation of animals following cultural ethological framework. In this twofold study on 6-year-old South Korean children, we first contrasted children's drawings of "bad animal" with that of "good animal" in their appearance features. 'Open mouth' was positively related to the "bad animals" while 'smiling eyes' and 'one eye on the face in profile' (i.e., the opposite of staring eyes) were negatively related. These features could be interpreted as facial features of angry person or carnivorous animal, which convey the

property of threat in general. Next, effects of threatening appearance features on negatively moralizing an animal was tested. Novel animal drawings depicted with 'sharp teeth' and/or without 'smiling eyes' were significantly more categorized as "bad animals" by children. Based on these findings, we propose that the process of demonizing someone may depend upon emotional state of fear which can be evoked by certain visual signals, or 'releasers.' Additional implications for understanding cultural representations of demonized animals(i.e., "monsters") are discussed.

John L. Locke

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Displays of vocal and verbal complexity: a fitness account of language, situated in development.

To be complete, accounts of human language, like other evolutionary theories, must identify the environmental changes responsible for phenotypic variation, and the processes that reinforced the variants that increased reproductive success. Taking a life history approach, I propose a sequence of adaptive responses to environmental change that increased vocal and verbal complexity, above that of the other primates, laying the groundwork for the speech of traditionally living humans. The focus, throughout, is on social functions, beginning with infant care and including more complex relationships; vocal and verbal behaviors, many of them sexually dimorphic; and the evolution of evaluative and control systems in the context of mating and dominance displays. Finally I offer a selection-based account of the evolution of these systems for speech. Every stage of development, from infancy and childhood to juvenility and adolescence, is seen to make a distinct contribution to the evolution of language.

John L. Locke¹, Cathy Flanagan²

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Human Needs

In the 1940s, Maslow proposed the existence of human needs but his and similar proposals were never systematically investigated. Here we attempt to demonstrate that needs do exist, having emerged to solve

specific problems in evolutionary history, and now comprise a complex motivational system that is different from other systems that have been proposed. Needs are omnipresent, that is, are neither transient nor situational, and they operate by generating strategies and coping modes that lead to the satisfaction of short- and long-term human goals. To illustrate our approach, we propose several needs, and conclude by discussing an untapped but promising source of relevant data: patients with chronically unmet needs.

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Effortful Control, Explicit Processing and the Regulation of Human Evolved Predispositions

This paper analyzes the effortful control of automatic processing related to social and emotional behavior, including control over evolved modules designed to solve problems of survival and reproduction that were recurrent over evolutionary time. The inputs to effortful control mechanisms include a wide range of non-recurrent information — information resulting not from evolutionary regularities but from explicit appraisals of costs and benefits. Effortful control mechanisms are associated with the ventromedial prefrontal cortex and the ventral anterior cingulate cortex. These mechanisms are largely separate from mechanisms of cognitive control (termed executive function) and working memory, and they enable effortful control of behavior in the service of long range goals. Individual differences in effortful control are associated with measures of conscientiousness in the Five Factor Model of personality. Research in the areas of aggression, ethnocentrism, sexuality, reward seeking, and emotion regulation is reviewed indicating effortful control of automatic, implicit processing based on explicit appraisals of the context. Evidence is reviewed indicating that evolutionary pressure for cooperation may be a critical adaptive function accounting for the evolution of explicit processing. This perspective provides the basis for the idea that culture has a very powerful influence on human behavior, often in conflict with predispositions resulting from the human evolutionary past.

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Environmental determinants of mate preferences as assessed by a virtual scenario experiment

Many evolutionary psychology studies have addressed the topic of mate preferences focusing mainly on gender and cultural differences. On the contrary, the problem of situational and environmental variables possibly affecting mate choice has been somewhat neglected. Our work aims at casting more light on this issue by investigating the relative importance females and males assign to 6 traits of an ideal partner (wealth, dominance, intelligence, height, kindness, attractiveness) under 4 different scenarios: status quo (nowadays scenario), violence (post nuclear scenario), poverty (resource exhaustion scenario) and wealth (global well-being scenario). Intelligence is the trait participants assigned most importance to, followed by kindness, attractiveness, dominance and wealth, and finally by height. Females appraised wealth more than males, whereas males appraised attractiveness more than females. Scenarios strongly influenced importance attributed to traits: for example, wealth was more valued in the poverty and post nuclear scenarios, and dominance in the post nuclear scenario. Importance assigned to intelligence, kindness and height was not affected by the particular scenario. Finally, the manipulation of scenario had similar effects in the two sexes. Our results draw attention to the great impact of environmental factors – which greatly influence traits people seek in a prospective partner – in determining mate preferences.

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Dominance as Adaptive Stressing and Ranking of Males, Serving to Allocate Reproduction by Differential Self-suppressed Fertility

Dominance (hierarchy) usually is thought to increase fitness through minimizing mutually unproductive contest over resources, and/or determining access to or control over resources. But highly inconsistent data indicates that this operational definition is too wide; and given clear evidence that dominance is invariably same-sex, it would seem instead to function primarily to allocate reproduction -- and by creating rather than ameliorating conflict. The contest in dominance exposes individual differences in metabolic vigor especially, but also in various

other, including sophisticated attributes; and by a self-organizing process there is ranking of same-sex individuals in a hierarchy. However, this achieves nothing in itself without associated mechanisms; most fundamentally, corresponding individual variable direct self-suppression of the physiology re reproduction. Reproductive suppression would appear to vary according to species from a 100% reproductive skew, to a gradient down the length of the dominance hierarchy. The theory makes mutually exclusive 'predictions', and is supported by re-analysis of data of supposed female (or male) dominance, gene 'knockout' experiments, and study of contrasting breeding mechanisms. The upshot is that resource-competition models of sociality should give way to one that places reproduction center-stage; with consequent profound revision of notions of 'power'.

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Observational Methods in Research on Emotional Expressions

For the understanding of any human behavior, several methodological approaches have to be combined in order to gain a holistic picture. Real life observations in ecologically valid situations give an idea about behavior settings, i.e. behavior-environment interactions. Experiments allow validating the insights gained in field observations under controlled conditions. By simulating behavior in 3D agents communicative signals can be isolated, and their meaning analyzed independently from other signals. In this workshop I will focus on the first two methodological approaches, discussing how to generate observational material that is useful and sufficient to test scientific hypotheses. I will give some examples for how to create an experimental setup, how to capture behavior best for the given research question, how to define behavioral categories, how to decide for a specific coding procedure, and what to do with the raw data. I will introduce behavior coding software, highlighting the advantages and disadvantages of their employment. Furthermore I will talk about the importance of observation reliability, and give some ideas how to increase it.

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*A new ethological approach for human vocal communication:
Representative sampling by all-day recording supplemented by
automated analysis*

The recent development of technology that makes it possible to record audio all day long with a wearable, battery-powered unit has enabled the acquisition of huge amounts of data on human vocal interaction focused on children and their caregivers – literally millions of utterances can be accessed. Further the development of automated tools to give an overview of the rate of vocalization by both infants and parents and their rates of vocal interaction in these recordings has opened a whole new view of human interaction and vocal learning. The automated methods also show extraordinary promise for differentiating normal and disordered communication development. All this suggests a new ethological approach where more standard observational techniques can be supplemented with automated techniques that can afford enormously increased representativeness of sampling because data can be collected continuously and at massive scales.

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Humanizing the Human Mind

For 150 years, comparative psychology emphasized the similarities between human and animal minds. Animals, especially chimpanzees and other primates, were portrayed as possessing a duller, less talkative version of the human mind. Differences between human and animal cognition were frequently dismissed as either methodological artifacts or essentially trivial, or both. Indeed, claims of qualitative differences in the mental abilities of humans and other animals were seen as somehow contradicting Darwin's theory of evolution. Fortunately, the field of comparative psychology seems to have taken a turn toward understanding what makes the human mind *human*. Several recent theories attempt to describe and explain the unique cognitive abilities of *Homo sapiens*. I review these theories and describe major points of disagreement among them. In doing so, I outline an agenda for restoring comparative psychology to its rightful place in understanding human nature.

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Diagnostic schemes in child psychiatry, where they help and where they hinder, and ethologically based alternatives for describing problems in children's behaviour and development

Diagnosing comes naturally to most clinicians, it seems to help define a child's problem behaviour, to indicate what treatment might be helpful and to communicate that to parents and colleagues such that there emerges a valuable shared understanding of the problem and its treatment. Researchers too often use diagnostic categories as a starting point of their studies.

But experience of using these diagnostic categories makes it clear they are at best markers or signposts to help clinicians navigate around the expanse of variations in child behaviour. That is very useful as long as clinicians understand their limitations and (i) see that they clearly define neither behaviour nor treatment and (ii) understand that terms such as "pathology" or "disorder" are simply and only shorthand for saying that these are issues which clinicians legitimately can address - they describe not the child's behaviour but the form of the relationship between child and clinician. They are not purely scientific concepts but are "contaminated" by aspects of their social function. These issues will be explored by looking at the diagnoses of ADHD and ASD and seeing how the behaviour and its treatment can be more helpfully understood using ideas derived from ethological observation of a broad range of children. This approach suggests a different approach to understanding and helping troubled children and their families.

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*Home Advantage in Men's and Women's Competitive Sports:
Territoriality in relation to Aggression and Field coverage*

Prior research has demonstrated that animals typically display aggressive behaviours and are more prone to attack when defending a home territory. In humans, extensive research has been conducted examining human behaviours protecting physical territory in day-to-day living. Our study expands the topic of territoriality to athletes in competitive sports. We investigated whether athletes competing in sports teams would display territoriality toward their home field, and

whether sex would impact the magnitude of territoriality. Indeed, our results showed that territoriality of home field was reflected by heightened aggressive behaviours and higher territorial protection for both sexes. In rugby, significantly more physical contacts (tackling, rucking) and greater coverage of the home field were displayed by the men's and women's home team. Our results will discuss the possible link between territoriality and increased sport performance in male as well as in female athletes.

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Fieldwork Methods in Crosscultural Human Ethology

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Sex-Differences in Humor-Appreciation: An Observational Approach

What kind of humor do we find funny? Might humor appreciation be related to topics that were relevant in our evolutionary history? If so, then selection pressures for our male and female ancestors might have led to sex differences in humor appreciation. Research on humor appreciation has been confined to questionnaire studies. Hence we decided to use an observational approach to analyze the difference in the amount of smiling and laughing of 167 subjects (84 male, 83 female) watching 18 funny commercials. Our results do not show a significant sex difference in the total amount of behavioural correspondents (i.e. facial expressions) of humor. Findings suggest that the current emotional state strongly affects expressive behavior. With this study we provide additional empirical evidence that facial expressions are ambiguous signals, whose meaning is modulated by other communication channels.

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The Effects of Morphology on Female Mating Strategies in Humans

One critical factor in human evolution has been the 'obstetric dilemma'

caused by large babies having to pass through hips restricted in width by the needs of bipedal locomotion. Babies' sizes do not vary greatly in relation to the size of the mother. Hence, shorter females face a greater risk from childbirth and this was predicted to be an important influence on their approach to sex. Results showed that short women (below 1 SD of the UK average of 161 cm) lost their virginities later, spent more time in relationships prior to these becoming sexual and were more sensitive to jealousy provoking stimuli as these related to potential loss of a partners' support. By contrast medium height and tall (within/above 1 SD of the average) females lost their virginities up to a year earlier, had more sex outside relationships and were less sensitive to jealousy provoking stimuli. These data indicate there to be at least two sexual strategies that can be adopted by human females. One is relatively restrained and cautious, the other less so, involving more partners and more transient relationships. Height/hip width appears to be an important factor influencing which strategy particular females are likely to adopt.

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The Influence of Self-Deprecatory and Attack Humor on Leader Evaluation: The case of the 2008 presidential election.

This study considers the effect of subjects' evaluation of self-deprecatory and other-deprecatory (attack) humorous comments made by presidential candidates Barack Obama and John McCain during the 2008 electoral season. Humor, by evoking laughter in an audience, provides evidence of support for competitors for a leadership position through social contagion, and can be used to attack competitors (Alexander 1986) sanctioning behavior at odds with group norms, whereas humor focused on oneself may be seen as a way of asserting egalitarian norms while ascending the dominance hierarchy (Boehm 1999). A total of 212 subjects took part in a web-based experiment carried out in the weeks before the 2008 presidential election with short video excerpts of the presidential candidates making both self-deprecatory and other-deprecatory humorous comments used as stimuli. The purpose of this project is to test the impact of the humorous comments on subject evaluation of candidates in terms of their likeability, intelligence, honesty, compassion and electability. In addition, we consider how subjects respond to the different types of humor in terms of rating its funniness, playfulness, hostility, whether the comment made sense and whether it made the subject feel anxious, and in turn, how this affects leader evaluation.

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Ethological perspectives on the basic emotions of pride and shame

Recent research has revived interest in pride/shame. However, few psychologists recognize it as a basic, primary emotion with roots in animal dominance behavior. The bodily expression occurs across cultures and resembles that of dominant simians. The expression appears early, around 2 years, and is instantaneously recognized—additional signs of an evolved basis. The expression and affect of pride/shame are mediated by the orbitofrontal cortex; lesions reduce concern with one's social standing in humans, and dominance striving in simians. Emergence of this emotion does not depend on mirror self-recognition, but on maturation of this limbic area. However, with cognitive maturation ability to conceptualize ranks improves. Older children comprehend all the ranks in their hierarchy, and exhibit less self-overrating—which enhances self-confidence. Other parallels between human and animal competition include enforcement of restrained competition and orderly distribution of resources by means of angry aggression, and dominant individuals' receiving attention and being relaxed, self-confident, gregarious leaders. As in monkeys, rank can be relative to the situation. A person possesses a baseline rank that explains the outcome of brief dominance contests, but a temporary success or failure can adjust one's rank. Understanding the function of pride/shame can illuminate many behaviors; examples will be given.

