

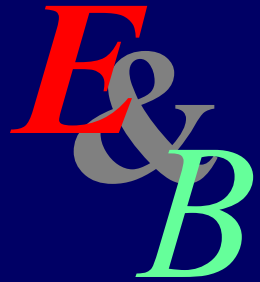
*The role of personality in the evolution of
humans and other animals*

Workshop on October 8-10, 2004, Wageningen, The Netherlands

**Organized by
Marcel van Aken (Dept. of Psychology, UU)
Piet Drent (NIOO-KNAW)
Kees van Oers (MPI for Ornithology)**

Species	N	A	E	O	C	Dom.	Activ.
Chimpanzee	✓ ✓ ✓	✓ ✓	✓ ✓ ✓	✓	✓ ✓	✓ ✓	✓
Gorilla	✓	✓	✓			✓	
Rhesus Monkey	✓ ✓ ✓	✓ ✓	✓ ✓ ✓	✓		✓	
Vervet Monkey		✓		✓		✓	
Hyena	✓	✓ ✓		✓		✓	
Dog	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓	✓ ✓	✓	
Cat	✓	✓	✓		✓		
Donkey		✓	✓				
Pig		✓	✓	✓			
Rat	✓	✓ ✓					
Guppy	✓		✓				
Octopus	✓		✓				✓

(From Gosling, 2001)



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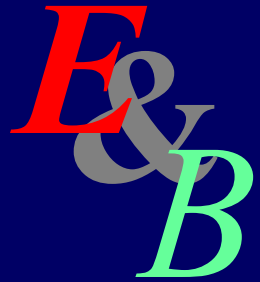
Animal models may help examine:

- **Biological bases of personality (invasive measures and experiments)**
- **Genetic bases of personality**
- **Personality change (short life spans)**
- **Personality-health links**
- **Perception of personality**
- **Evolutionary bases of personality**

What is an evolutionary ecologist interested in?

- Function of a trait (ecological role)
- Mechanisms driving the evolution of populations facing changes in the environment
- Mechanisms maintaining the variance in the wild
 - Variability (phenotypic, genetic)
 - Components of variance (genetic, environmental, maternal...)
 - Association between the traits (covariance)
 - Strength and shape of selection





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Aim-1:

Scientific exchange on three topics:

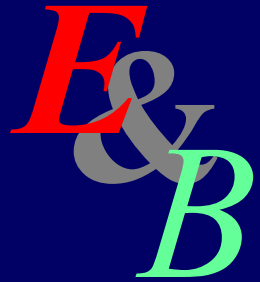
Personality

Evolution

(Molecular) genetic background of personality, gene-environment interactions

→ combination of the three

→ in humans and animals

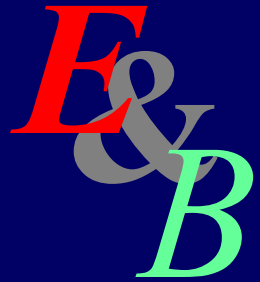


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Aim-2: Explore the possibility of a joint research programme:

The programme has three goals:

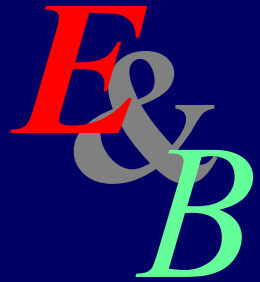
- 1. Expanding insight into the evolutionary basis of human behaviour.**
- 2. Stimulating the adoption of evolutionary approaches in the social and behavioural sciences at large.**
- 3. Promoting active collaboration between scientists from the life sciences and the social and behavioural sciences.**



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Four challenges for this workshop

- 1. How to connect human and animal studies on personality**
- 2. How does adaptiveness of personality vary with context**
- 3. Similarities between animals and humans in genes and gene control of the development of personality**
- 4. Genotype-environment interactions in animals and humans**



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Participants:

Human personality *(Gosling, Asendorpf, van Aken)*

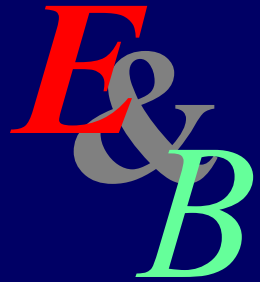
Animal personality *(van Oers, Real, Sih)*

Human evolution *(Ellis)*

Animal evolution *(Kempenaers, Dall, Drent)*

Human genetics *(Spinath)*

Animal genetics *(Fidler)*



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Program:

Friday afternoon:

Definitions and measurement of core concepts in personality and evolution

Saturday morning:

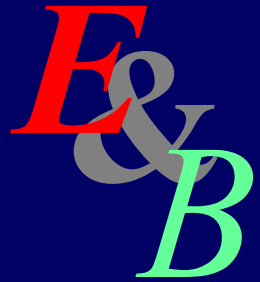
Genetic backgrounds of personality in humans and animals

Saturday afternoon:

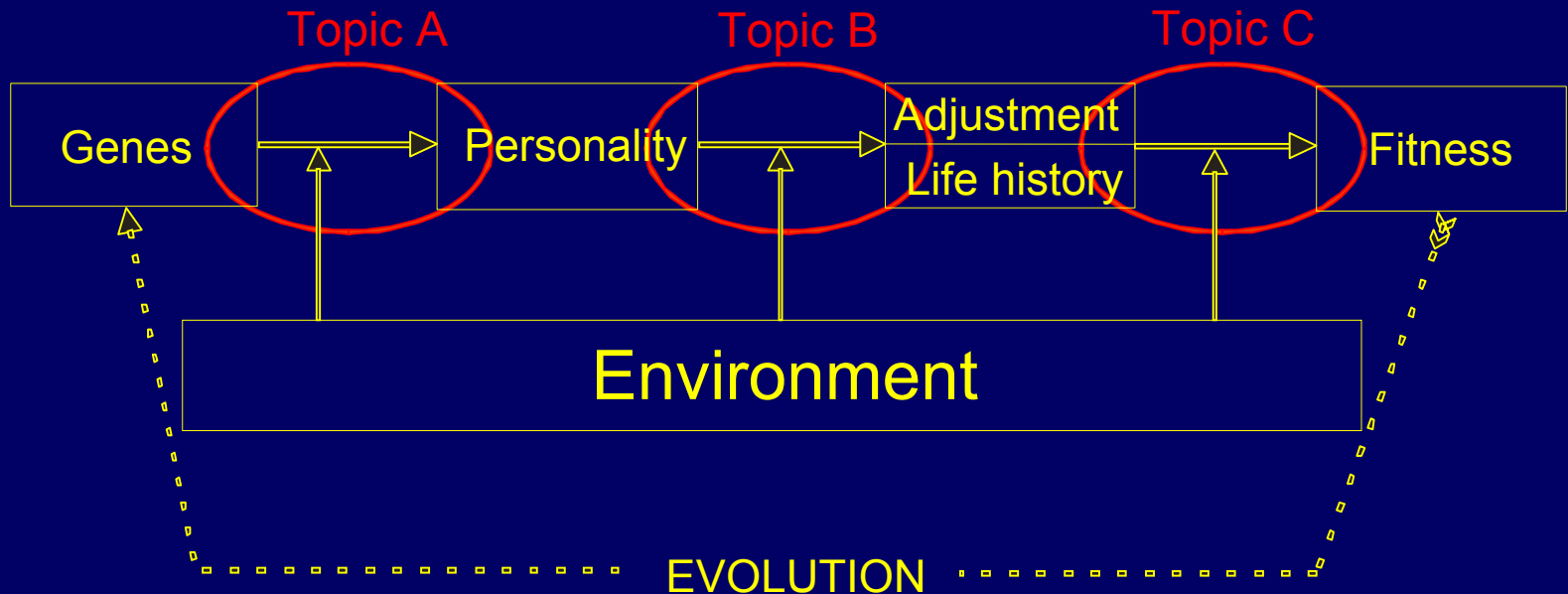
The evolutionary role of personality in humans and animals

Sunday morning:

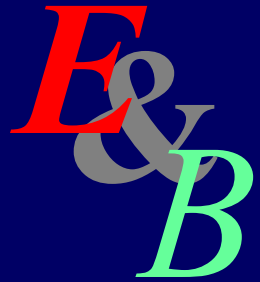
Integration in a research proposal



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Conceptual model guiding our research



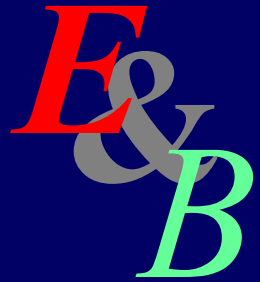
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Topic A.

Genotype-environment interaction (GEI).

Conditional Adaptation (Boyce & Ellis, in press): Evolved mechanisms that detect and respond to specific features of childhood environments—features that have proven reliable over evolutionary time in predicting the nature of the social and physical world into which children will mature—and entrain developmental pathways that reliably matched those features during a species' natural selective history.

Conditional adaptations reflect systematic gene-environment interactions.

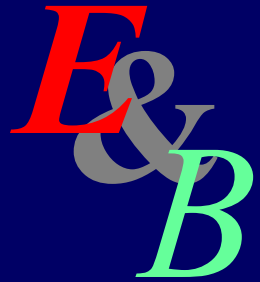


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Topic B.

The relations between personality and adjustment or life history

We study both the direct influences of personality on adjustment or life history traits, as well as the moderating influences of the environment. Both in our work on great tits (Drent & Marchetti 1999) as well as on our work in children and adolescents (Van Aken & Dubas 2004) we have already found evidence of these influences

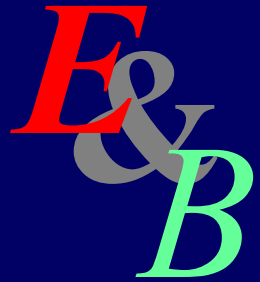


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Topic C.

The fitness consequences of personality

In animal studies the link between variation in life history variables caused by personality differences and its fitness consequences is relatively clear. We know how this can influence selection in a variable environment. A challenge in the human part of the project is to determine whether selection pressures are part of the process from adjustment to fitness



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Thank you for your attention

And please fund our proposal