

# Current and future studies of the dog-human relationship

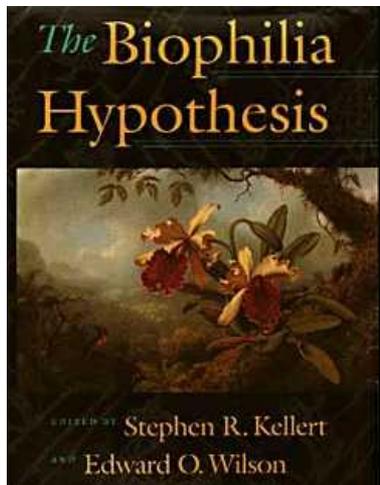


**Therese Rehn**, Department of Animal Environment and Health,  
Swedish University of Agricultural Sciences

# Background



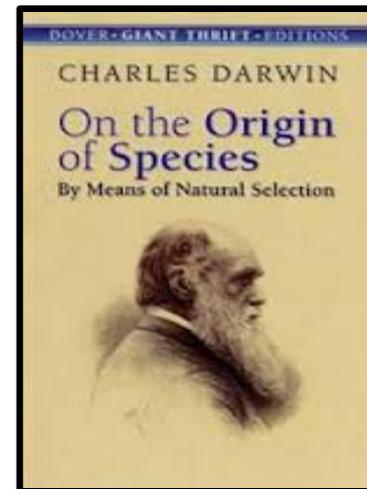
# Why share our homes with dogs?



## ***Biophilia Theory***

*'the urge to affiliate with other forms of life'*

*(Wilson, 1984; Kellert & Wilson, 1993)*

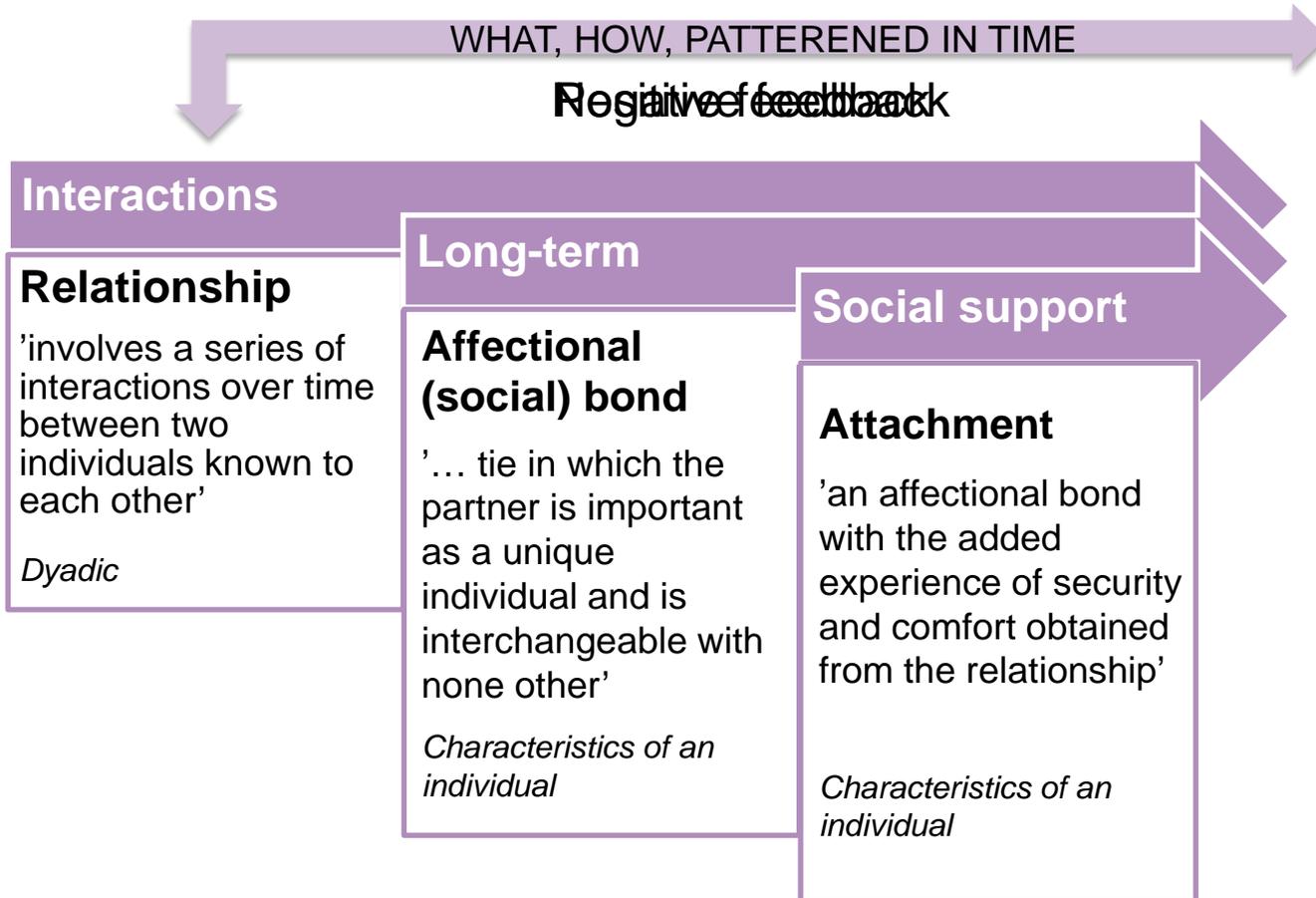


## ***Naturalistic Theory***

*"cooperation between evolving species increases evolutionary success for both of them"*

*(Paxton, 2000)*

# What is a 'relationship'?



# Methods to investigate the dog-human relationship



Questionnaires



Physiological measures

- Oxytocin and cortisol, HR, blood pressure



Behaviour

- The Strange Situation Procedure (SSP)

# Methods to investigate the dog-human relationship



## Questionnaires

### Attitudinal

I feel that pets should always be kept outside.

You should always treat your pets with as much respect as you would a human member of your family.

I love my pet because it never judges me.

### Emotional bonding (claims 'attachment')

My pet means more to me than *any* of my friends.

# Methods to investigate the dog-human relationship



## Questionnaires

Monash-Dog-Owner-Relationship-Scale (MDORS)

Exchange theory, social support theory

How often does your dog stop you doing things you want to?

How often do you tell your dog things you don't tell anyone else?

My dog is there whenever I need to be comforted.

# Methods to investigate the dog-human relationship



## Physiological measures

Cortisol

HR(V)

Blood pressure

Oxytocin

$\beta$ -endorphin, prolactin etc.



# Methods to investigate the dog-human relationship



## Physiological measures

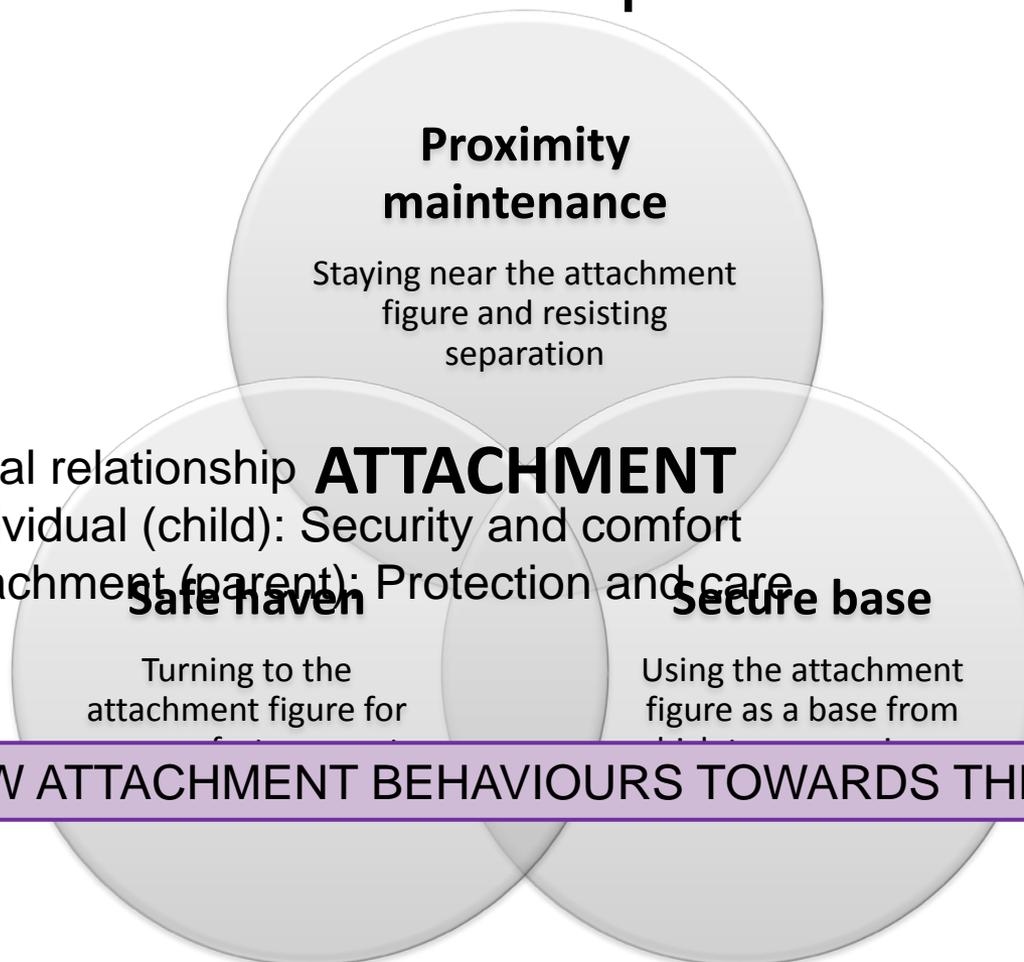
	Human Before	Human After		Dog Before	Dog After	
BP (mmHg)	87.6	84.4	↓	91.0	87.7	↓
<sup>2</sup> -endorphin (pmol/L)	3.1	8.0	↑	1.2	2.8	↑
Oxytocin (ng/L)	2.1	4.0	↑	0.1	0.5	↑
Prolactin (ng/L)	9.2	11.6	↑	38.5	39.0	↑
Dopamine (pg/L)	86.5	107.0	↑	35.0	60.5	↑
Cortisol (mmol/L)	317.0	309.0	↓	366.5	416.0	N.S.

# Methods to investigate the dog-human relationship



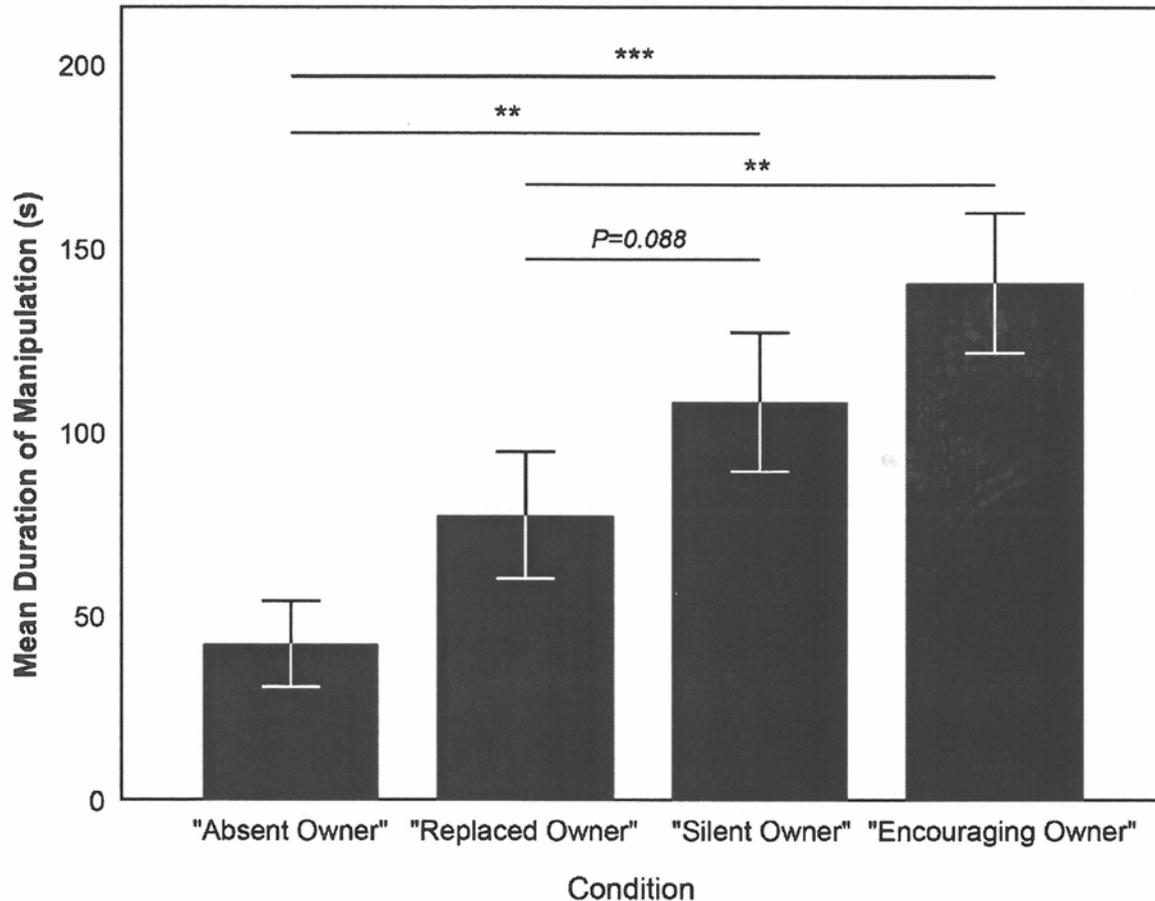
## Attachment

- Assymmetrical relationship
- Attached individual (child): Security and comfort
- Figure of attachment (parent): Protection and care



'DOGS SHOW ATTACHMENT BEHAVIOURS TOWARDS THEIR OWNER'

# Methods to investigate the dog-human relationship



# Different attachment styles in humans

- Secure attachment

Turns to parent for comfort, contact is effectively calming the child



Available, sensitive to the child's needs and changes in the child's behaviour



- Insecure ambivalent attachment: prolonging dependence
- Insecure avoidant attachment: pushing independence
- Disorganized attachment

# Exaggerated focus on 'secure attachment style in dogs?

- Secure attachment

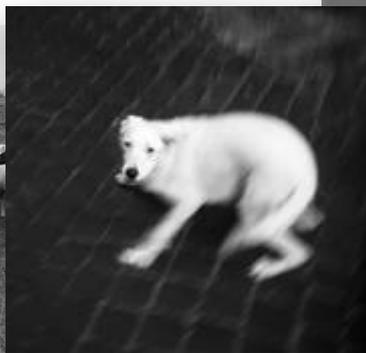
Individual variation according to owner behaviour



- Insecure ambivalent attachment: prolonging dependence
- Insecure avoidant attachment: pushing independence
- Disorganized attachment

# Exaggerated focus on 'secure attachment style in dogs?

- Secure attachment



- Insecure ambivalent attachment: prolonging dependence
- Insecure avoidant attachment: pushing independence
- Disorganized attachment



# The future

- Investigate *different* styles of attachment in dogs
- Take into consideration both the dog's and the owner's actions in the relationship: *what? how? pattern?*
- Use reunion events as the core measure to assess these styles
  - Clearly differs in the behaviour according to familiarity to the human
  - Differs according to the duration of separation from the owner
  - Differs according to how the human initiates contact

# Welfare implications for the dog

Added value of successful relationships

Owner's requests and expectations

**All attachment styles are functional**  
(except for the disorganized style)

***Highly dependent on owner behaviour***

Owner cannot be together with the dog large parts of the day

Mismatch between rehomed dogs and the new owner

# References

- *Wilson, 1984;*
- *Kellert & Wilson, 1993;*
- *Paxton, 2000;*
- *Ainsworth, 1989;*
- *Hinde, 1976;*
- *Hinde et al, 2001*
- *Dwyer et al, 2006;*
- *Topál et al., 1998;*
- *Fallani et al., 2006;*
- *Gácsi et al., 2001;*
- *Palmer & Custance, 2008;*
- *Odendaal & Meintjes, 2003; Neurophysiological correlates of affiliative behaviour between dogs and humans. The Vet journal 165, 296-301*
- *Handlin et al, 2012;*
- *Ainsworth et al, 1978;*
- *Bowlby, 1958*
- *Templer et al, 1981;*
- *Poresky et al, 1987;*
- *Johnson et al, 1992; Psychometric evaluation of the Lexington Attachment to Pets Scale. Anthrozoos 5, 160-175*
- *Lago et al, 1988;*
- *Allen et al, 1991;*
- *Beetz et al, 2011; The effect of a real dog, toy dog and friendly people on insecurely attached children during a stressful task. Anthrozoos 24, 349-368*
- *Handlin et al, 2012; Associations between the psychological characteristics of the human-dog relationship and oxytocin and cortisol levels. Anthrozoos 25, 215-288*
- *Rehn et al, 2013;*
- *Rehn & Keeling, 2011;*
- *Rehn et al, unpublished*
- *Bretherton, 1985;*
- *Main, 1990;*
- *Rothbaum et al, 2000;*
- *Gácsi et al, 2013;*
- *Horn et al, 2013*