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## Contemporary emotion science and systems thinking – A paradigm shift?

Rachel Lilley – Associate Professor, Birmingham Leadership Institute,  
University of Birmingham

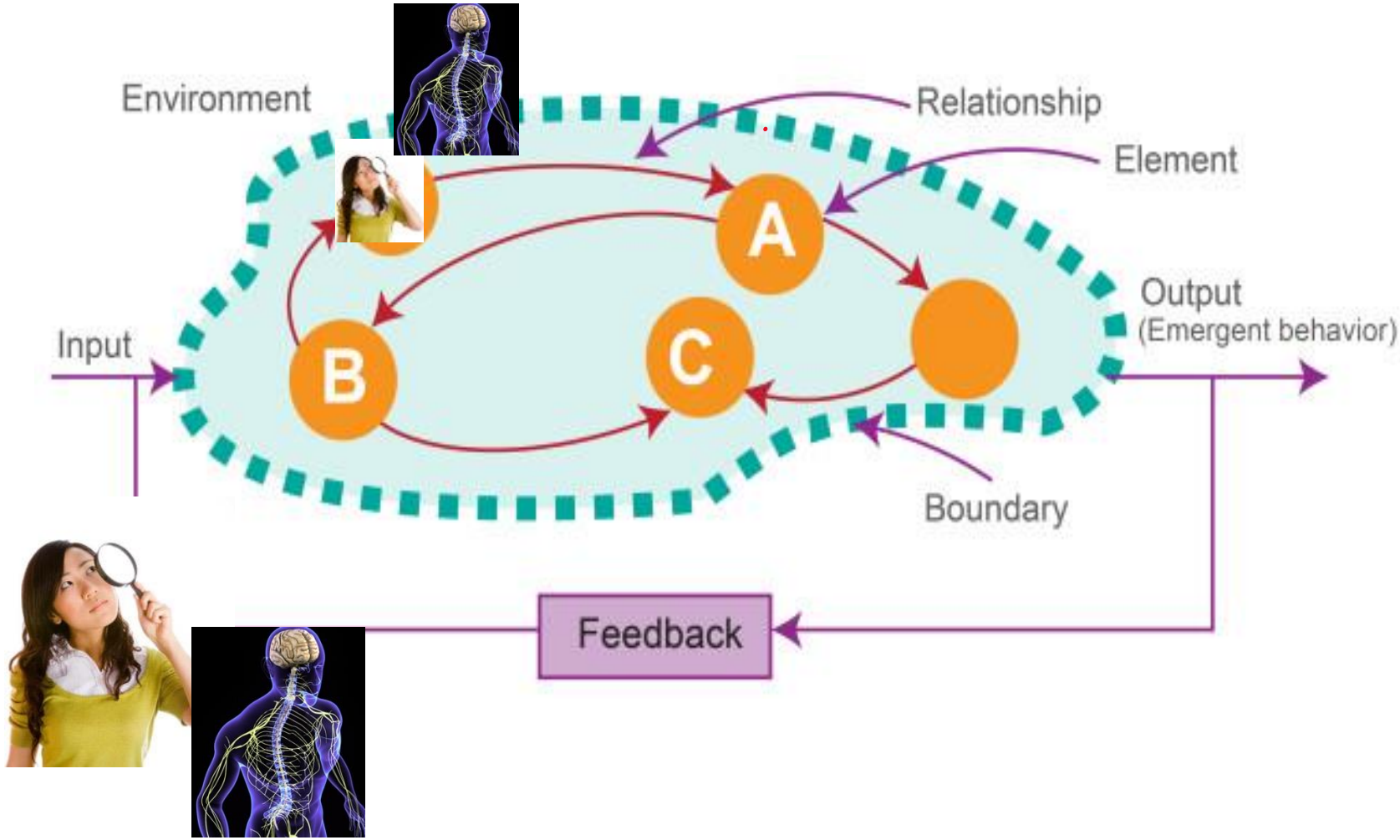


# Systems Thinking and Leadership Practitioner

MSc / PGDip

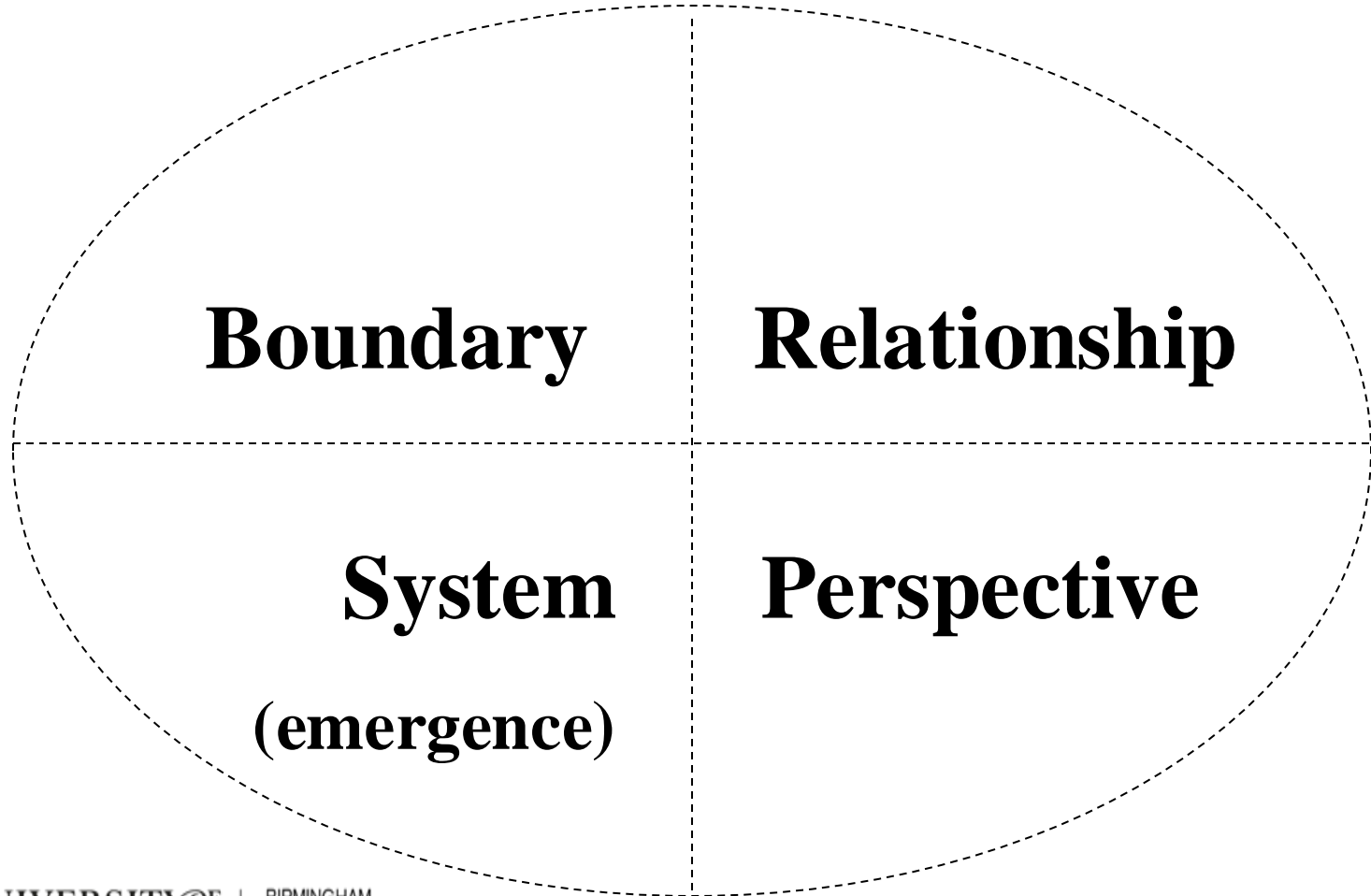
According to student feedback, our approach is personally transformative and enables them to apply systems thinking more easily and effectively. They are currently successfully prototyping this way of working.

# Systems Thinking



# Four Systems Thinking Concepts

(adapted from Cabrera et al, 2008)

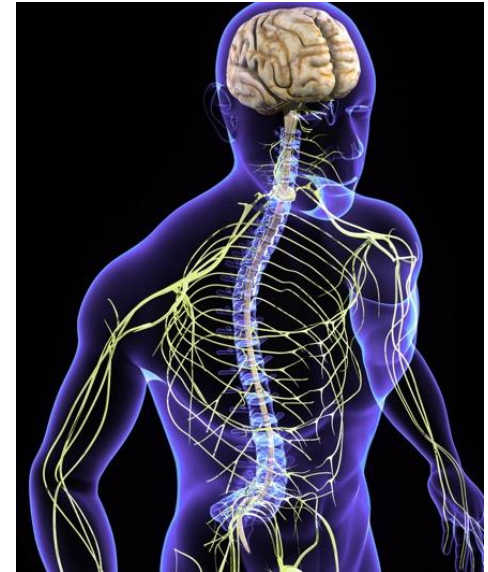


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The human perception 'system' is not designed to see reality. It is designed to keep us alive. This forms some of the basis for the need for systems thinking.

Over the past 30 years there have been paradigm shifts in both cognitive and emotion research



Connect for a moment with your own perception system right now. What do you understand about it?





**Stimulus**



*filtered by the  
mind (bias?)*

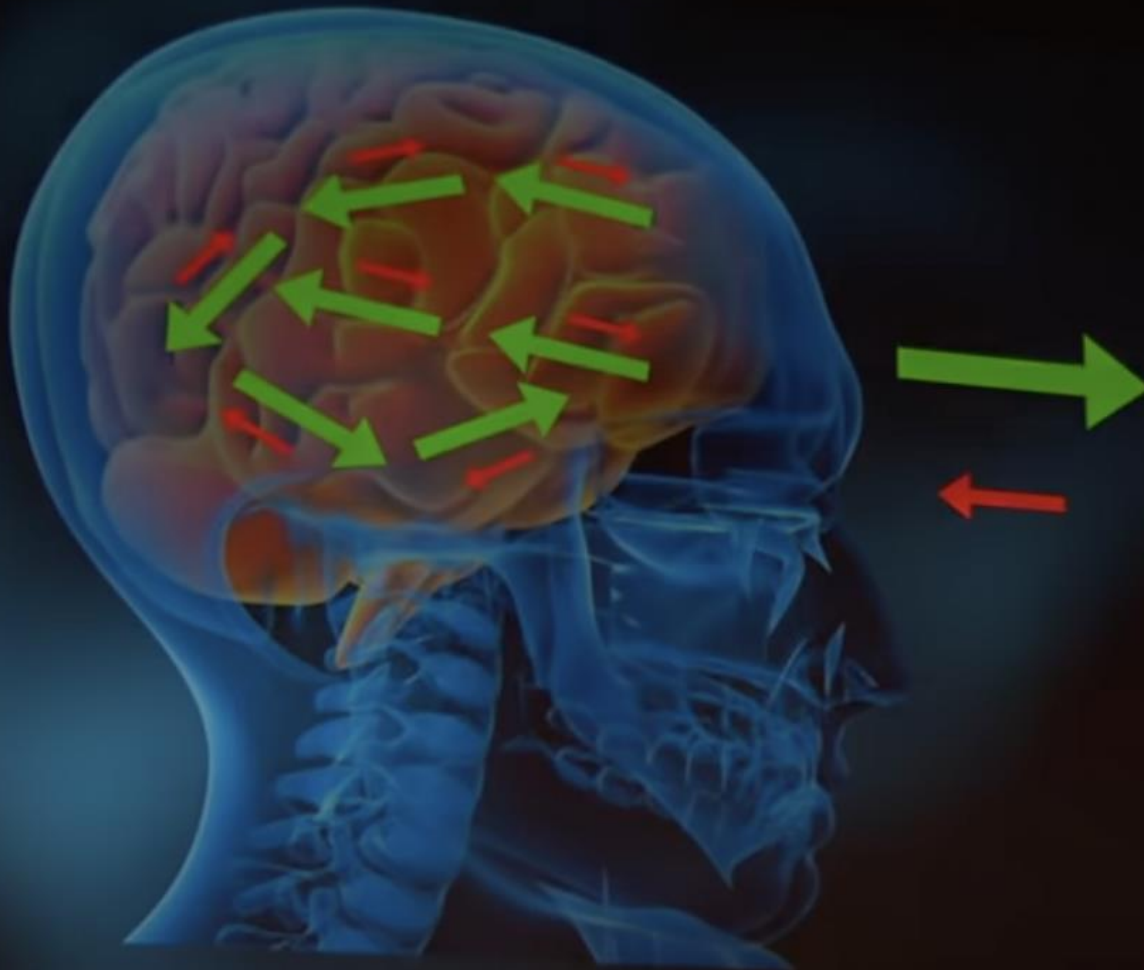


**Response**



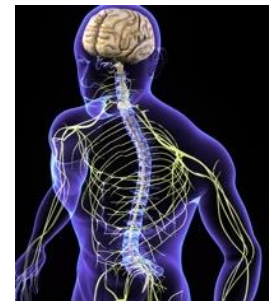
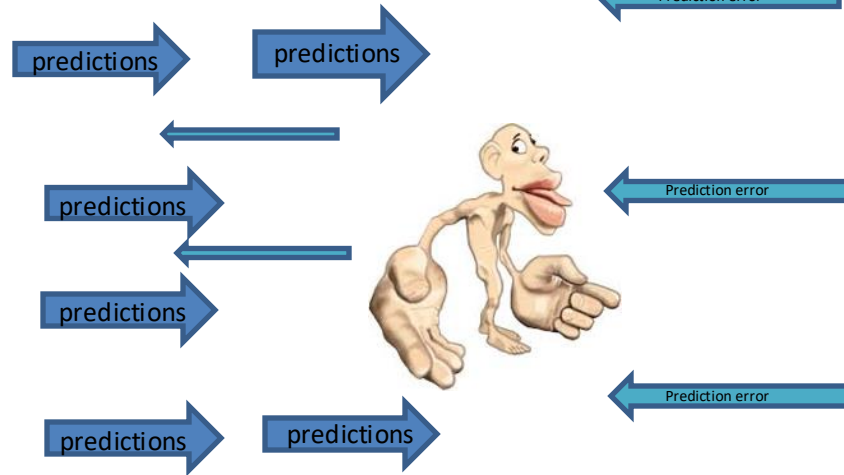
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**12**  
**A B C**  
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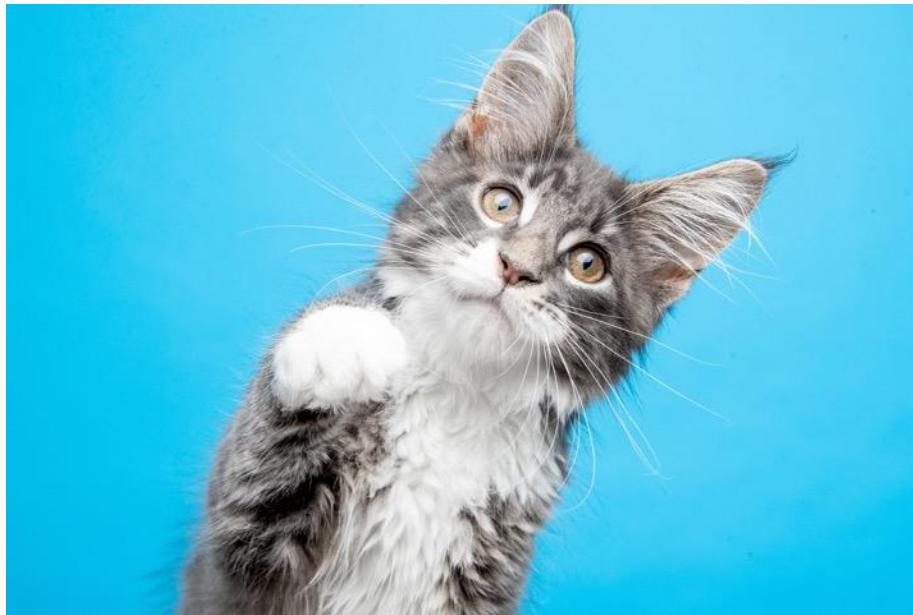
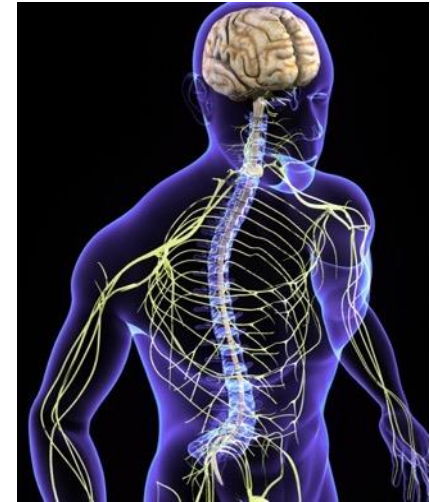


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How do you feel?

A paradigm shift in emotions science



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See something  Feel something  React



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**The history of emotion research is also short, and there have been some big mistakes.....**



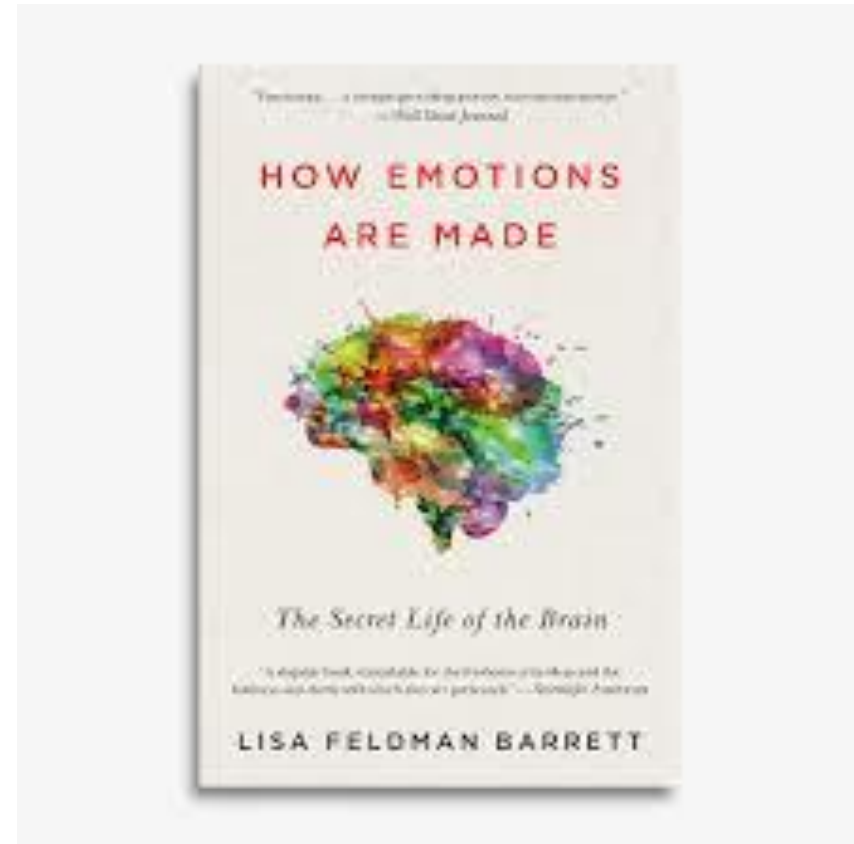
Darwin 1800s



Ekman 1970

Emotions are not reactions to the world, nor are they universal blueprints we all share.

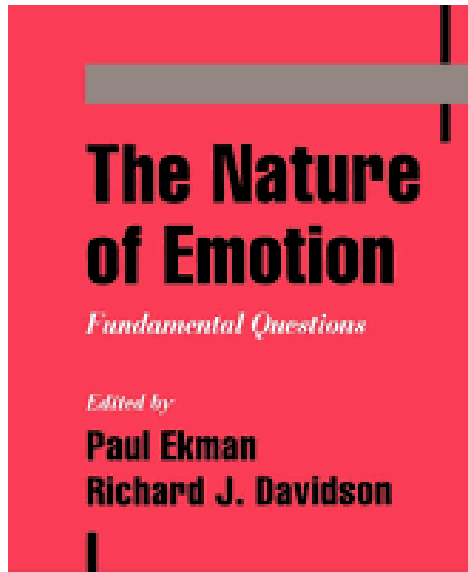
They are constructed based on the felt sense inside your body and your 'best guess' of the meaning of those sensations (heart rate, blood sugar, hormones) – creating meaning based on your context and your prior experience.



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# The Nature of Emotion

*Fundamental Questions*

*Edited by*

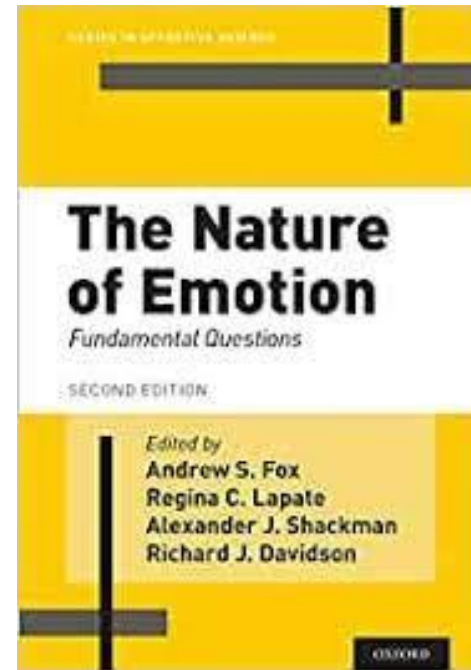
**Paul Ekman  
Richard J. Davidson**

**SERIES IN  
AFFECTIVE  
SCIENCE**

The basics of basic emotions

Emotions require cognition

1995



# The Nature of Emotion

*Fundamental Questions*

SECOND EDITION

*Edited by*  
**Andrew S. Fox  
Regina C. Lapate  
Alexander J. Shackman  
Richard J. Davidson**

OXFORD

The cognition-emotional brain

Emotions are constructed with interoception and concepts within a predicting brain

Beyond cognition and emotion: dispensing with a cherished psychological narrative

2018



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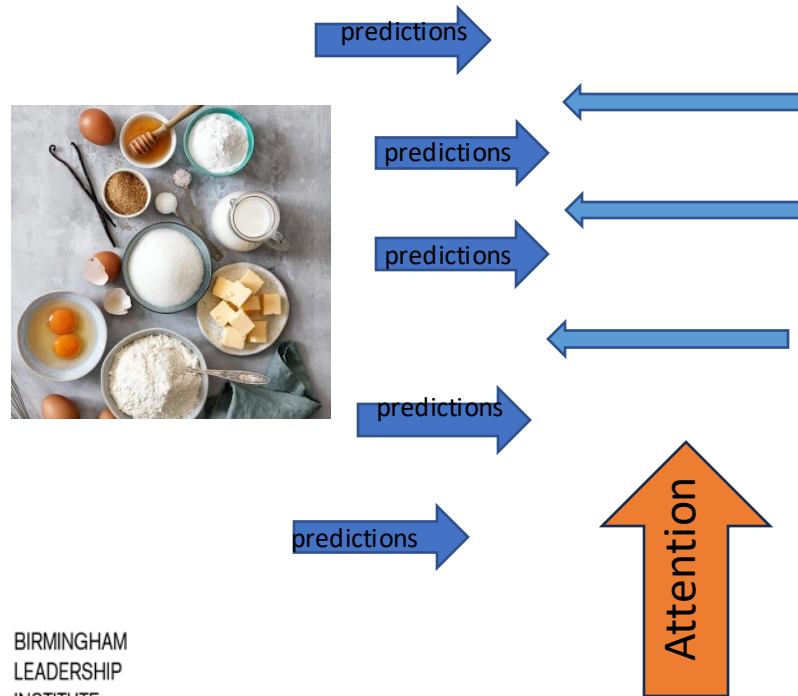
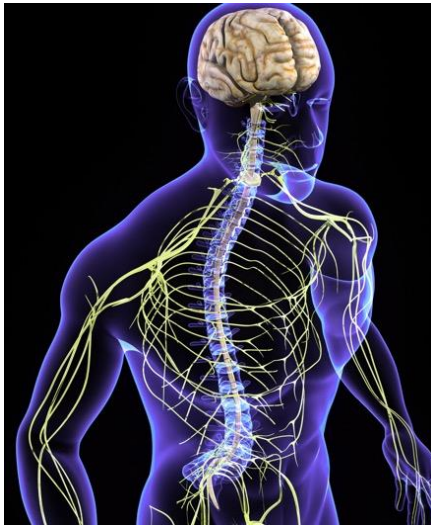
There is always internal physiological activity in body, which we mostly don't feel unless we pay attention to it.

Visceral sensations (affect) are made of the same basic ingredients (heart rate, muscle tension, blood sugars dropping/rising, etc.). Humans 'best guess' the meaning of our sensory experiences using the context we are in.

This 'affect' is an expectation/prediction preparing us to act (or not) – to optimize bodily homeostasis (best conditions for survival)

Emotional label/category is then constructed to make sense of the affect in context.

We get it wrong - Tired or thirsty?



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- How do we create more ‘allowance’ of ourselves and others by increasing the potential expectations/predictions (feel/think) that we, by default, will be drawing on?
- How do we, as systems designers and practitioners, create processes and conditions that allow us, and the people we are working with, to pick up through thoughts and feelings more ‘prediction errors’?
- How can we create (design) conditions where we/our clients/stakeholders are less likely to be confirming what they already think to be true (their own expectations/anticipations embedded in their thoughts and feelings).
- Note - this is not ‘bias’ – it is how the mind works



# How does this impact practice?

- In structuring and understanding the problem
- In working with different methodologies
- In the capabilities needed for ourselves as systems practitioners, leaders and facilitators
- In creating conditions where felt sense is part of our systems inquiry



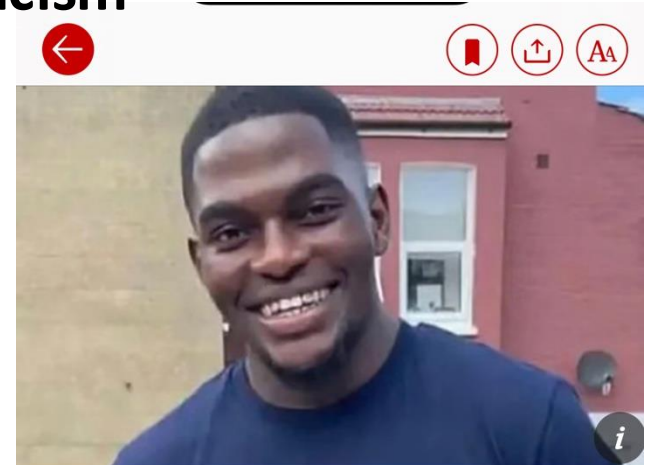
# Structuring the problem - policing and racism

- Police were primed in the morning briefing to expect high levels of threat, which then created a greater likelihood that they would see information to confirm threat - not see/notice prediction errors
- Policeman said he saw the vehicle was moving forward (error - it was moving back, **but it was moving, and it was potentially threatening**)
- He said he thought his colleagues were too close to the vehicle and could have been run over (**error - they weren't, but the police intervention had gone wrong, so it was a novel situation**)
- **Dr Andy Clarke (*The Experience Machine*) suggests we should train the police in predictive mind theory, so they are aware in this kind of situation what their embodied perceptions are doing.**



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UK news

## Met police officer denies exaggerating threat to justify shooting Chris Kaba

Court sees videos prosecution says show Martyn Blake got wrong key parts of claim fatal shot was fired in self-defence

**Vikram Dodd** *Police and crime correspondent*

Tue 15 Oct 2024 17:44 BST

The Metropolitan police officer who shot dead Chris Kaba in south London with a “supersonic” bullet to the head denied making false or exaggerated claims to justify opening fire

# What, then, might an anti-racist policing training/practice achieve? (Drawing from literatures considering the impact of predictive ‘cognition’)

- Would increase the precision-weighting of our source of sensory experience (enabling us to see more)
- Would increase our potential to see prediction errors (the novelty available)
- Would potentially have access to a place earlier in the predictive hierarchy (meaning it is possible see more of our potential ‘prior’ options)

Laukkonen R E and Slagter H A 2021, Pagnoni, G., 2019, Lutz, A., Mattout, J. and Pagnoni, G., 2019



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# Applying to the methodologies - SSM

If we are working with the concept of 'cogmation' (predictive cognition with affect categorised as emotion), where the two are completely entwined and not a response to, but rather an anticipation, prediction, preparation for action – so seeking to bring their anticipation into reality rather than seeking to see what is 'there'.

That we are seeking to confirm (through action) what we already believe to be true.

Is SSM, a rich picture, optimal for understanding and mapping diverse perspectives? How does this impact our practice?



# Applying to methodologies - SSM

“My view is that beliefs create. Underneath every thought, word and action (*the effect*) lies a **guiding belief (*the cause*)**. To change the effect, change the cause. Most of the time most of us are not clear about what we believe or what we really intend. So, a methodology that allows us to find out what our beliefs are and then reveal them to others is essential if success is to be assured.”

“The beauty of this is that it allows people to be heard explicitly and **encourages the reduction of fear and anger** that can sometimes accompany the discussion of ideas. **This reduction of the emotion around ideas and beliefs allows measured discussion that enables the reaching of accommodation or agreement.** “

**The Emergent Properties of SSM in Use: A Symposium by Reflective Practitioners, Peter Checkland, 2000**

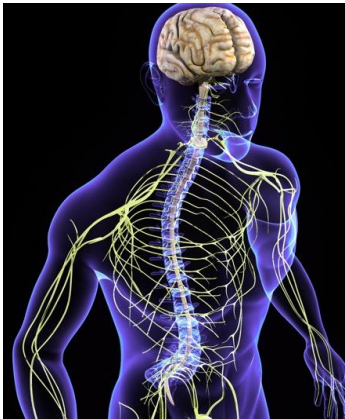


Connect for a moment with your own felt sense and how it links to your thoughts right now – can you notice the entanglement?

This is the starting point of somatic inquiry



# Systems practitioner basic capabilities and the use of systems based somatic inquiry



## Interoception

Work with our own internal state, feel our affect (nervous system, etc.). Many people

NSDR

## Meta cognition

Knowing our knowing (cognition) as anticipatory, as expectation, embodied. Attention practices to develop

**Deconstruction through somatic inquiry** – personal priors: de-constructing our cognitive priors through seeing them and doing reflective inquiry

**Deconstruction through somatic inquiry** - norms, socio-economic, gender, race, culture, etc.



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# Four Systems Thinking Concepts

(adapted from Cabrera et al, 2008)

Extends boundaries, able to include more relevant information (priors, affect, emotion weighting)

**Boundary**

Increased insight into relationships, much better capability for working with conflict

**Relationship**

Increases understanding of whole system and different levels of emergence

**System  
(emergence)**

**Perspective**

Increased understanding of own and others' perspectives



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# Outcomes seen in our students

- Engaging with the underpinning concept of 'mental models', critiquing, debating and understanding a very different process of perception
- Gives capabilities around dealing with difference and conflict, in ways that are significant
- Supports capabilities that improve their ability to facilitate systems methodologies, understanding the challenge of allowing different perspectives to be heard given they are seen now as 'expectations' based on priors.
- Much more time designing approaches, methodologies, participatory ways of working
- Innovative ways of re-contextualizing issues, based on their understanding and inquiry into their own and others' ways and priors/expectations
- Changes own learning process as they use theories of prediction and prediction errors to inform and question their learning; enables a deeper exploration of the theories, methodologies and concepts



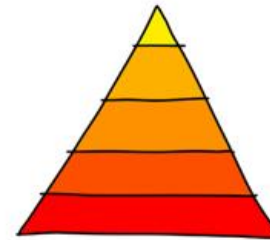
# What we do in our programme.....

- Teach theories of predictive mind and constructed emotion to replace ‘folk psychologies’
- Teach practices that ‘deconstruct’ and expand our existing priors (personal, cultural, sociopolitical). Includes personal inquiry.
- Teach interoception (body) and attention practices (focus)
- Teach nervous system theory and practices (taking into account perception and felt state)
- Use Somatic Inquiry (bringing our internal felt state into self inquiry, on the basis that our felt sense weights our attention to one prior over another.
- Teach advanced facilitation skills
- Teach systems concepts and methods (but critically)

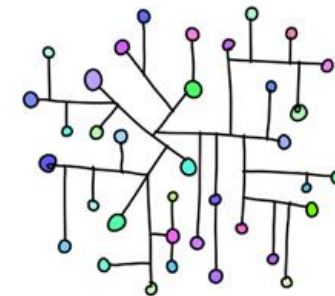


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