



# Coaching and Mentoring at Work conference

2<sup>nd</sup> July 2013

Holiday Inn, Bloomsbury, London

[www.coaching-at-work.com](http://www.coaching-at-work.com)

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# COACHING AT WORK

3<sup>rd</sup> Annual Conference

## New Horizons for an Invigorating Future

Keynote 1:

Applied neuroscience & coaching: knowing  
about the brain and coaching.

Professor Paul Brown

London : 02 JULY 2013

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# Plan of session:

## **Introduction**

- I: The underpinning emotions**
- II: The decision-making brain**
- III: The leader's basic emotions**
- IV: The Limbic Leader defined**
- V: What kind of leader does your client choose to be?**

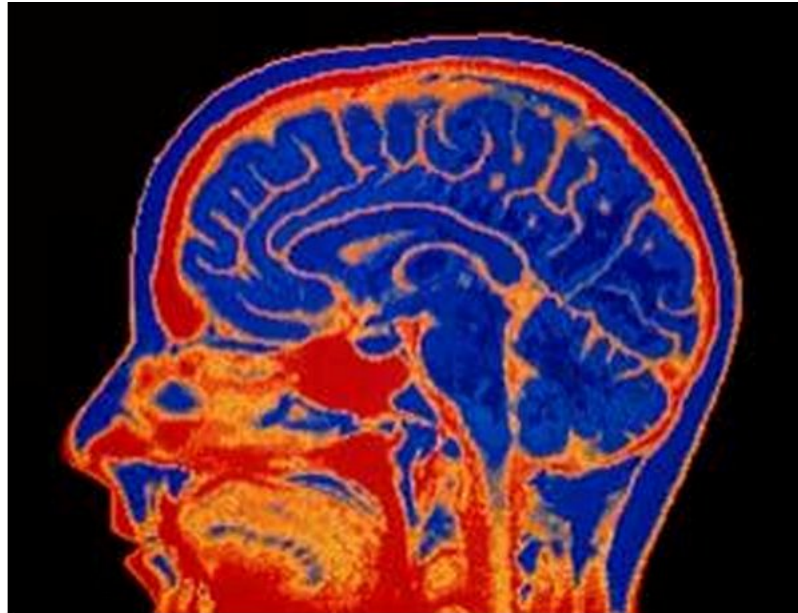
# Introduction

4lbs. Several thousand miles of synaptically interconnected nerve cells operating in a hundred known chemical regulating agents supported by miles of miniscule blood vessels and untold mysteries of how, almost flawlessly, all these components work together.



Dr Suzana Herculano-Houzel / 89 billion, best guess

<http://www.guardian.co.uk/science/blog/2012/feb/28/how-many-neurons-human-brain>



A false-colour Magnetic Resonance Image (MRI) of a mid-sagittal section through the head of a normal 42 year-old woman, showing structures of the brain, spine and facial tissues (Image: Mehau Kulyk / Science Photo Library)

<http://www.newscientist.com/article/dn9969-instant-expert-the-human-brain.html>

## Introduction

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There are  
8  
Basic Emotions



Think of the basic emotions like the 3 primary colours.

3 primary colours produce the whole of the colour spectrum.

8 primary emotions produce the whole of the feeling system.

# 8 BASIC EMOTIONS (8种基本情绪)

Potentiator

SURPRISE / STARTLE



escape / avoidance

attachment

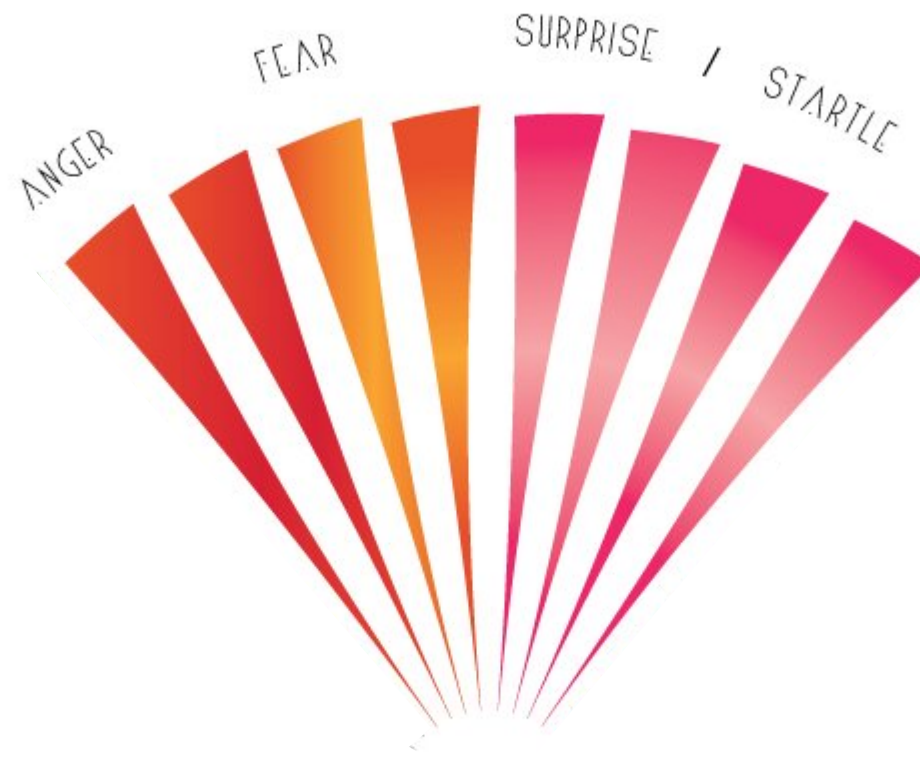
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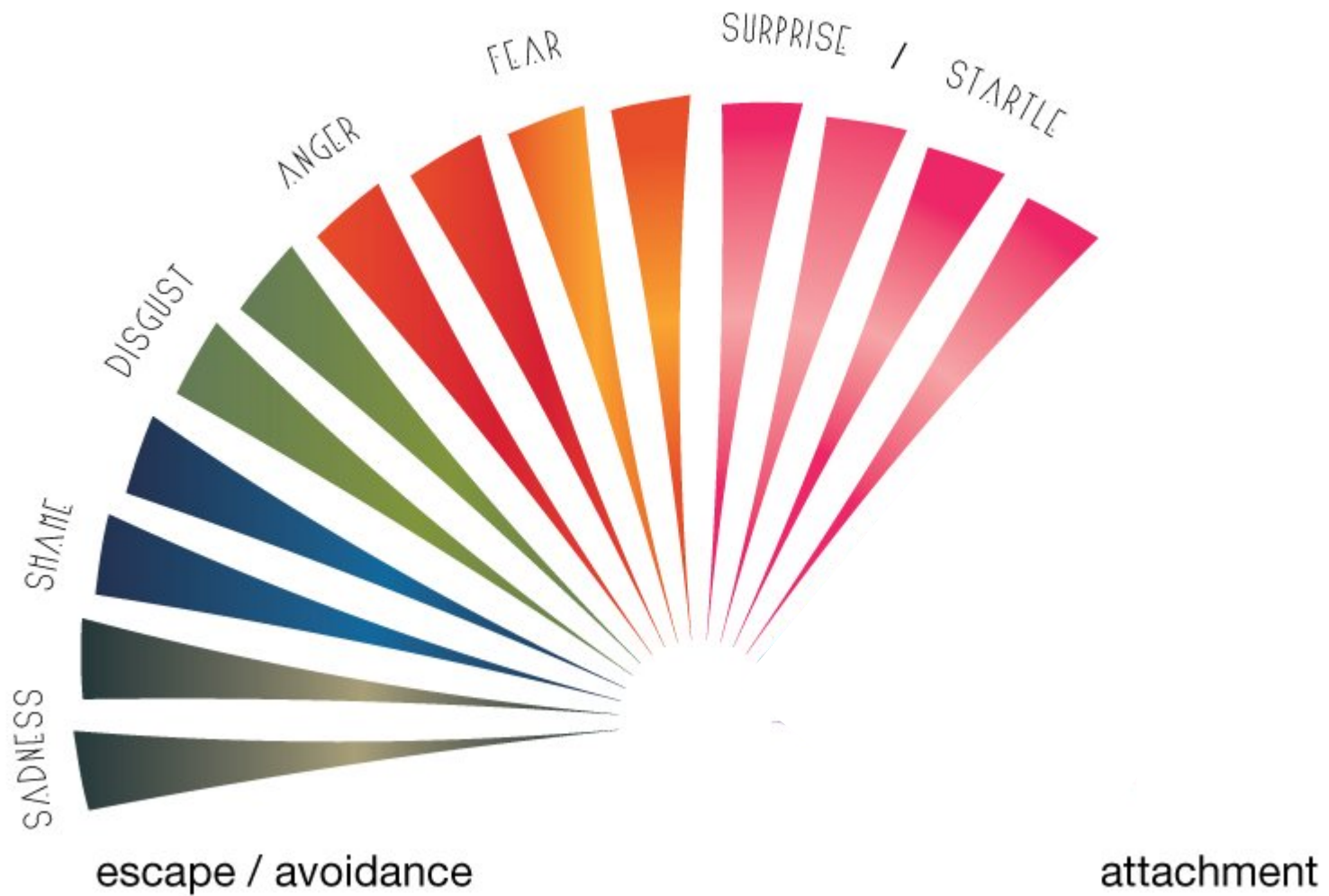
escape / avoidance

attachment

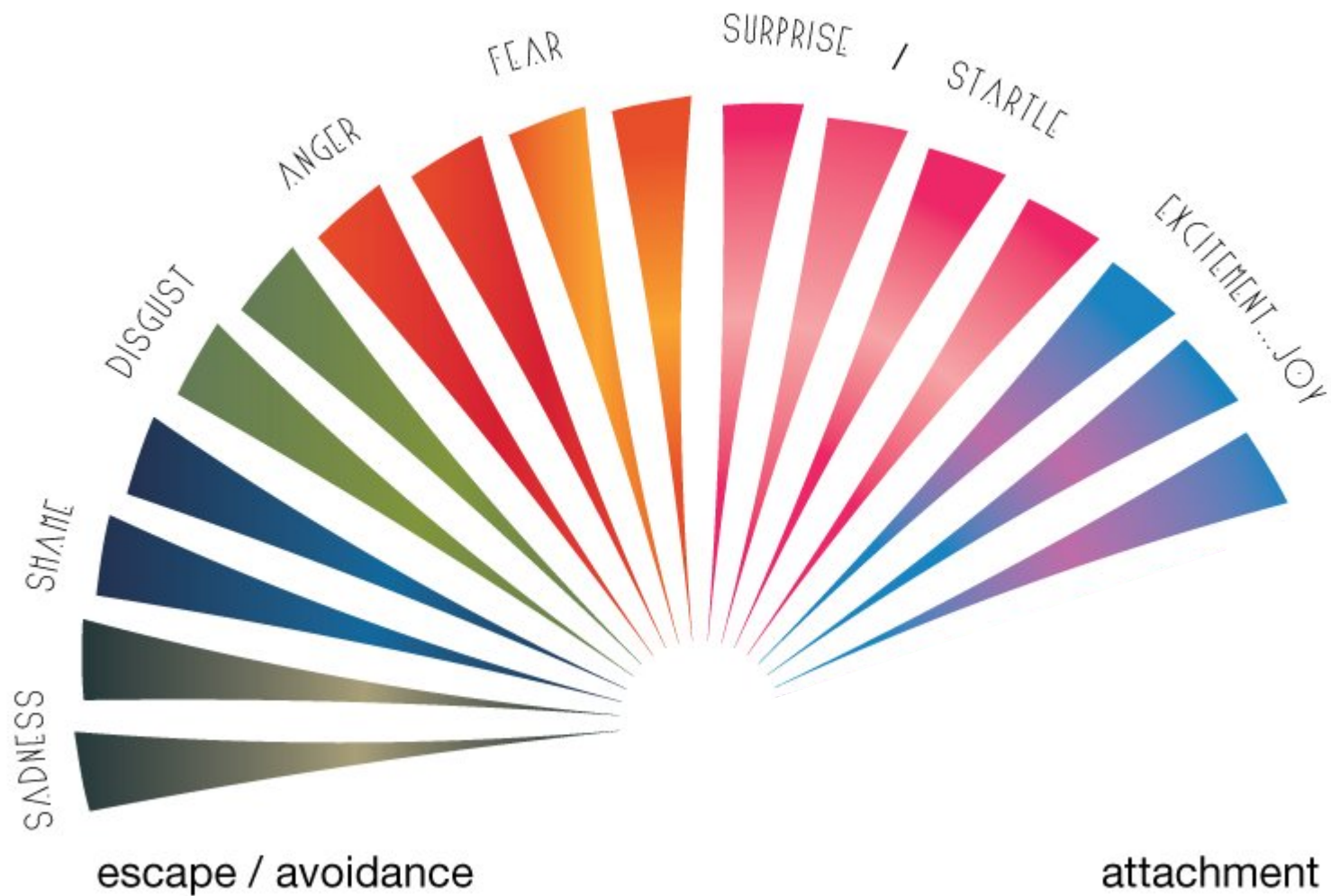
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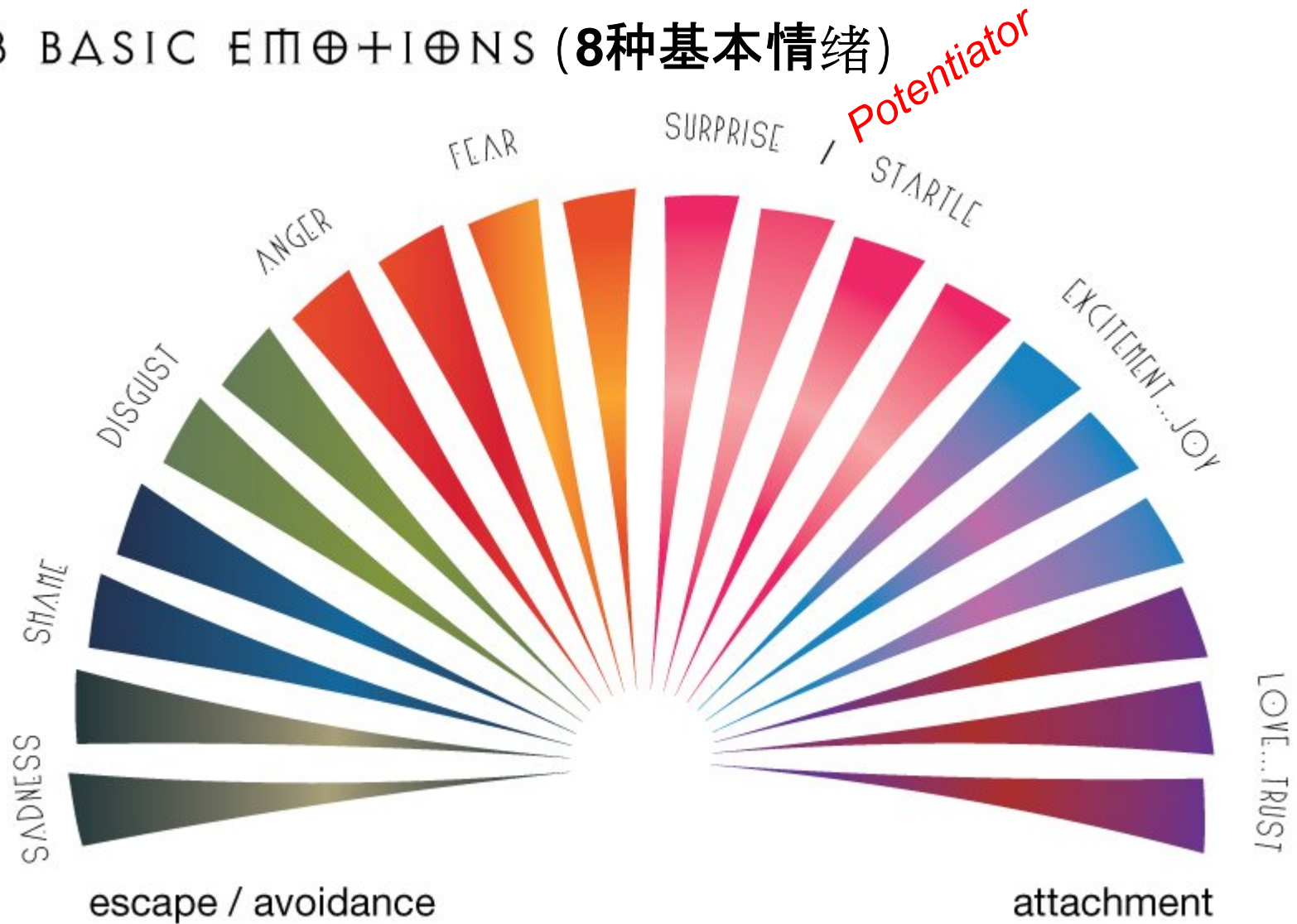


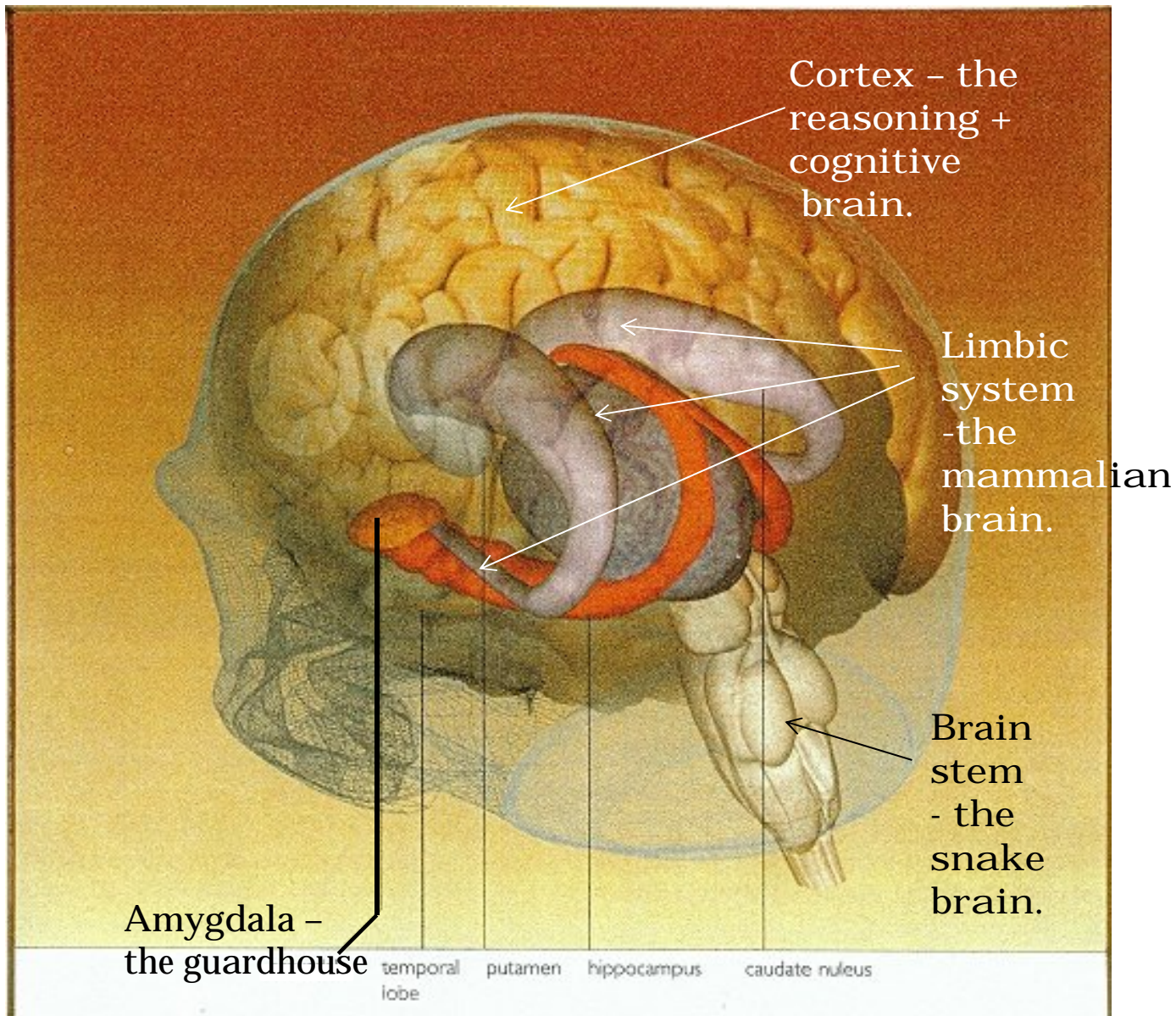
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# 8 BASIC EMOTIONS (8种基本情绪)





**The TRIUNE BRAIN – Stem, Limbic system and Cortex.**

from Carter – *Mapping the Mind*.

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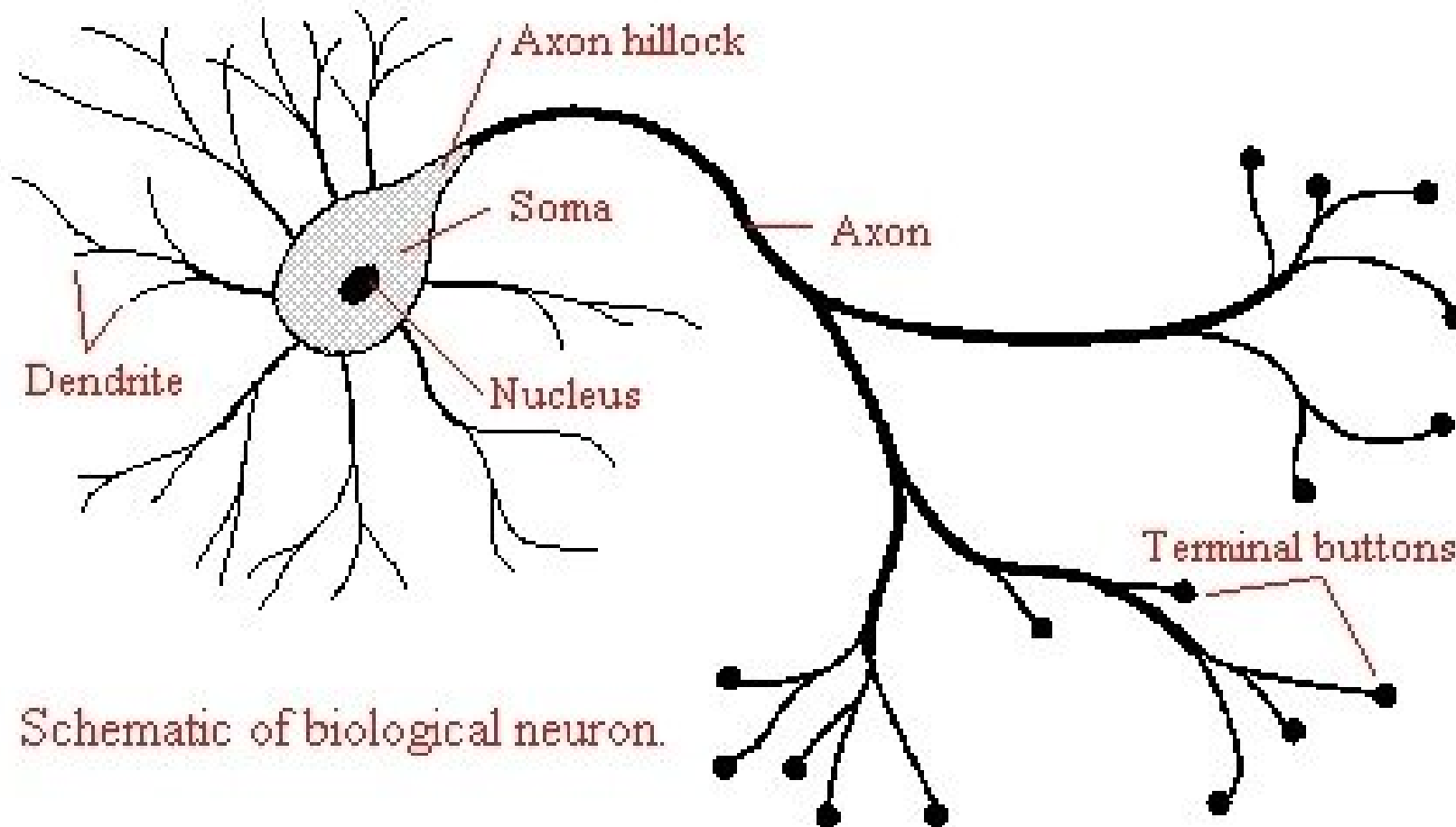
Benaud/Flickr/CC-licensed:[http://](http://www.wired.com/wiredscience/2012/01/brain-face-recognition/?utm_source=Contextly&utm_medium=RelatedLinks&utm_campaign=Previous)

[www.wired.com/wiredscience/2012/01/brain-face-recognition/?utm\\_source=Contextly&utm\\_medium=RelatedLinks&utm\\_campaign=Previous](http://www.wired.com/wiredscience/2012/01/brain-face-recognition/?utm_source=Contextly&utm_medium=RelatedLinks&utm_campaign=Previous)

What do you read in this face?



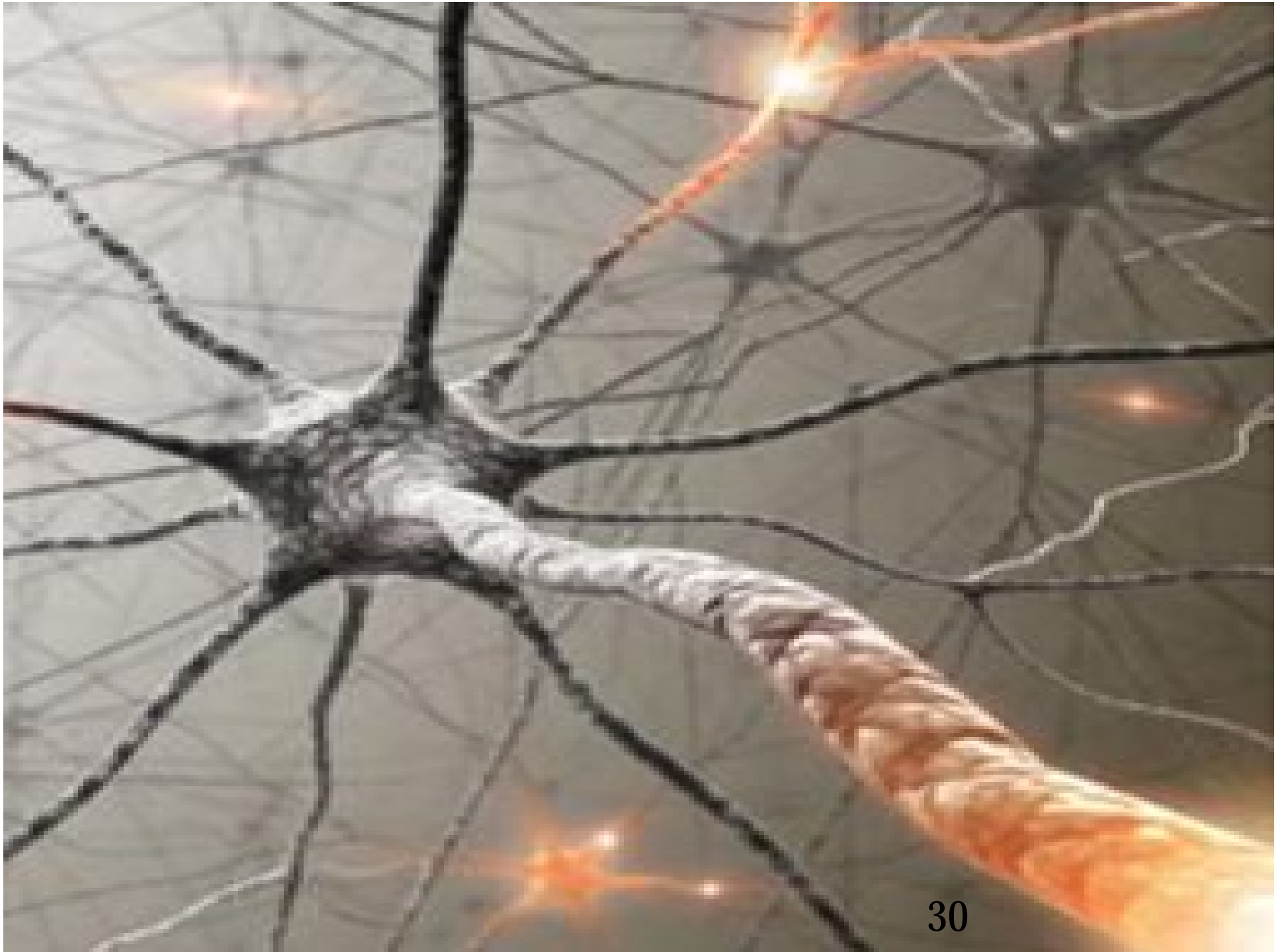
**How does it work ?**



Schematic of biological neuron.

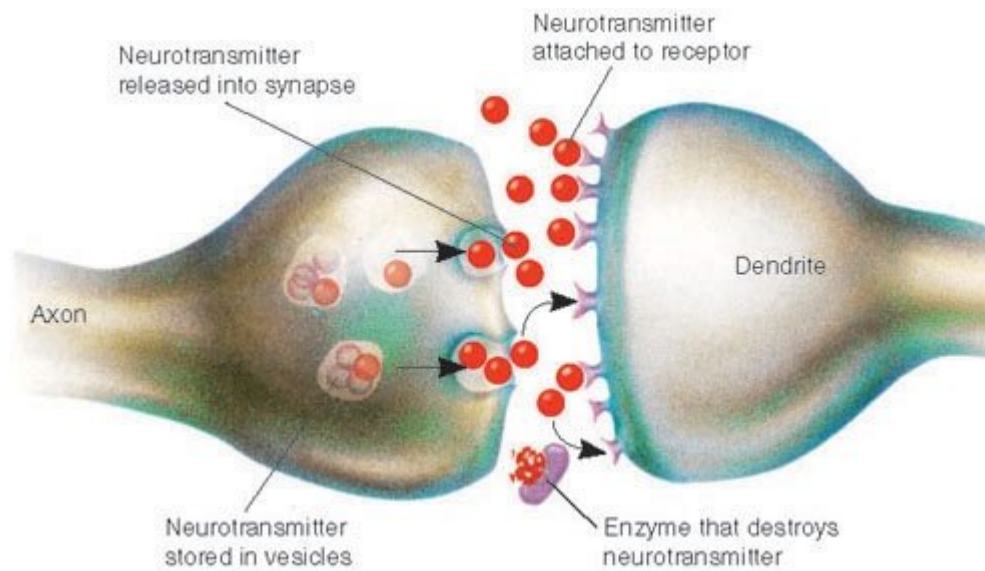
(image thanks to [vv.carleton.ca/~neil/neural/neuron-a.html](http://vv.carleton.ca/~neil/neural/neuron-a.html))

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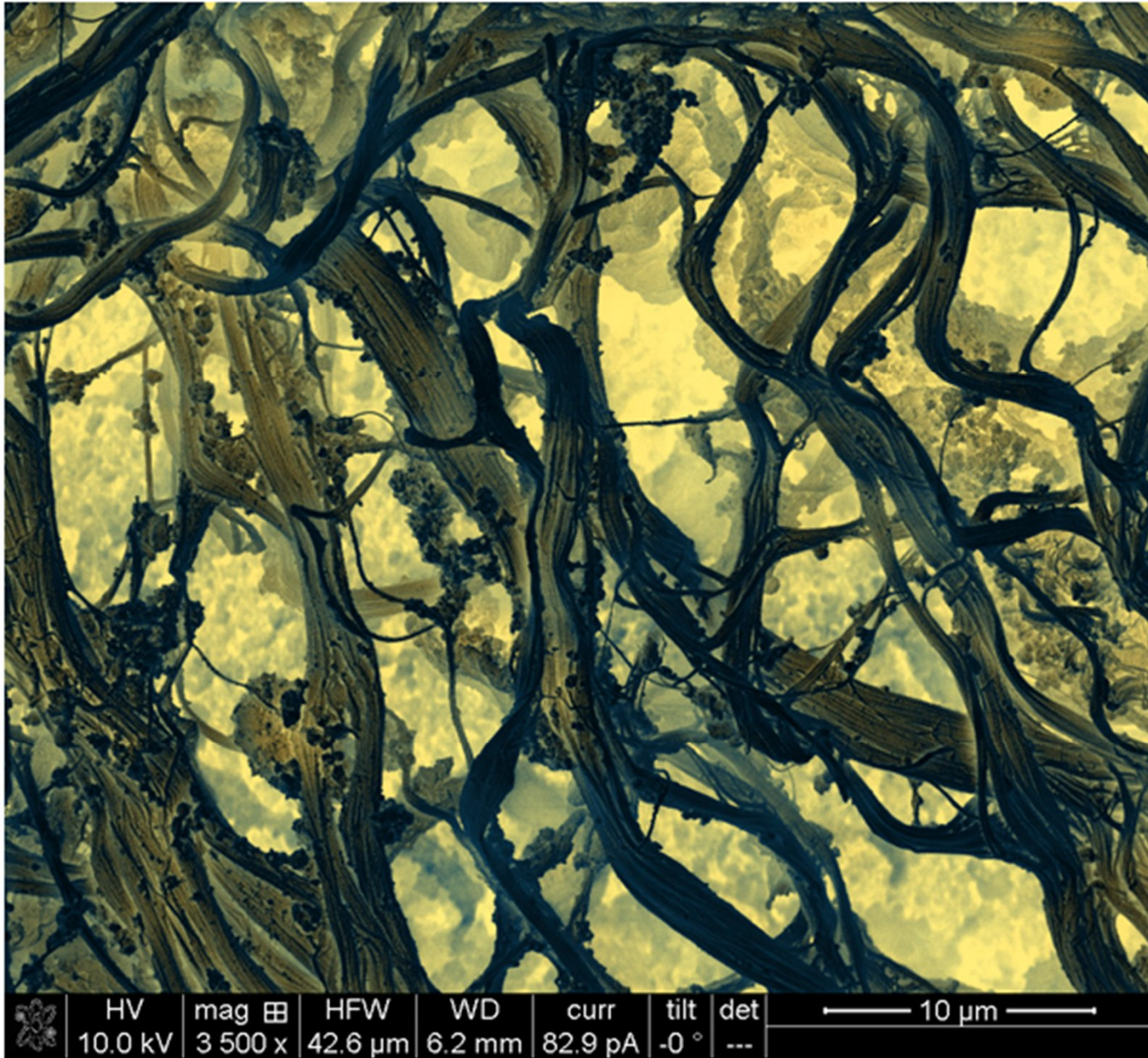


Markram: Human Brain Project, Lausanne. Functional brain simulation



## Neurotransmitters at the synapse





(Image: Badar Rashid, UCD)

<http://www.newscientist.com/blogs/shortsharpscience/2012/07/forest-of-neurons-snake-throug.html>

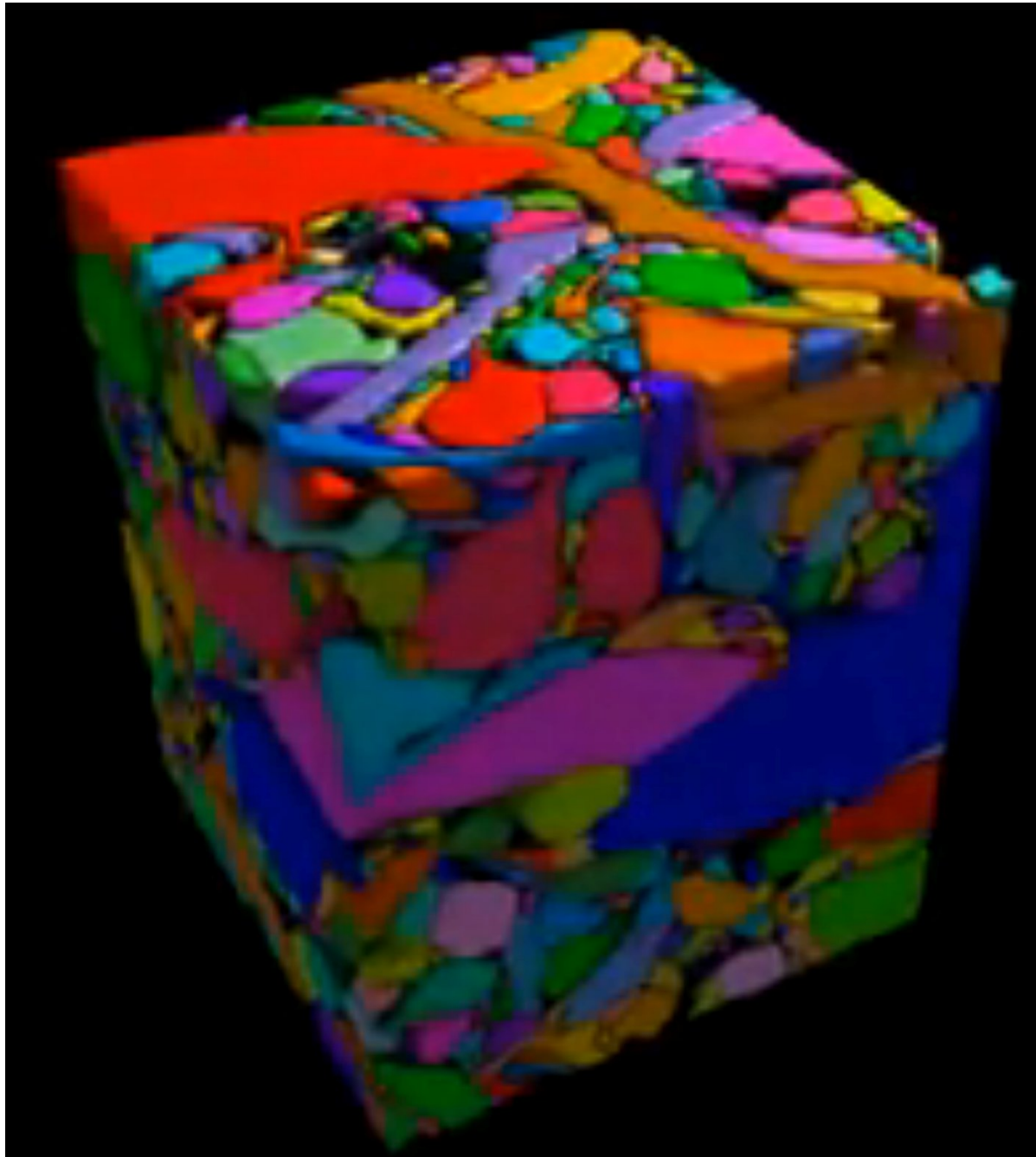


What rules your brain? (Image: Tom Barrick, Chris Clark, SGHMS/SPL)

什么在控制你的大脑？

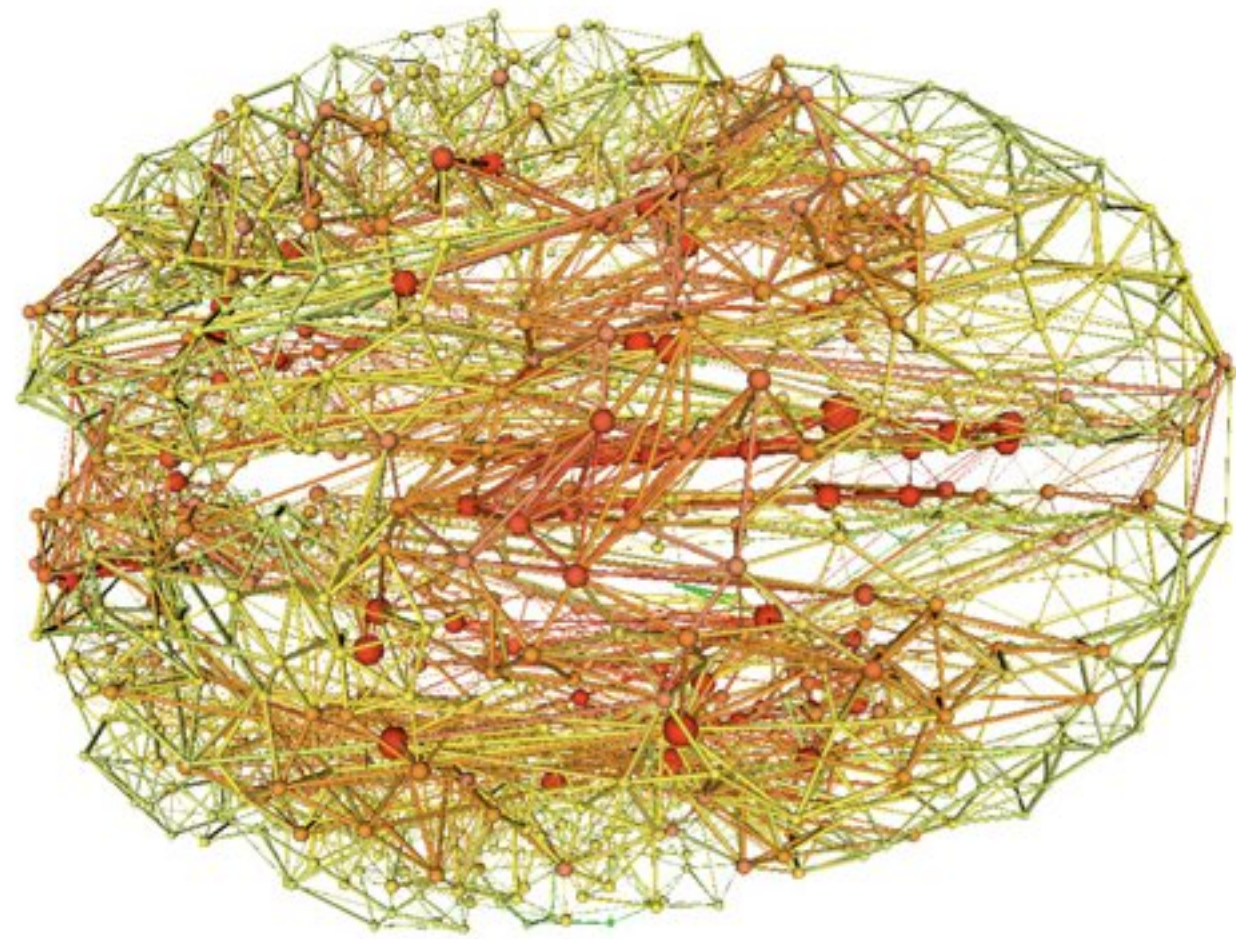
DTI - diffusion tensor imaging

DTI - 弥散张量成像



Pathways in the brain. Seung: Connectomics - MIT

The connectome with its 12 "rich club" hubs. Green means fewer connections, red means more connections (*Image: Martijn van den Heuvel/University Medical Center in Utrecht*)



<http://www.newscientist.com/article/dn21117-the-rich-club-that-rules-your-brain.html>

**But what are the two halves up to?**

# Right brain / left brain

Left...

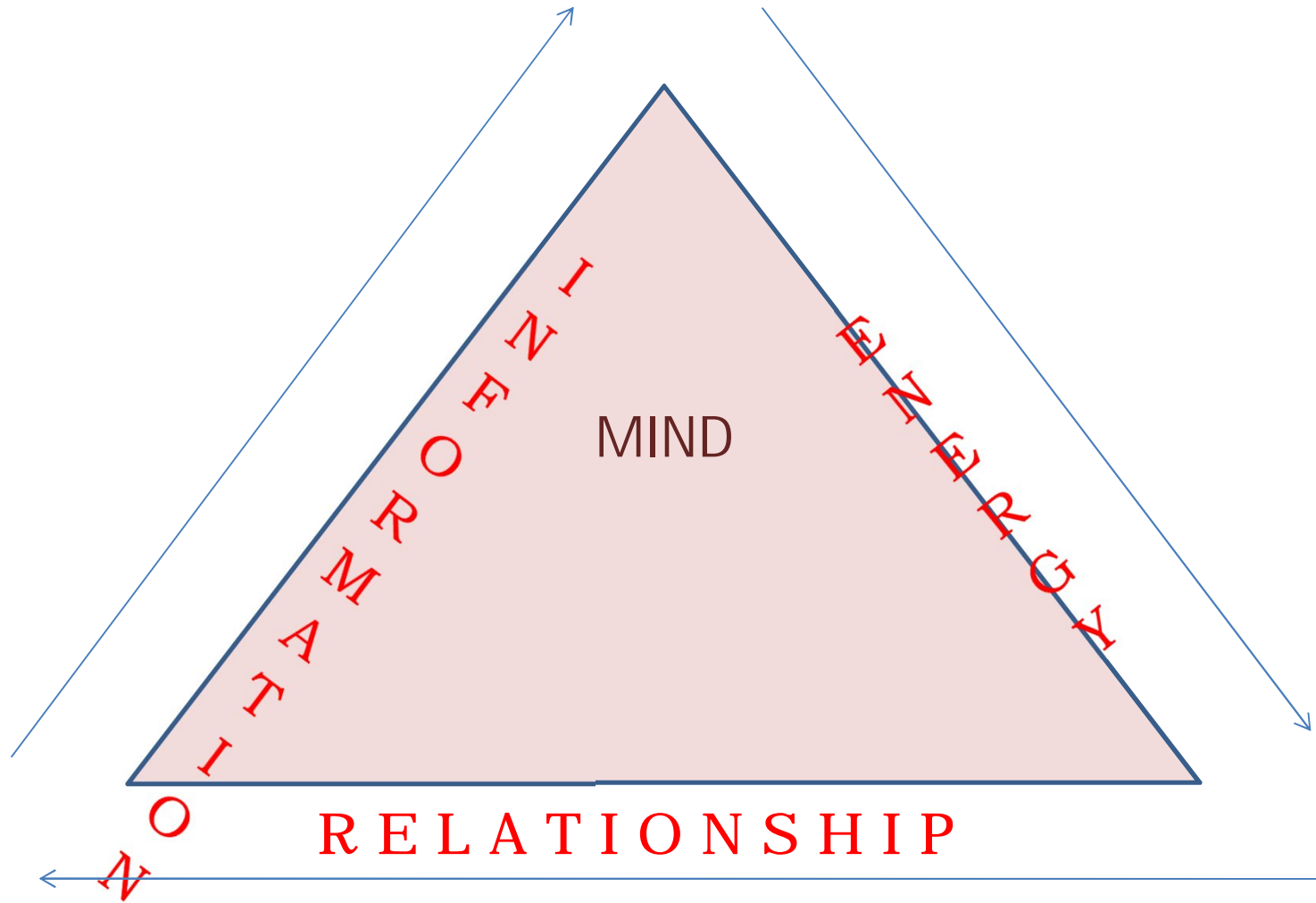
Pointing and propositional

Right...

Urging and yearning

# How the Mind emerges

# THE BRAIN CREATES OUTPUT THAT WE SEE OPERATING AS 'MIND' through managing –





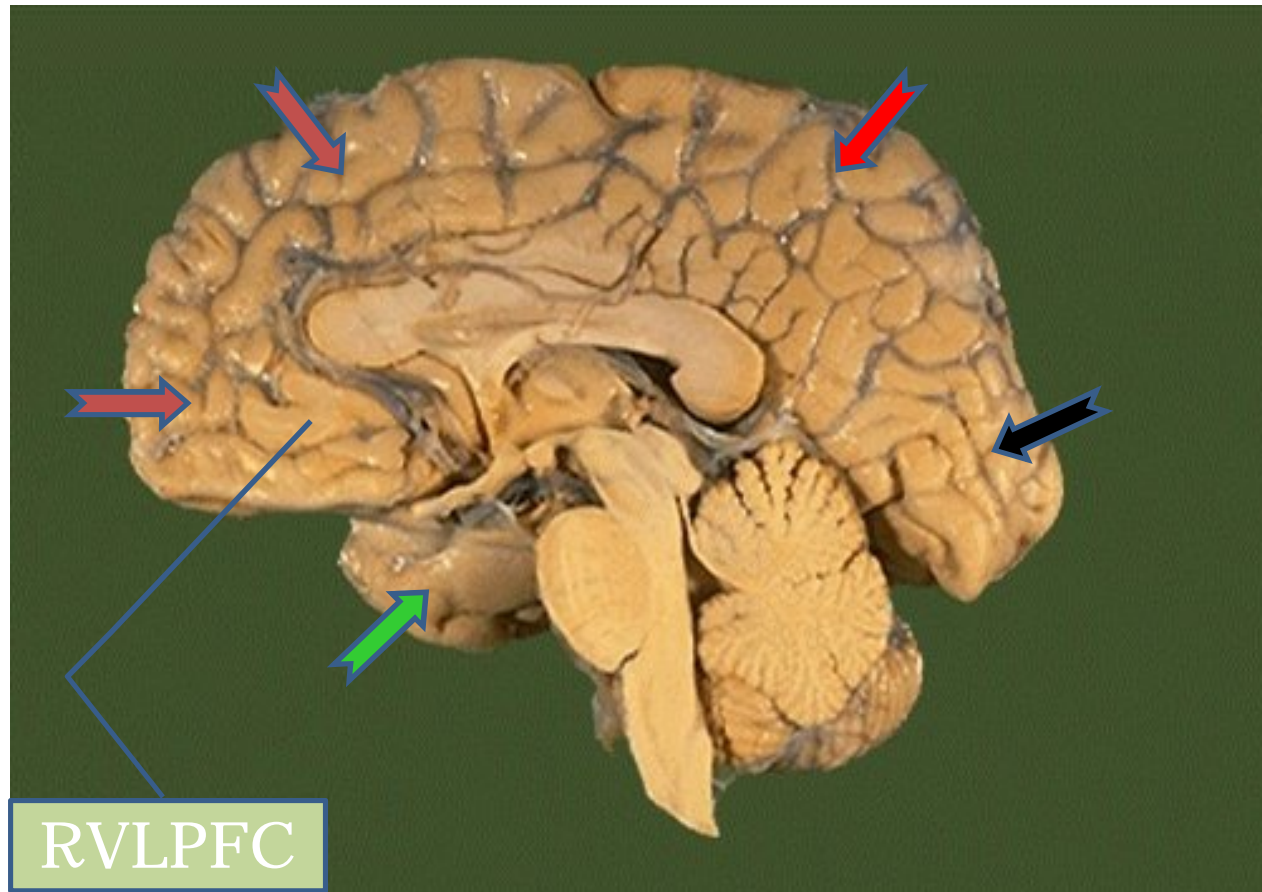
No longer  
***“I think, therefore I am”***  
but  
***“I feel, therefore I think I am”***

The most important single concept is  
that ***we are powered by an  
emotional brain and its job is to  
forge relationships and establish  
intelligent emotions.***

**A key decision-making area of the  
brain**

**[ informed by emotions as the  
basis of judgement ]**

LOBES – frontal ● parietal ● occipital ● temporal ●



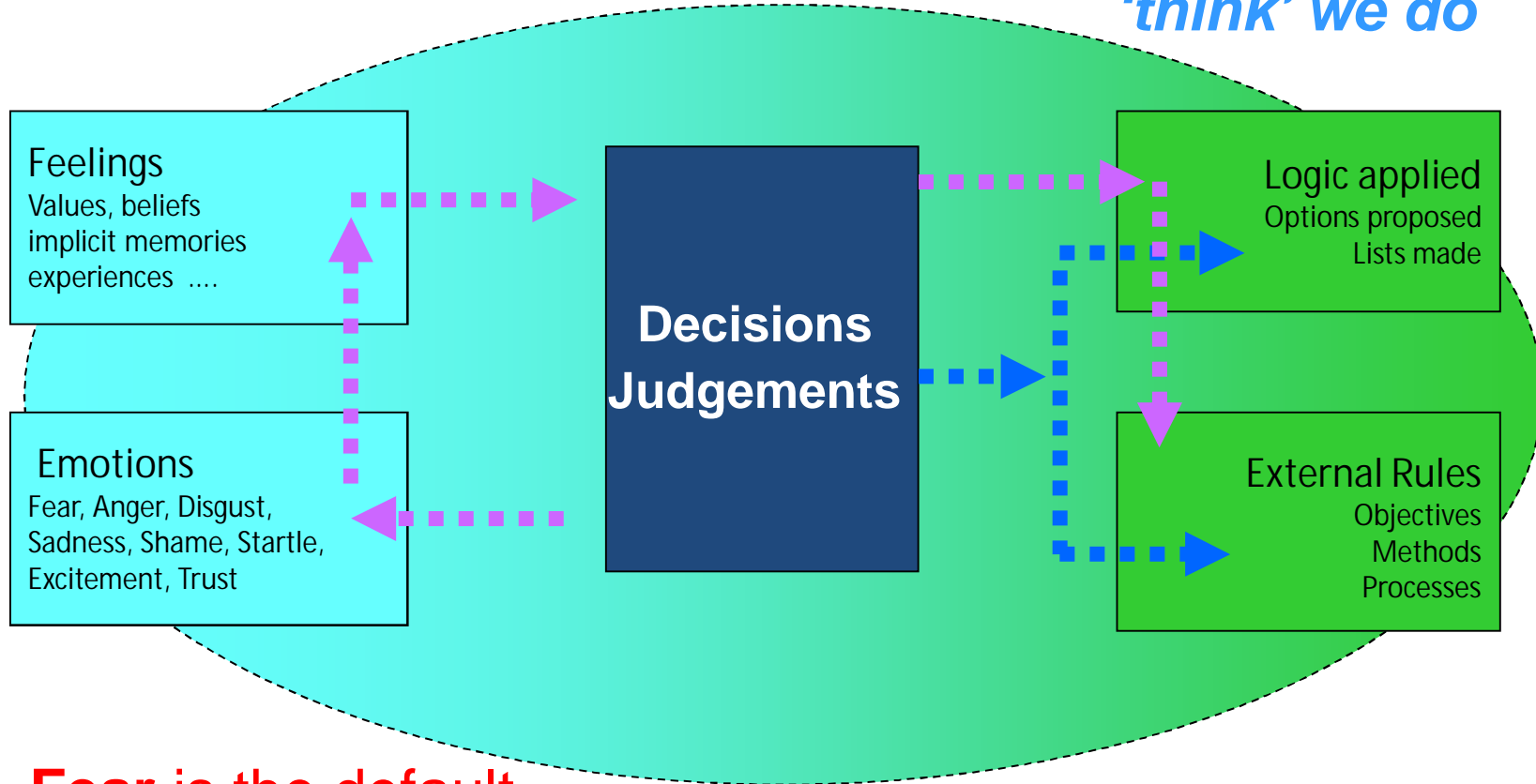
The right ventrolateral pre-frontal cortex [RVL PFC] is coming to be seen as the key area for complex decision-making –

See: Matthew Lieberman: The brain's braking system [ and how to use your words to tap into it ].  
NeuroLeadership, 2009, 2, 9-14.

# Decision Making

*How we do...*

*How we like to  
'think' we do*



**Fear** is the default emotion. *Easily* triggered: lowers performance.

We **always** create a rational(ised) story: it may be coherent but not always cohesive!

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# Individual and Group Motivators

<b>8 Basic Universal Emotions</b>	<b>Responses</b>
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<b>Startle/Surprise</b>	<b>Potential Survive or Engage?</b>
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# Individual and Group Motivators

8 Basic Universal Emotions	Responses
Fear	<b>Survive</b> Threat avoidance Defensiveness
Anger	
Disgust	
Shame	
Sadness	
Startle/Surprise	<b>Potential</b> Survive or Engage?

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8 Basic Universal Emotions	Responses
Fear	<b>Survive</b> Threat avoidance Defensiveness
Anger	
Disgust	
Shame	
Sadness	
Startle/Surprise	<b>Potential</b> Survive or Engage?
Trust	<b>Engage</b> Relate Create Enjoy
Excitement	

Copyright © 2011 Brenda Hales

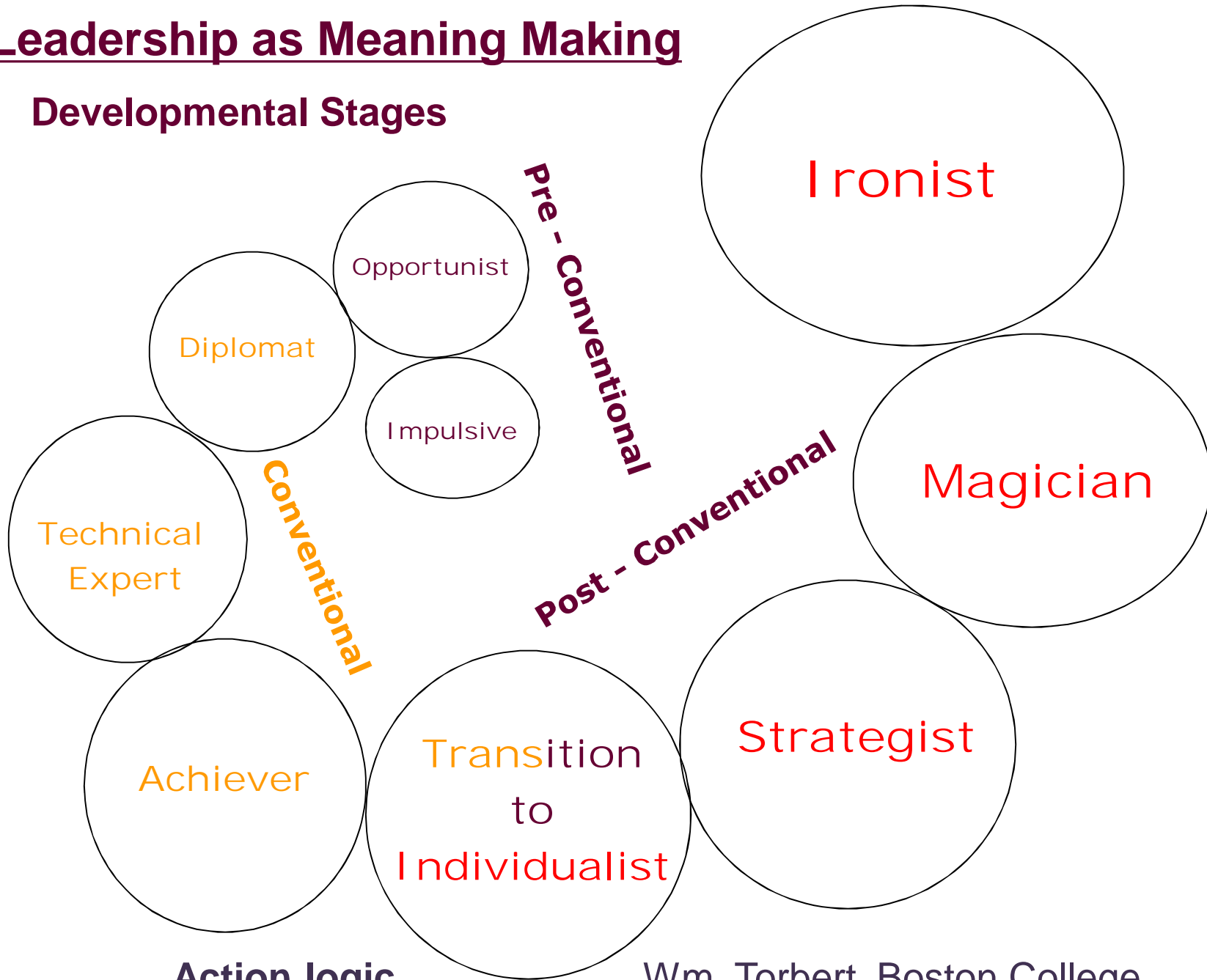


# **The Leader Developing**

Here's a model of how a leader might develop.

# Leadership as Meaning Making

## 9 Developmental Stages



Action logic

Wm. Torbert, Boston College

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# So what would the **limbic leader** look like? S/he -

1. is SELF-AWARE and encourages feedback from others to develop further.
2. is CONGRUENT - internal gearing well-meshed.
3. has EMPATHY – can tune into others and factor that in his/her own reactions.
4. has INTEGRITY – takes a moral perspective and goes for win/win.
5. is INTERPERSONALLY competent - persuasive, influential, connects.

6. has PASSION, VISION, PURPOSE.
7. has FOLLOW-THROUGH – no slippage.
8. has COURAGE of convictions – accepts going against prevailing orthodoxy.
9. BELIEVES IN OTHERS – not cynical, invests in others' growth, knows error is a way to growth, gives feedback.
10. WEAVES the strands of life together, not just balances them out.

11. is FLEXIBLE – can take various routes to same goal and is curious about others' solutions.
12. is EMOTIONALLY competent – can shift between states appropriately, knows where the ghosts are, cares what the effects of emotions are.
13. is INTELLECTUALLY competent – can filter the irrelevant, likes learning.
14. has CREATIVITY – enjoys synthesizing complex variables and reaches beyond the familiar.

The limbic leader is known by having  
the capacity to --

Connect

Be courageous

Be clever enough

Walk own talk

Inspire others into action

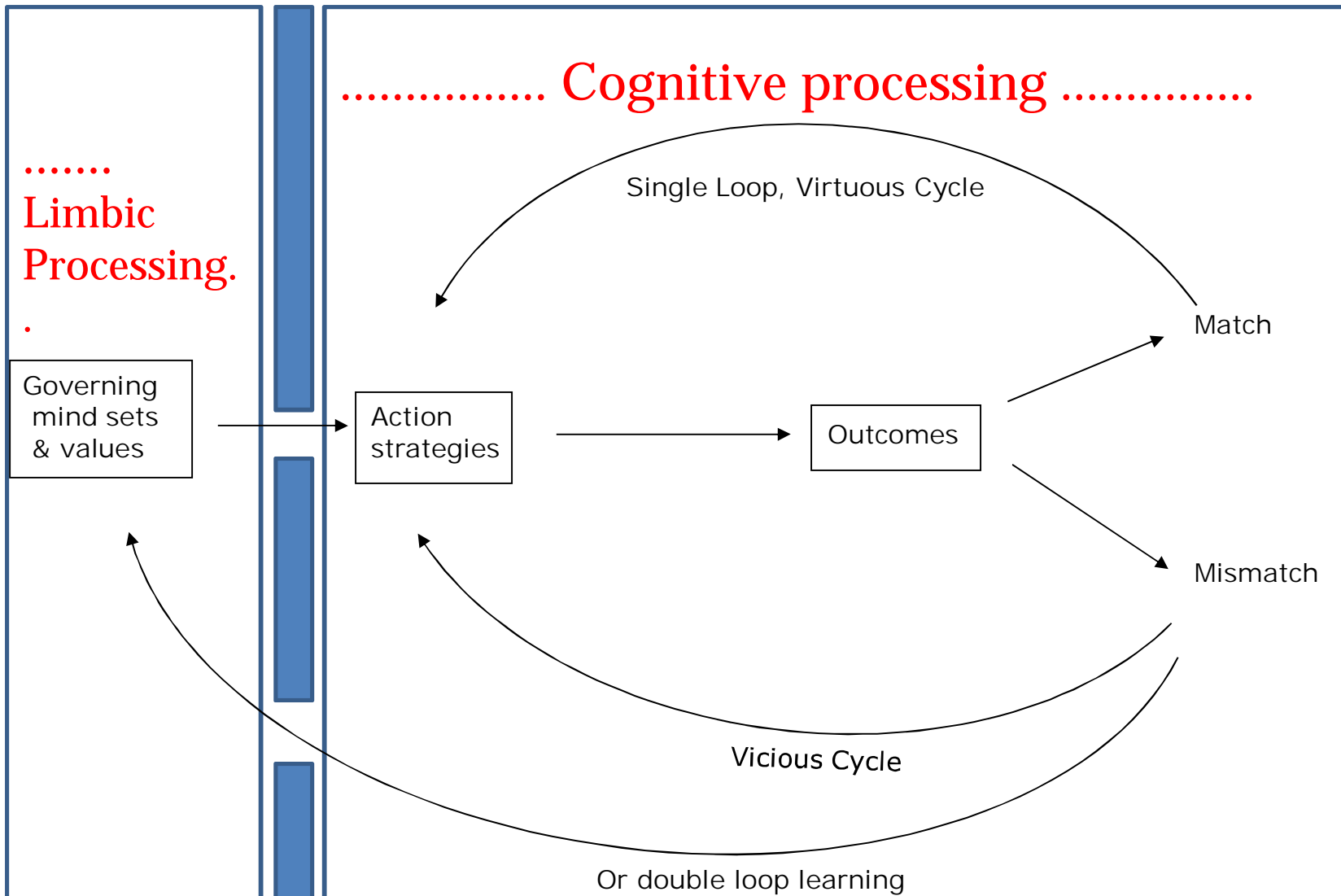
Be worth following

## Introduction

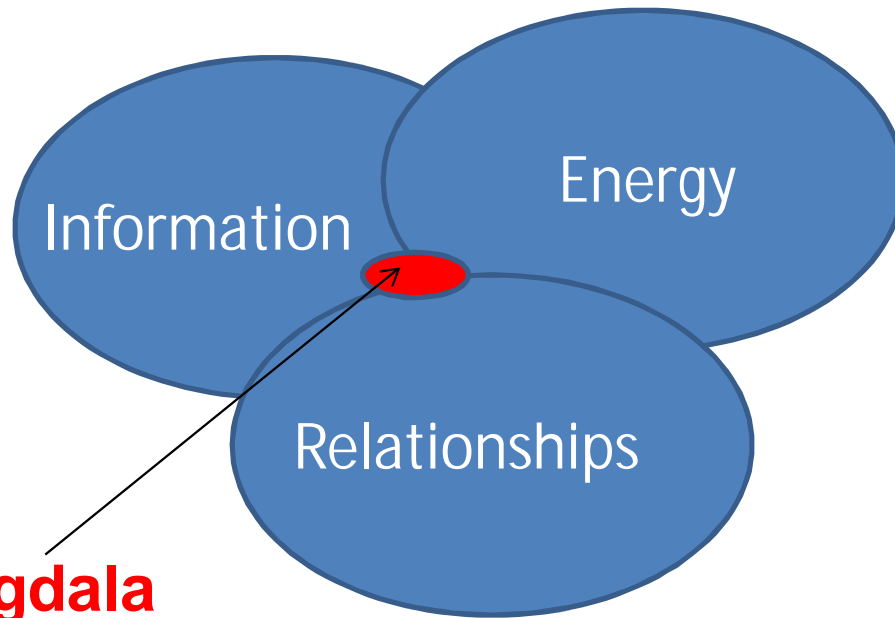
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# Double Loop Learning: developed from Argyris



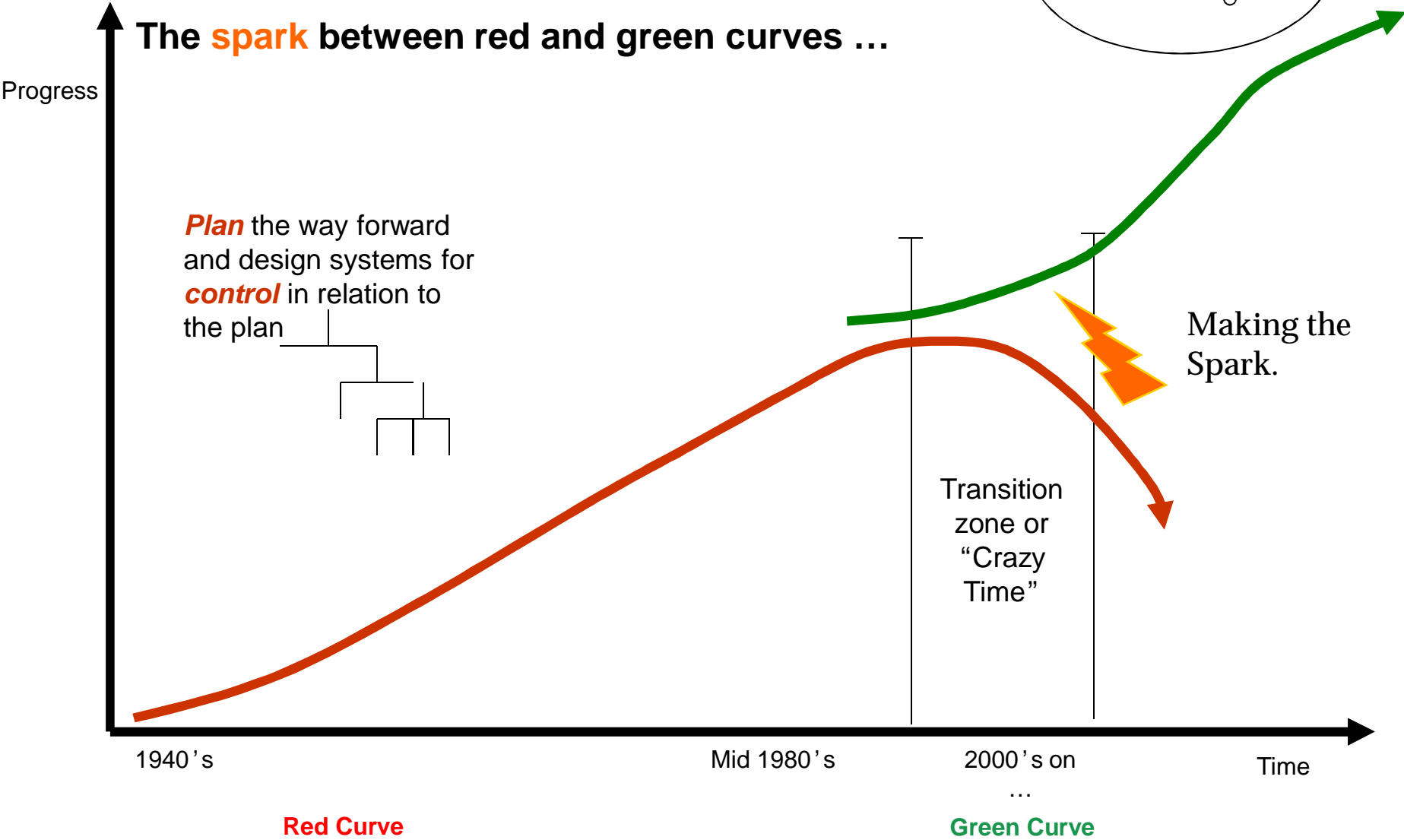
# Reframing the meaning of leadership.



**Amygdala**

The essence of the limbic leader

# THE CONTEXT FOR LIMBIC LEADERSHIP



The End