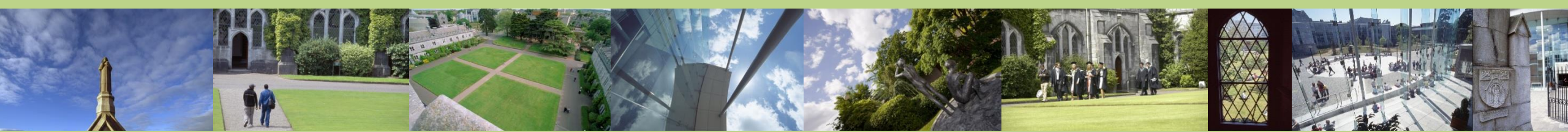


# Complimentary Dualism as *Metaphor* for Sustainability, Progress and Reality



Edmond Byrne

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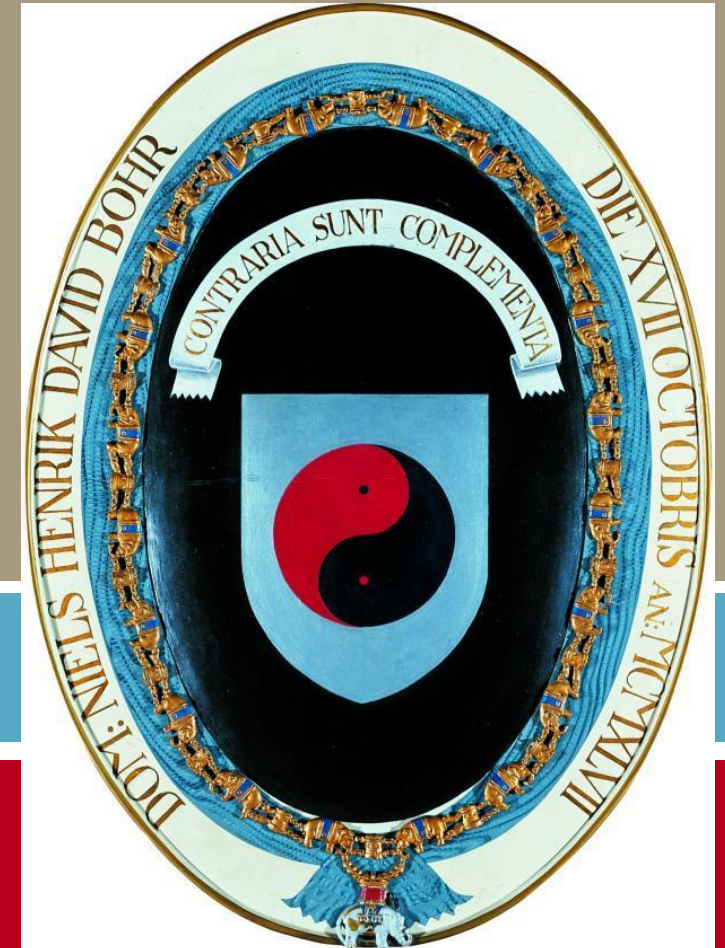
**Niels Bohr**  
(1885-1962)

Nobel Prize for Physics (1922):  
*"for his services in the investigation of the structure of atoms and of the radiation emanating from them"*

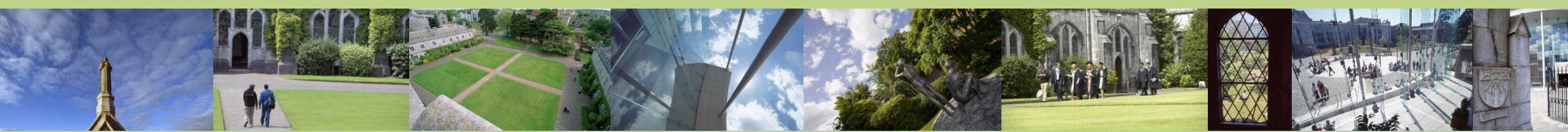
Devised 'Principle of Complementarity' in quantum physics e.g. wave/particle and position/momentum – each are inherent functions of an observer

Recipient of The Order of the Elephant  
(Denmark's highest-ranked honour) 1947

*Yin and yang are opposites,  
though interdependent;  
One cannot exist without the other.*







## Fragments of Heraclitus (Fragment 51\*):

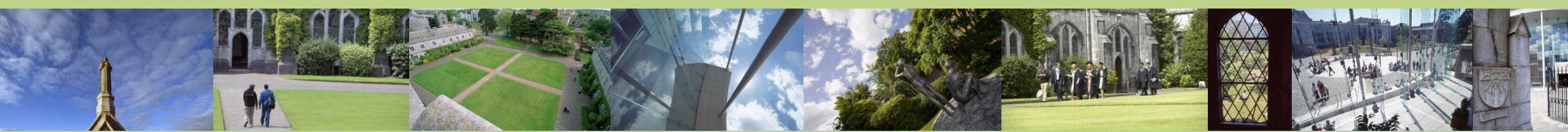
*“Men do not know how that which is drawn in different directions harmonises with itself. The **harmonious** structure of the world depends upon **opposite tension** like that of **the bow** and **the lyre**.”*



Heraclitus of Ephesus (535/475 BC).-

\*Heraclitus, translated by John Burnet (1912)

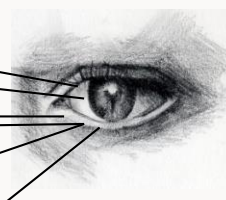




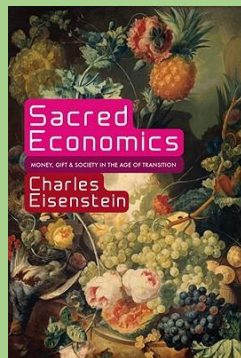
**René Descartes** (1596-1650) sought **Certainty**:

*"Deal only with ideas that are distinct, precise, beyond any reasonable doubt."*

Cartesian rationality; based on an **antagonistic dualism** between the 'objective' **physical mechanical body** & the entirely **separate** 'subjective' **mind/soul**. Seeks singular 'objective' truth as '**detached** **observer**'; thus no relational role for human mind in seeking truth.



*'It is possible to reach a kind of knowledge ..and thereby make ourselves the **lords and possessors of nature**'.*



The '**Story of Separation**' vs. the '**New Story of Interbeing**'.

*'If you're a **separate self**, and there's other separate selves out there, other species out there, the **universe** is fundamentally **indifferent** to you or even **hostile**. Then you want to **control**. You want to be able to have **power** over other beings and these whimsical, arbitrary forces of nature that could extinguish you any time.'*

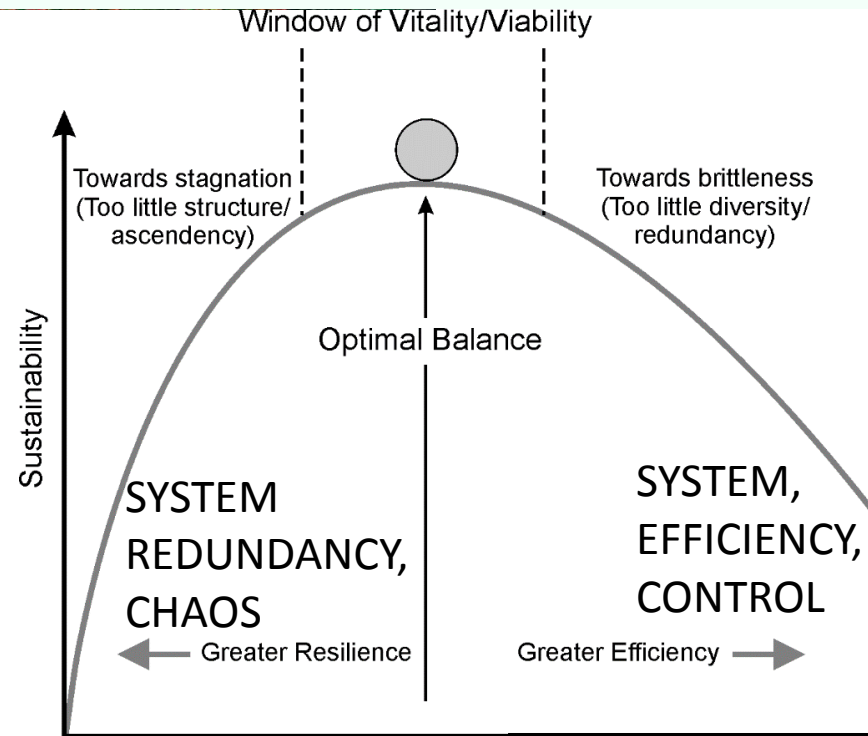
(Charles Eisenstein, Sacred Economics, 2011)





The concept of ‘**Sustainability**’ may be “*posited within a (dialectical and process) Heraclitan framework, whereby **contingency**, **change** and **evolution** are enduring system characteristics. It fits in with broader conceptions of sustainability as an **evolving** and **contingent** quality, rather than as some ultimate point destination entailing optimisation **around a unique endpoint located at the (right hand) extreme of Ulanowicz’s RAINBOW, a sort of **crock of gold** exemplified by the **mirage of 100% efficiency**.***”

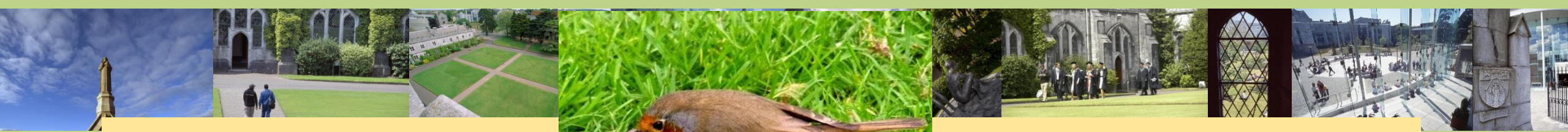
(Byrne, 2016, p.49<sup>1</sup>)



Ulanowicz's ecological systems model:  
 $[h_i = k p_i \log(p_i)]^1$





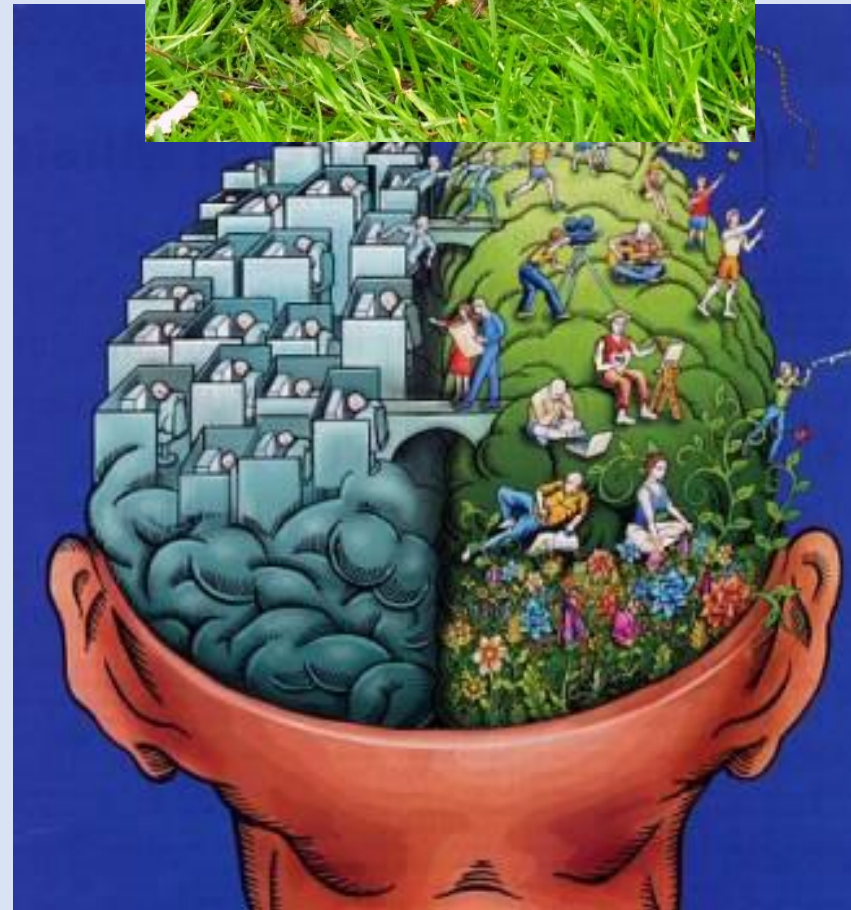


Analysis, Categorization

Whole picture ('Gestalt')

Left  
Hemisphere

Right  
Hemisphere



Neuroscience: BRAIN lateralization

Asymmetrical > **Doesn't Recognise** Right side thinking ('**Either-or**' hemisphere)

Asymmetrical > **Accommodates** Left side thinking (**Integrative** hemisphere)

**Analysis, Categorization**

**Whole picture ('Gestalt')**

**CONTROL, CERTAINTY**

**CONTINGENT UNCERTAINTY**

Individualistic, Competitive

Relationships/Collective, Cooperative

Reduction of Whole into Separate Discretized Parts

**Technocratic**

Interconnectedness – Interactions  
'In betweenness'

Mechanistic/Deterministic  
Cause and Effect

'Law of excluded middle'  
(Plato/Aristotle)

**Technosceptic**

'Logic of the included middle'

System Emergence;  
Propensities

Knowledge as Fixed: Obtained from Facts

**EXTERNAL  
'VIEW FROM  
NOWHERE'**

**RELATIONAL  
'VIEW FROM  
SOMEWHERE'**

Knowledge as Contextual: (Unique) Personal Experience Required

'Objective' and 'value-free' (though value laden)

Recognises values explicitly

Ever Optimistic  
Utilitarian ( )

Empathy

Decontextual

CONTEXT

**SYMBOLS, MODELS, MUSICAL  
NOTES, (denotative) LANGUAGE**

**MUSIC, SPIRITUALITY/RELIGION,  
(connotative & emotive) LANGUAGE:  
METAPHOR, IRONY, HUMOUR, POETRY**

Closed system in discretized time (Zeitraff)

Open system (Process)

**Dogmatic**

**Utility & Predictability**

*'Only the right hemisphere has the capacity to understand Metaphor'*  
(McGilchrist, p.115\*)

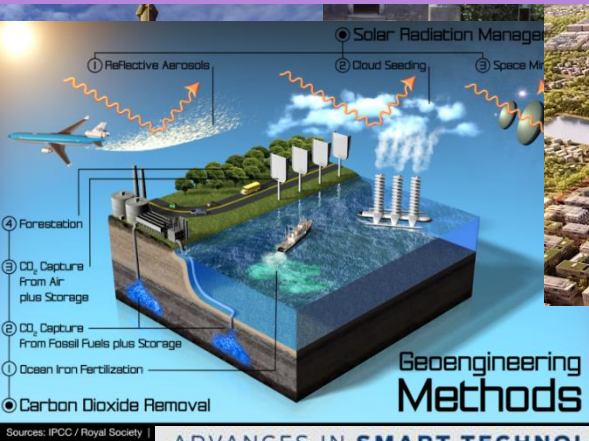
**NOVELTY & CREATIVITY**

**Pragmatic**

\*McGilchrist, The Master And His Emissary (Yale, 2009)



Perception of Reality informs Societal Worldviews and conceptions of 'Progress' & 'Sustainability'

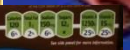


1% have half of global wealth

ADVANCES IN SMART TECHNOLOGY MEAN  
THERE WILL BE NO MORE TRAFFIC JAMS  
AND FAR FEWER ACCIDENTS

Smart World by IOT  
Intelligent Systems for a More Connected World

GOVERNMENT 3.0



Thursday, August 24 2017  
An inconvenient truth: This

Alone they [the two hemispheres] are destructive. ...right now they may be bringing us close to forfeiting the civilisation they helped us create.' (McGilchrist (2009, p.93)

Food Nanotechnology



University College Cork, 15<sup>th</sup> Septe

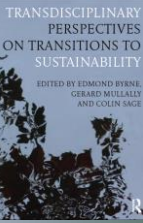


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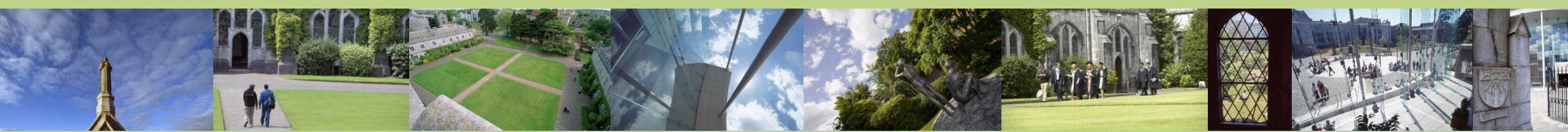


“Petersen (2013, p.2) ‘..Using a **navigational metaphor** thus captures the concept more comfortably: **sustainability discourses** help us **steer in a sea of future challenges** and **navigate around the rocky patches of undesirable solutions.**’”

Byrne (2016, p.49)







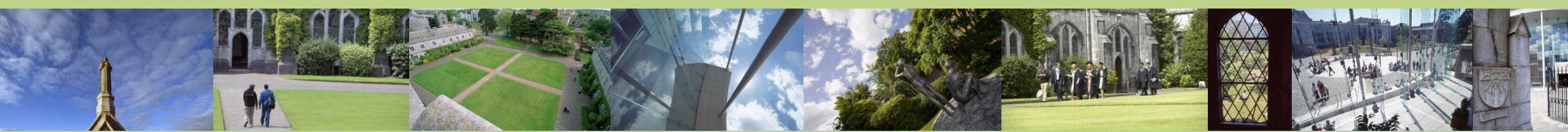
# Complimentary Dualism as *Metaphor* for Sustainability, Progress and Reality



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“The relationship between the hemispheres is not straightforward. **Difference** can be **creative**: harmony is an example. Here differences cohere to make **something greater than either or any of the constituents alone**. ..Before there can be harmony there must be difference.

The most fundamental observation one can make about the observable universe - is that there are **at all levels forces** that tend to **coherence and unification**, and **forces** that tend to **incoherence and separation**.

The tension between them seems to be an inalienable condition of existence, regardless of the level at which one contemplates it.

The hemispheres of the human brain, I believe, are an expression of this necessary tension. And the two hemispheres adopt **different stances** about their **differences**: the right hemisphere towards **cohesion** of the two dispositions, the left hemisphere towards **competition** between them.”

(McGilchrist, pp. 128-129\*)

