

Dr Joseph Voros
Faculty of Business and Enterprise
Swinburne University of Technology
Melbourne, Australia



Complexity + Consciousness:

A model of Big History based on self-organising complexity, incorporating consciousness

(or, “can I have consciousness with that?”)

Teaching and Researching Big History: Exploring a New Scholarly Field
The International Big History Association inaugural conference, August 2-5, 2012
Grand Valley State University, Grand Rapids, Michigan, USA.

Complexity + Consciousness

Swinburne 

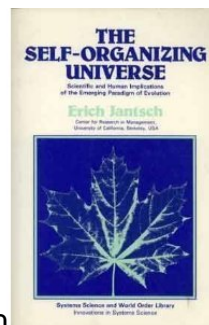
Rationale

Current models of Big History usually consider the observed increases over cosmic time-scales of material-energetic complexity as a foundational concept, but do not have as clear a way to also consider the observed increases in the complexity of human cognitive experiences (“interiority”) over the time-frame that we have been able to observe it.

A model of Big History is presented which seeks to unify the material-energetic-complexity view of Big History, founded on the physical sciences, with an “increasing complexity of interiority” view, which has recently emerged from the humanities, especially psychology and anthropology.

Big History as a case of self-organising complexity

- Erich Jantsch wrote perhaps the first book on a model of Big History based on self-organising complexity using our present understanding of non-equilibrium thermodynamics and dissipative structures
- *The Self-Organizing Universe* (1980)
Sub-title: *Scientific and human implications of the emerging paradigm of evolution*
- In it he described the rise of complexity both in individual entities, as well as in collectives of entities
Individuals and collectives self-organise together in a co-evolutionary dynamical process



3

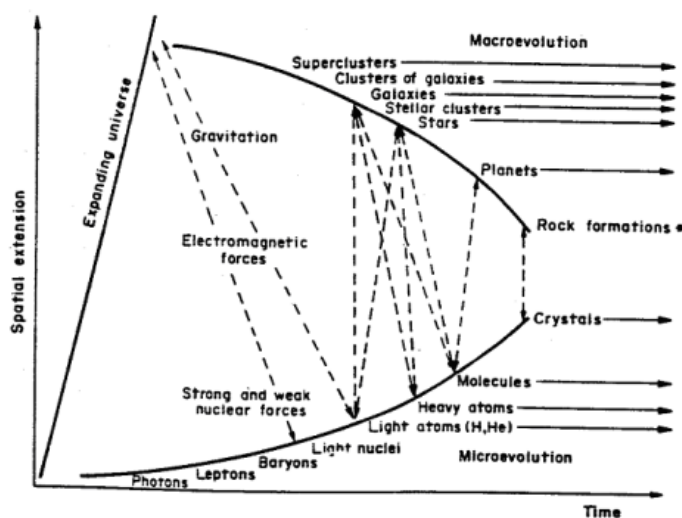


Fig 24, p 94. “Cosmic evolution of macro- and micro-structures.
... These levels mutually stimulate their evolutions.”

4

Complexity + Consciousness

Swinburne

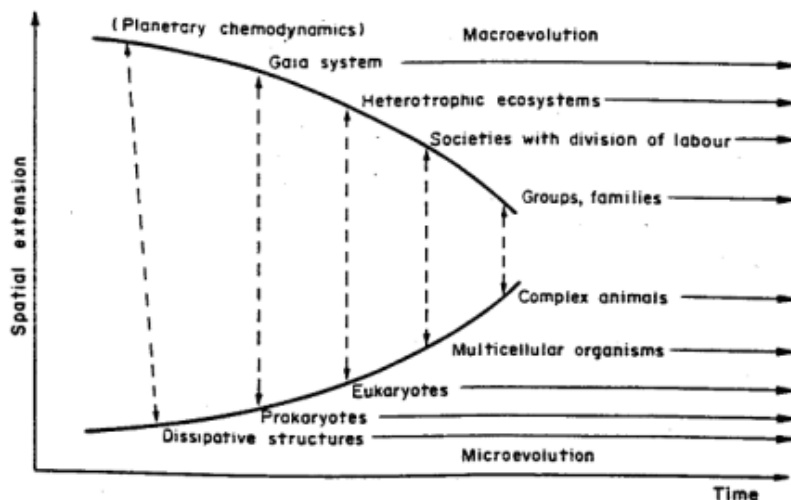


Fig 28, p 132. "The history of life on earth expresses the co-evolution of self-organizing macro- and micro-systems in ever higher degrees of differentiation."

5

Complexity + Consciousness

Swinburne

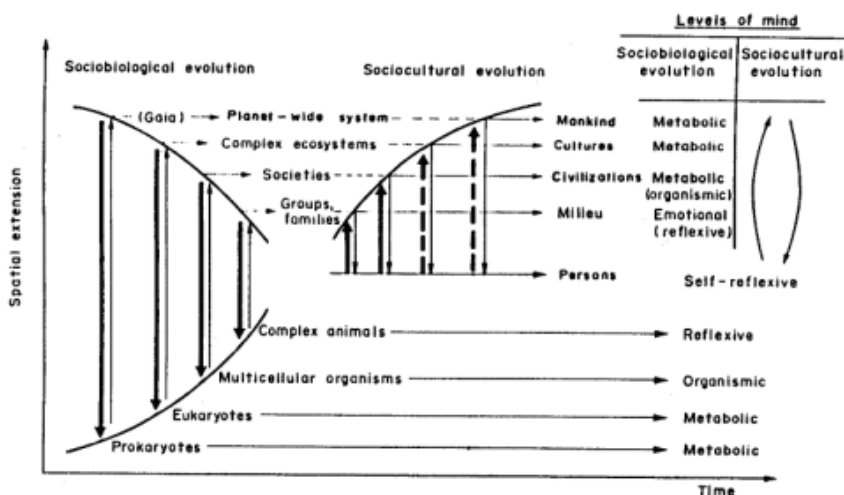


Fig 32, p 175. "The transition from the sociobiological to the sociocultural phase of evolution turns things upside down, as far as the dominant relationships in the co-evolution of macro- and micro-systems are concerned. Self-reflexive mind ... sets out to re-create the macroworld. ... [A]t the levels of culture and mankind-at-large, this is still a partially conscious process only."

6

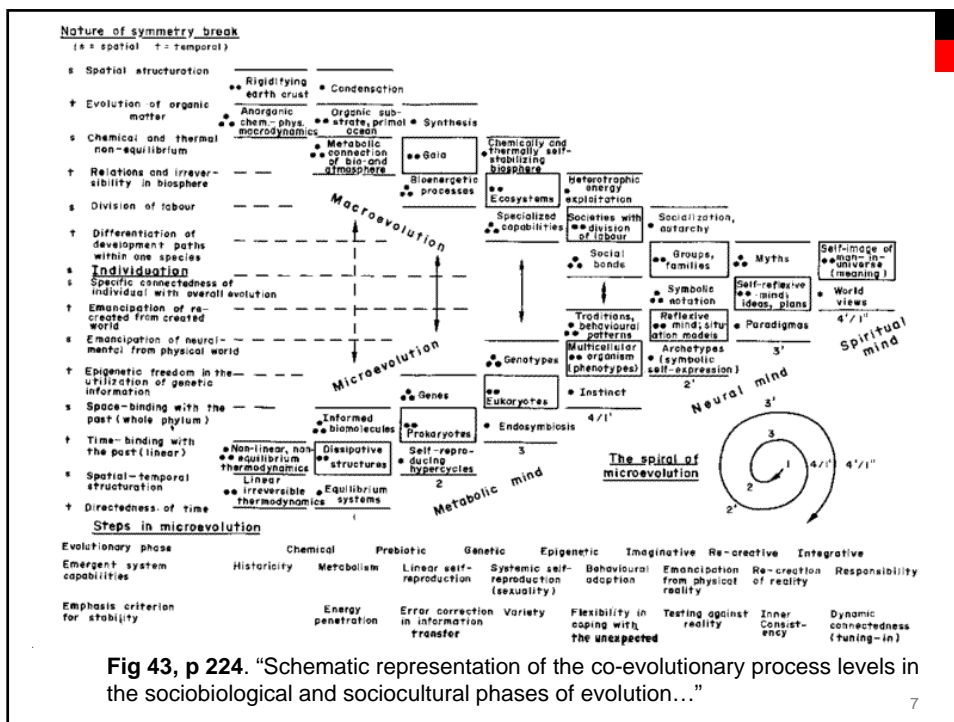


Fig 43, p 224. "Schematic representation of the co-evolutionary process levels in the sociobiological and sociocultural phases of evolution..."

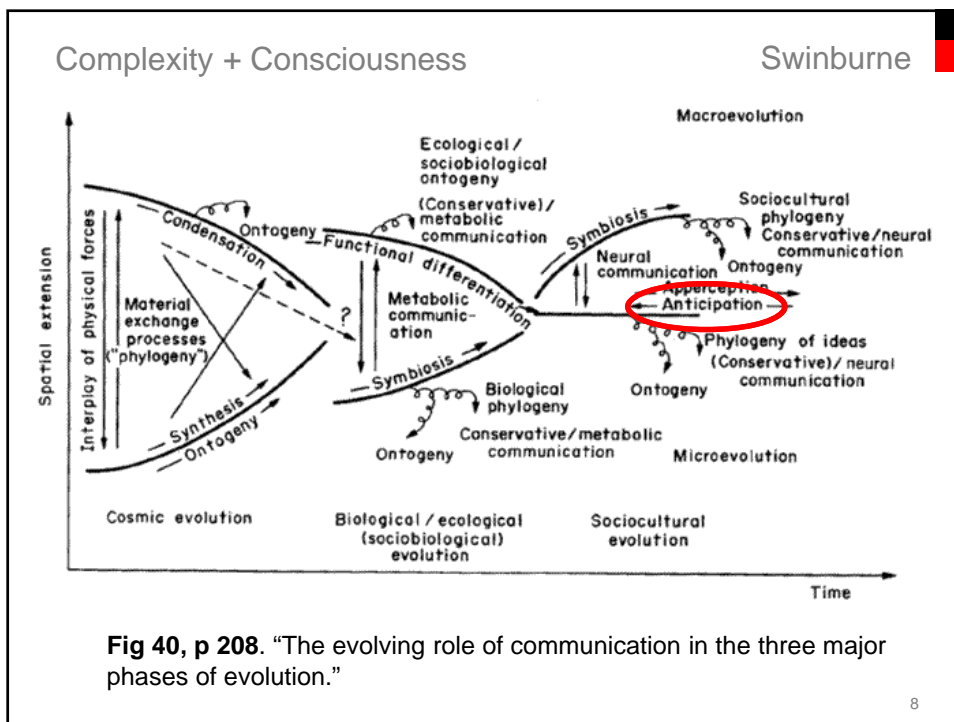


Fig 40, p 208. "The evolving role of communication in the three major phases of evolution."

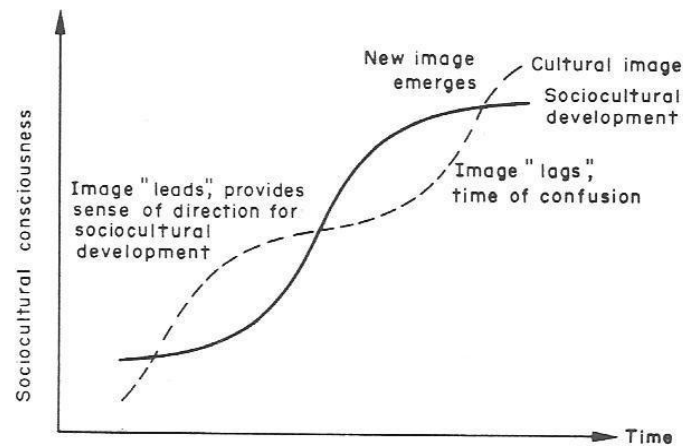


Fig 45, p 257. "Phase shift between cultural guiding images and sociocultural development. In one phase the cultural image leads, in another it lags behind. After O.W. Markley (1976)."

9

Jantsch's legacy

- Jantsch died in Dec 1980, before he could widely popularise these ideas.
- His final work was an edited book, *The Evolutionary Vision: Towards a unifying paradigm of physical, biological, and sociocultural evolution* (1981).
- The last chapter of concluding remarks was his Outlook for the EV.
- Essentially the last thing he wrote on this topic, is as follows:

Complexity + Consciousness

Swinburne *Jantsch's last words...*

"... the greatest importance of today's evolutionary vision may lie not in its present propositions and concepts, but in the new questions it poses in many areas of scientific endeavour and especially in the unifying transdisciplinary 'pull' it exerts in these areas." (p210)

"Of [great] importance will be a precise formulation of the relations between biological/ecological/sociobiological evolution on the one hand and psychological/sociocultural evolution on the other. ... The evolutionary vision opens up the possibility of understanding all creative dynamics in a unified way." (p212)

Complexity + Consciousness

Swinburne *Jantsch's last words...*

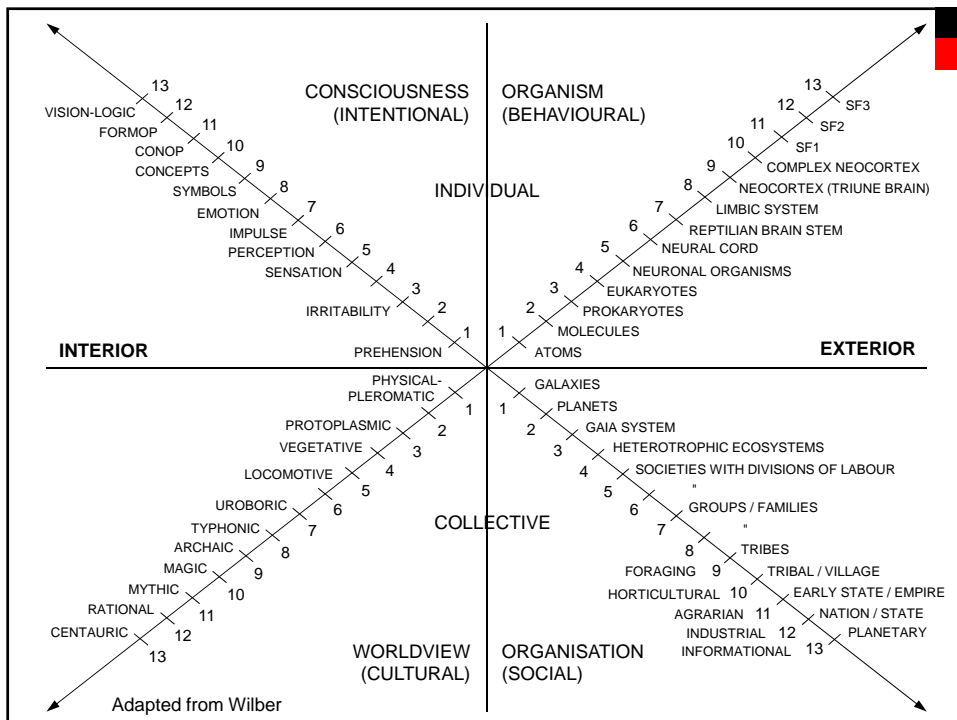
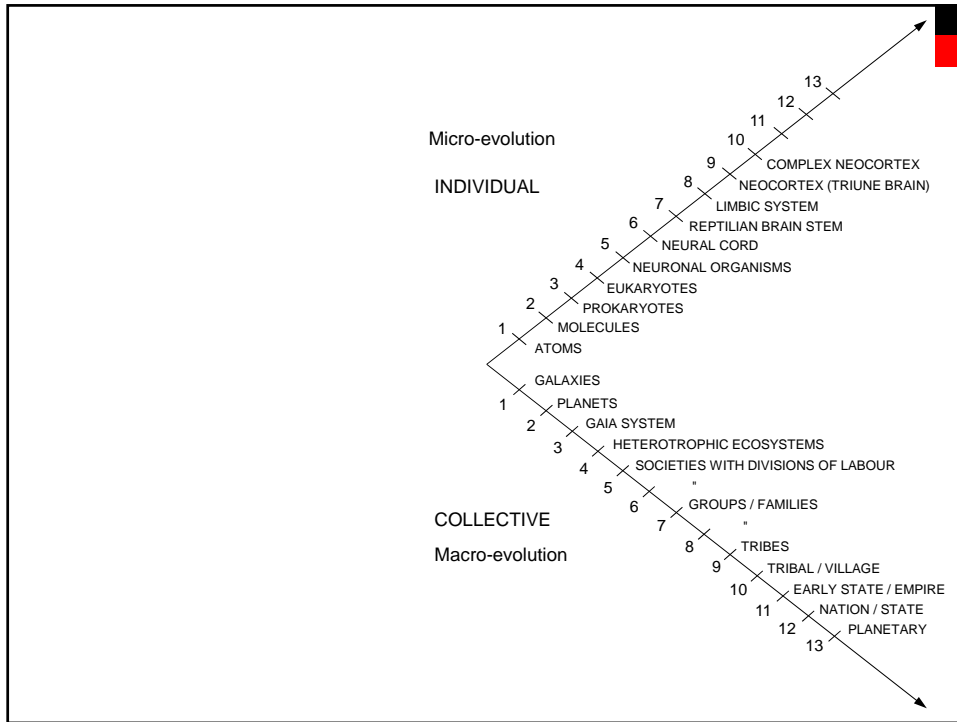
"The evolutionary vision is itself a manifestation of evolution. **The reward for its elaboration will** not only **be** a new (or partly revived) natural philosophy or an improved academic understanding of how we are interconnected with evolutionary dynamics at all levels, but also **an immensely practical philosophy to guide us in a time of creative instability and major restructuring of the human world** With such an orientation, science will also become more realistic and meaningful for the concerns of human life. It will be not merely an end product of human creativity, but a key to its further unfolding in all domains." (p213)

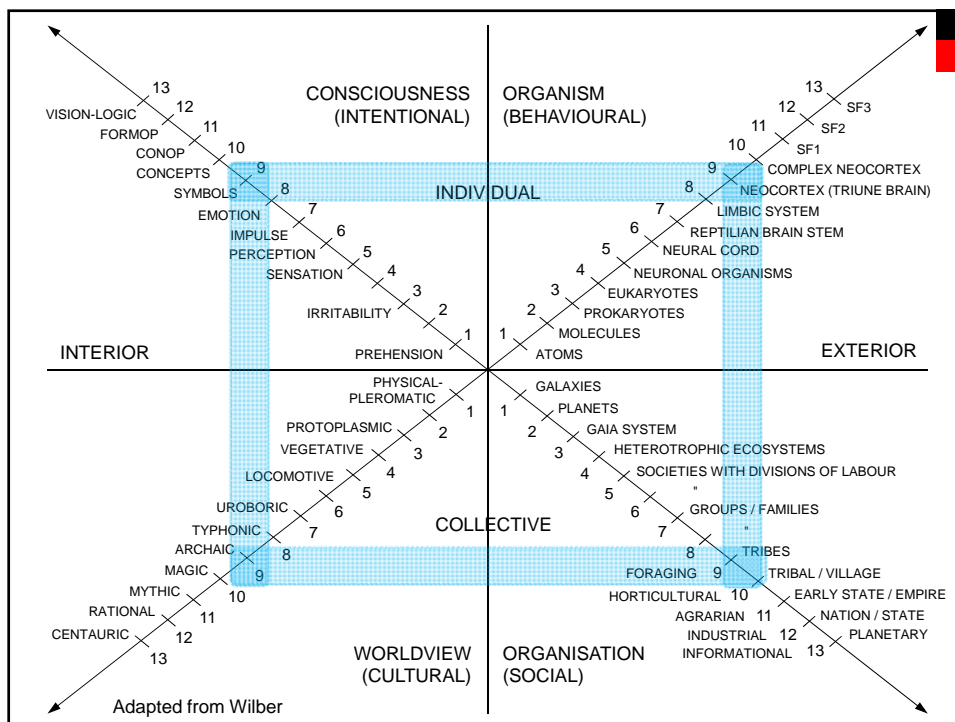
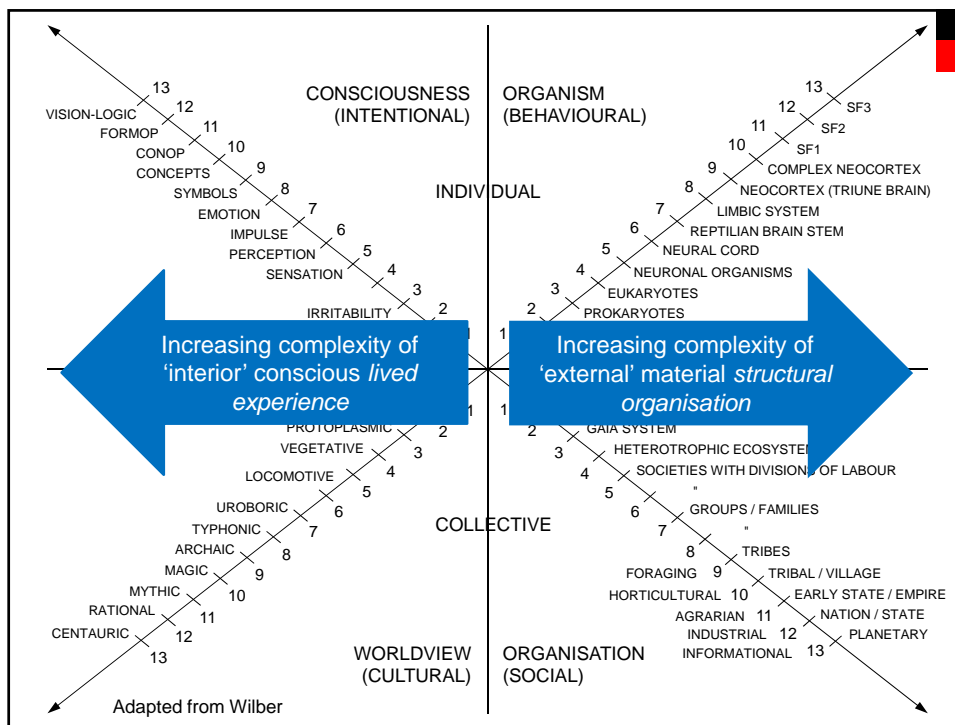
Transition...

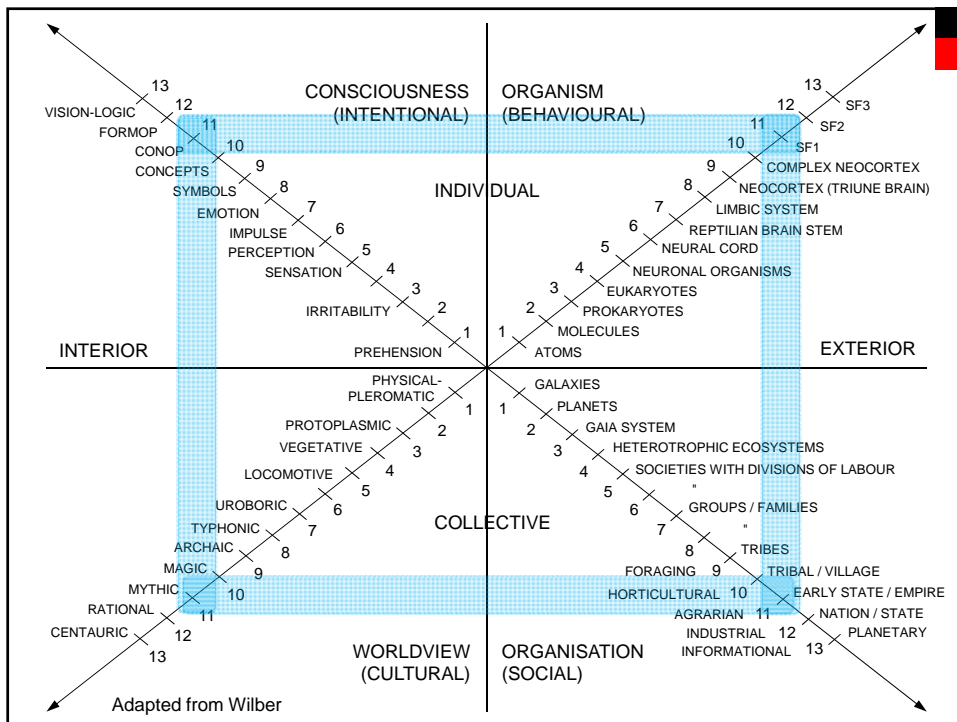
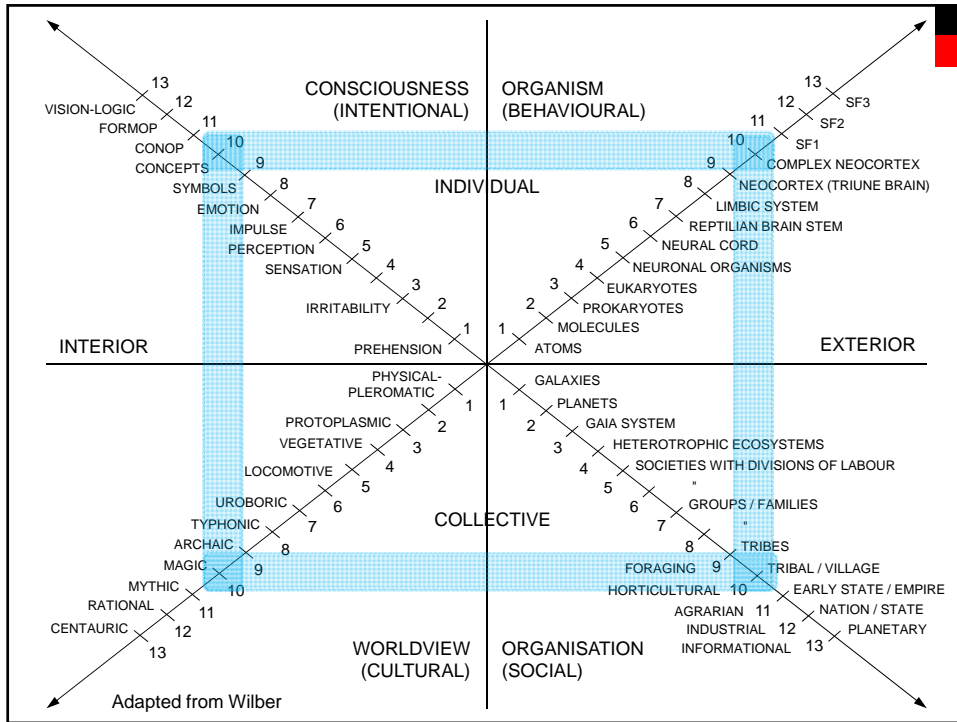
- Erich Jantsch (1929-1980)
 - Austrian astrophysicist who became a futurist & “integral theorist”, formulated a model of cosmic evolution / big history, & hoped for a way to unify this with psychological & cultural evolution.
- Ken Wilber (1949-)
 - American philosopher who started out studying psychology & consciousness, formulated a model of psycho-socio-cultural evolution, and – finding & incorporating Jantsch – ended up with a unified model of physical & psycho-cultural evolution.

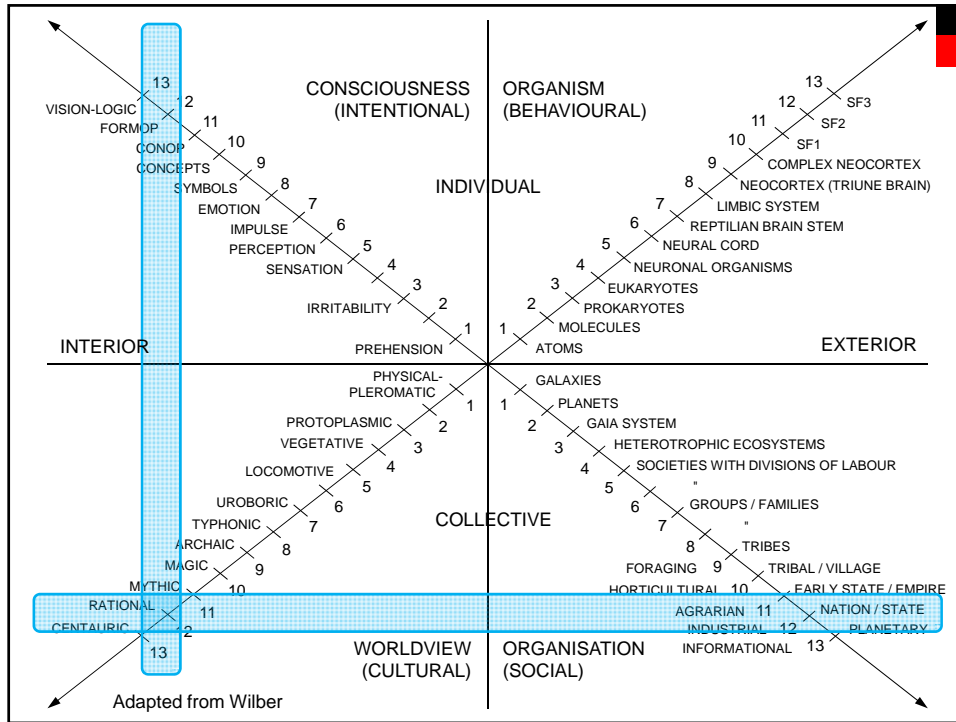
The Wilber Integral Model, in brief:

- hugely syncretic integrative synthesis of the work of hundreds of researchers, Eastern and Western, ancient and contemporary, in the sciences, the humanities and esoteric & spiritual traditions
- seeks after broad-brush-stroke “orienting generalisations”
 - *not* precise law-like statements
- has gone through several phases (5 so far) since 1977
- is very complicated and immensely subtle
 - takes a fair while to “grok” this model
- This is a *very simplified* exposition of just one aspect of one part of the full model ...







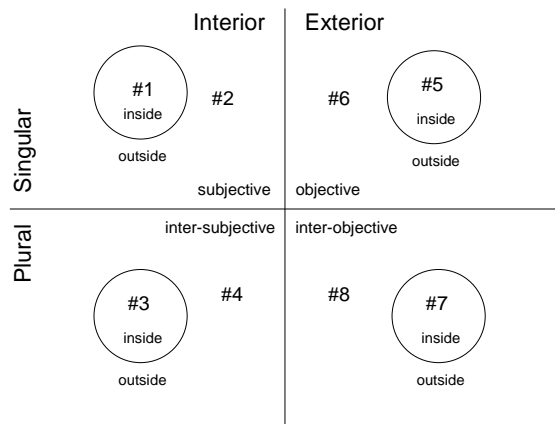


Complexity + Consciousness

Swinburne

Multiple Methods – 8 generic classes of methodology

- #1 phenomenology
- #2 structuralism
- #3 hermeneutics
- #4 ethnomethodology
- #5 autopoiesis
- #6 empiricism
- #7 social autopoiesis
- #8 systems theory



Complexity + Consciousness

Swinburne

Utility of the model

- Is a model of Big History: complexity + consciousness
- Broad “orienting generalisations” wrt past evolution
- Hypothesises correlations between external material structural complexity & internally-experienced consciousness
- A useful framework for further exploration of hypotheses
- Allows for consideration of cross-paradigmatic multi-method research agendas across several scales & at appropriate complexity levels
- When considered with respect to UL quadrant, sketches contours regarding potential future developments in individual & thence collective consciousness, and the social structures that might follow from this...
 - Might be a useful first-approx model for *future* Big History?
 - You never know your luck in the hypothesising game! ☺

23

Complexity + Consciousness

Swinburne

References

- Jantsch E. The self-organizing universe: Scientific and human implications of the emerging paradigm of evolution. New York: Pergamon Press; 1980.
- Jantsch E, editor. The evolutionary vision: Toward a unifying paradigm of physical, biological and sociocultural evolution. Boulder, CO, USA: Westview Press; 1981.
- Jantsch E, Waddington CH, editors. Evolution and consciousness: Human systems in transition. Reading, MA, USA: Addison-Wesley; 1976.
- Wilber K. The collected works of Ken Wilber. Boston: Shambhala Pubs.; 1999-2000. vols 1-4 published 1999; vols 5-8 published 2000.
- Wilber K. Integral spirituality: A startling new role for religion in the modern and postmodern world. Boston: Shambhala Pubs; 2006.
- Wilber K. The integral vision: A very short introduction to the revolutionary Integral approach to life, God, the universe, and everything. Boston: Shambhala Pubs; 2007.

24