

Theoretical Models

Theory vs. Experiment

**“It is theory which decides
what we can observe.”**

– Albert Einstein

**“Would you measure by your rules
something that is not governed by
them? Forget your own guidelines;
seek first for the appropriate rules.”**

– Richard Wagner

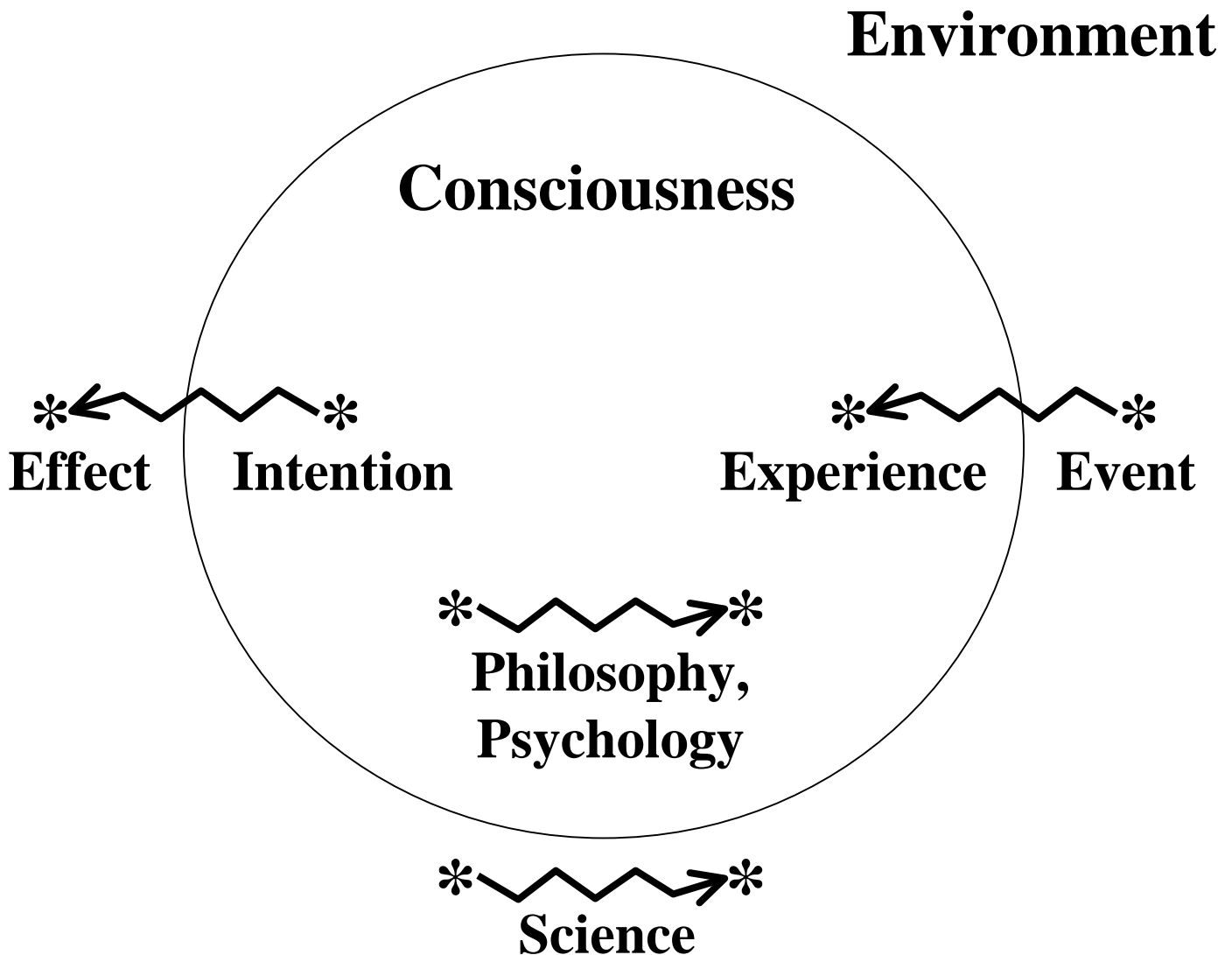
**“Theory like mist on eyeglasses.
Obscure facts.”**

– Charlie Chan

Quantum Mechanical Model: Ingredients

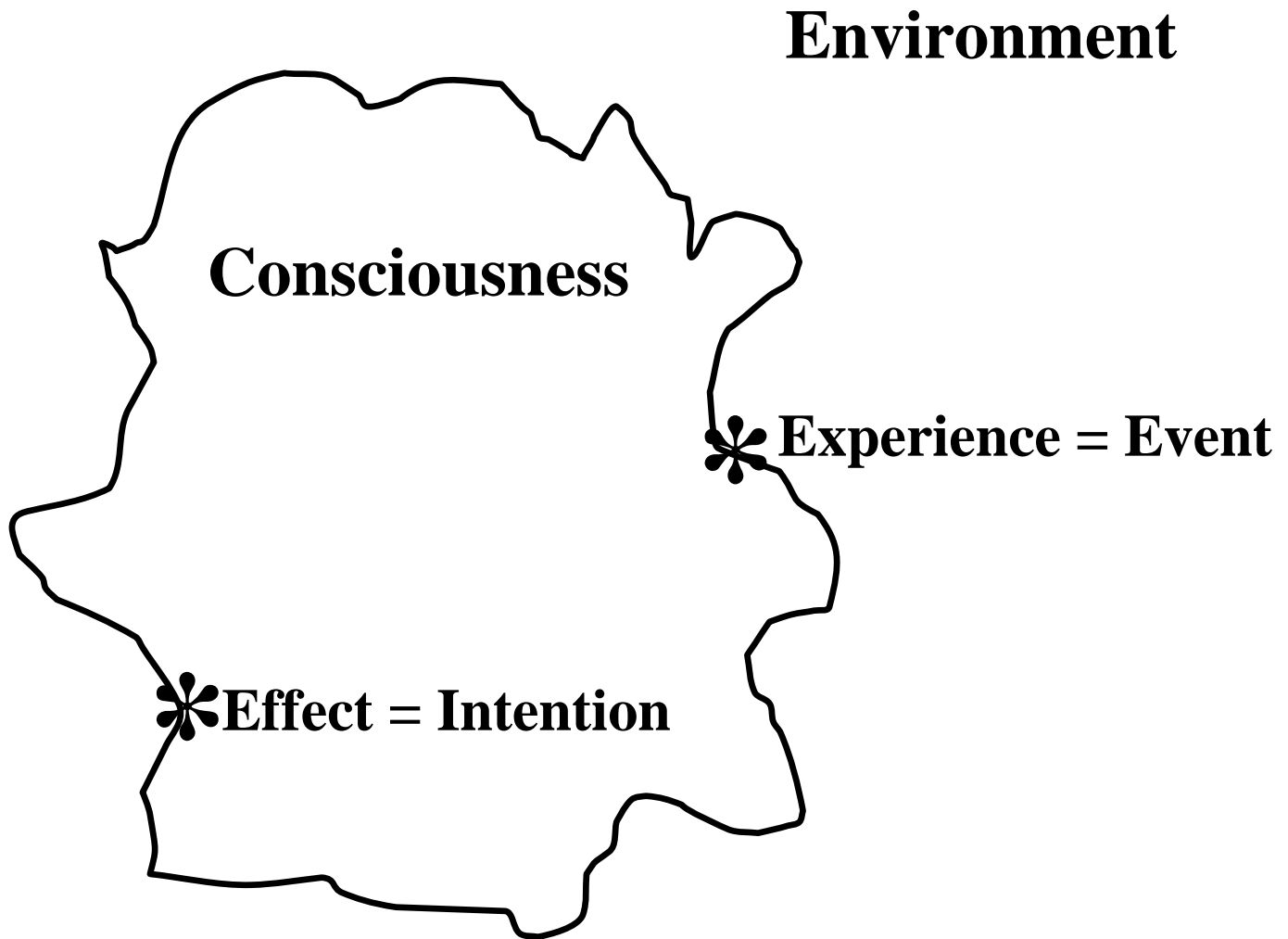
- Geometry of Reality
- Wave Mechanics of Consciousness
- Quantum Mechanics of
Consciousness

Geometry of Reality: “Particulate” Model



- Consciousness and Environment are ontologically defined and sharply demarcated.
- Events *cause* experience; intentions *cause* effects.
- If all processes are known, event / experience or intention / effect are “normal”; if not, anomalous.
- Model genre: particulate mechanics.

Geometry of Reality: “Interpenetration” Model



- Consciousness and Environment are only defined *epistemologically*; they are ontologically indistinguishable.
- Experience / event and intention / effect are only established by the mutual interpenetration of consciousness and environment.
- Model genre: wave mechanics.

Benefits of Wave Mechanical Consciousness

- Access to all \vec{r} and t
 - Diffraction
 - Refraction
 - Tunneling
- } Access
forbidden
to particulate
consciousness
- Self-resonant Systems (Eigenfunctions)
 - Superposition
 - Interference
 - Resonance
- } Bonded
behavior
- Non-linear behavior

Wave Mechanics of Consciousness: History of Wave / Particle Dualities

- **Primitive experience**
- **Greek science**
- **Light:**
 - Corpuscular models
 - Empirical wave models
 - Electromagnetic wave theory
 - Photon theory
- **Matter:**
 - Classical particles
 - de Broglie waves
 - Schrödinger waves
- **Complementarity:**
 - Bohr / Heisenberg
- **Consciousness ?**
 - Author of all above
 - Unification of all above

Wave Mechanics of Consciousness: Hierarchy of Abstractions

- **Strings, membranes, water, etc.**
 - Tangible oscillations
 - Tangible media
- **Sound, thermal waves, etc.**
 - Indirectly observable oscillations
 - Background media specified
- **Electromagnetic**
 - Oscillations of field properties
(what is a “field”?)
 - Abstract media
- **Matter**
 - Oscillations of probability of observation
(knowledge?)
 - Media ?
- **Consciousness**
 - Oscillations of probability of *experience* ?
 - Media ?

Quantum Mechanics of Consciousness: Why Quantum Mechanics Formalism?

- Wave / particle duality
- Copenhagen extended
- Empirical quantization corresponds to stratification of experience
- Metaphorical generalization of Quantum mechanical principles
- Response to Anomalies

Quantum Mechanics of Consciousness: What is the Consciousness Metric?

Consciousness “distance”

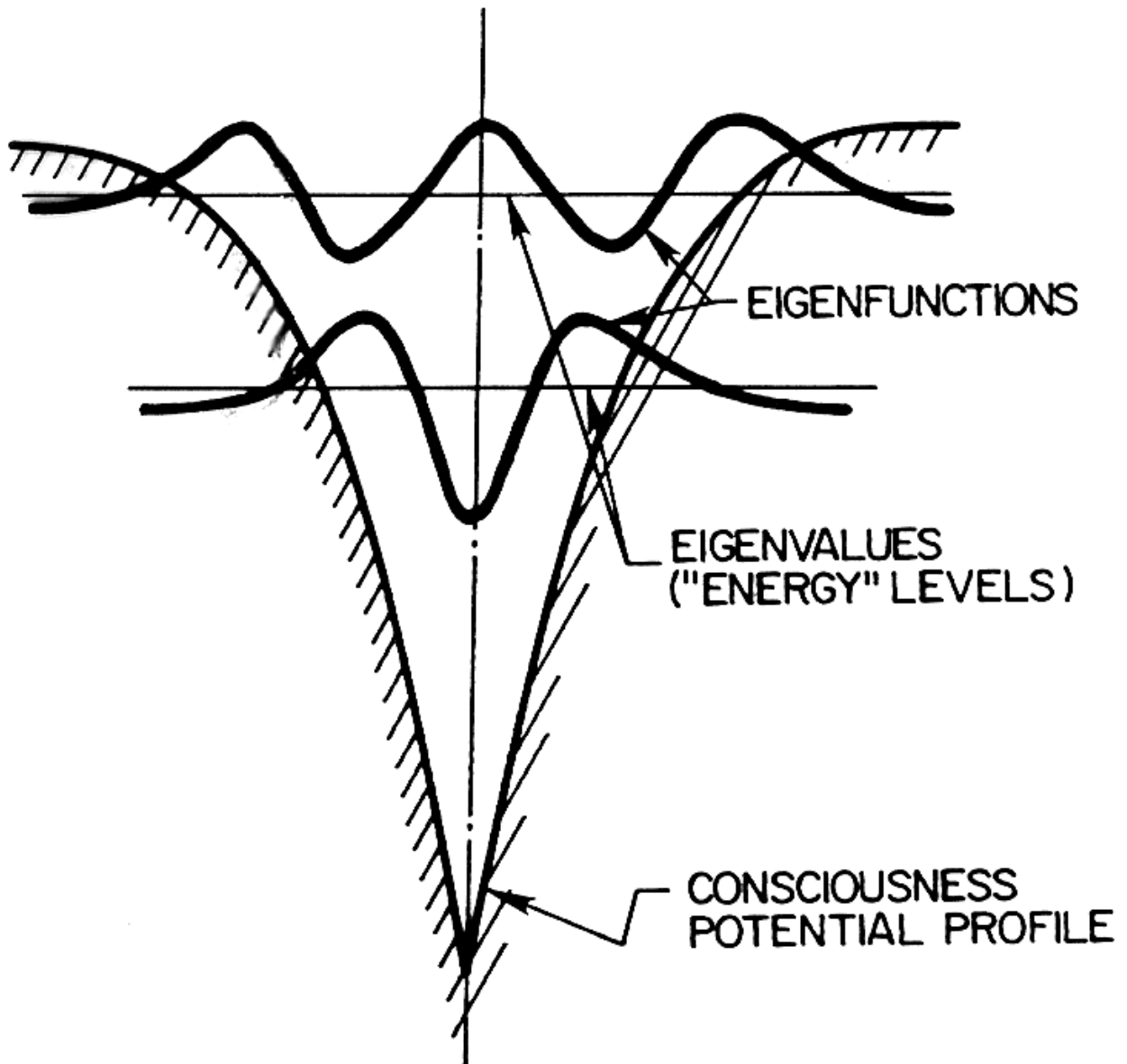
Consciousness “time”

Consciousness “mass”

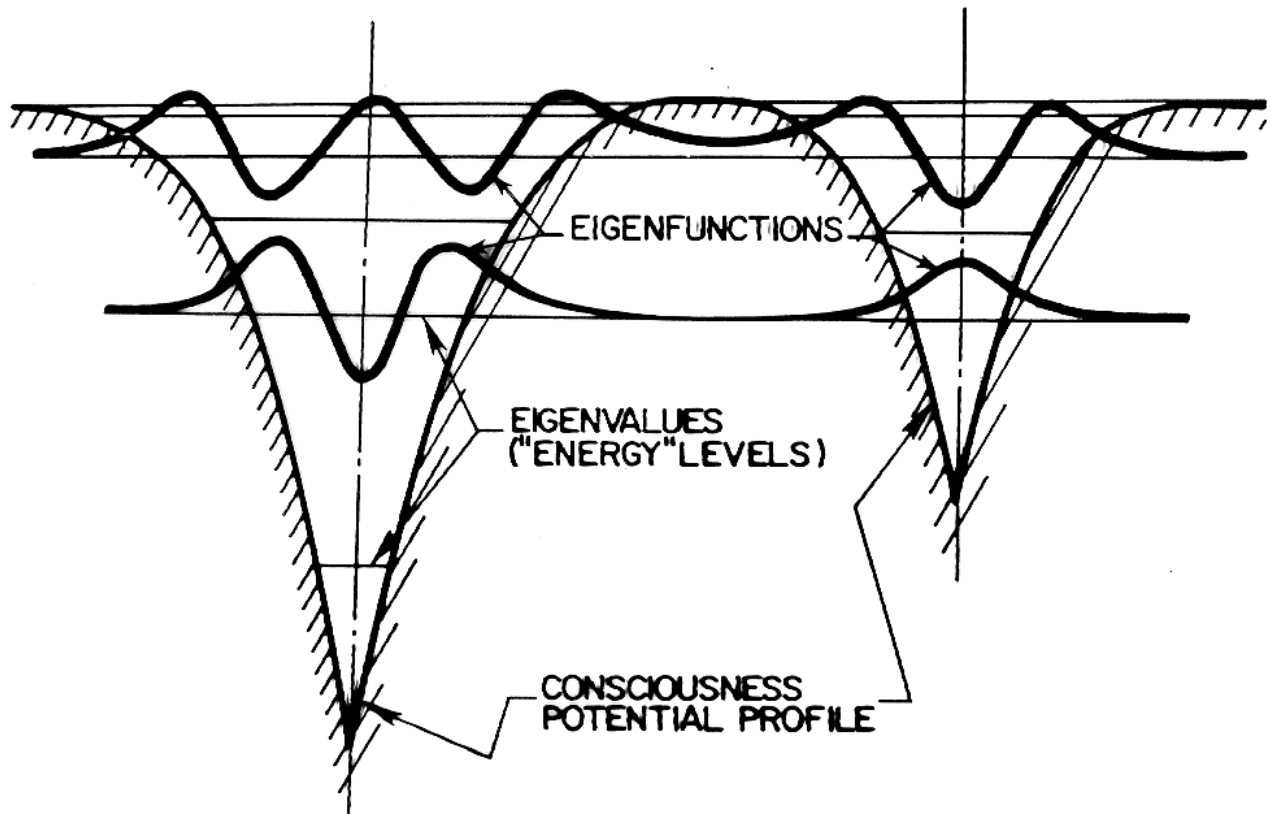
Consciousness “charge”

- Impressionistic generalizations of physical quantities (latter are special cases)
- Intrinsic sensibilities of consciousness
- Clues from linguistics
- How to measure / quantify?
- How to construct derived quantities?
- Collective properties?

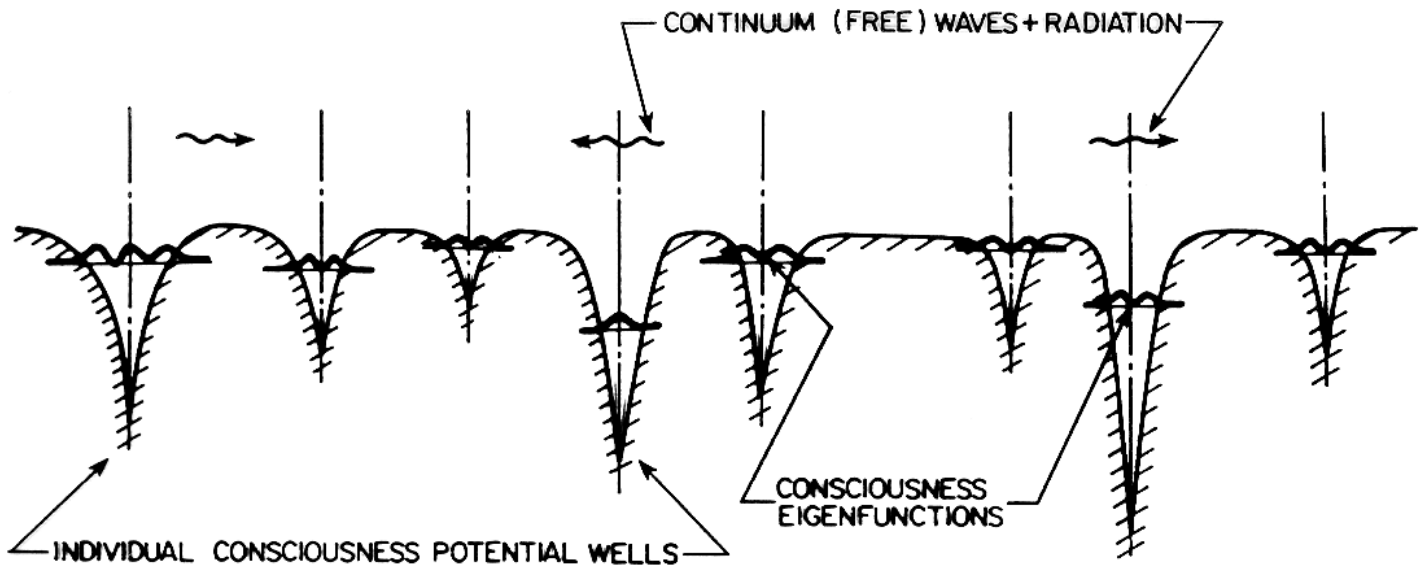
Consciousness States in Environmental Potential Well



Personal Communication between Adjacent Personalities via Quantum Mechanical Tunneling



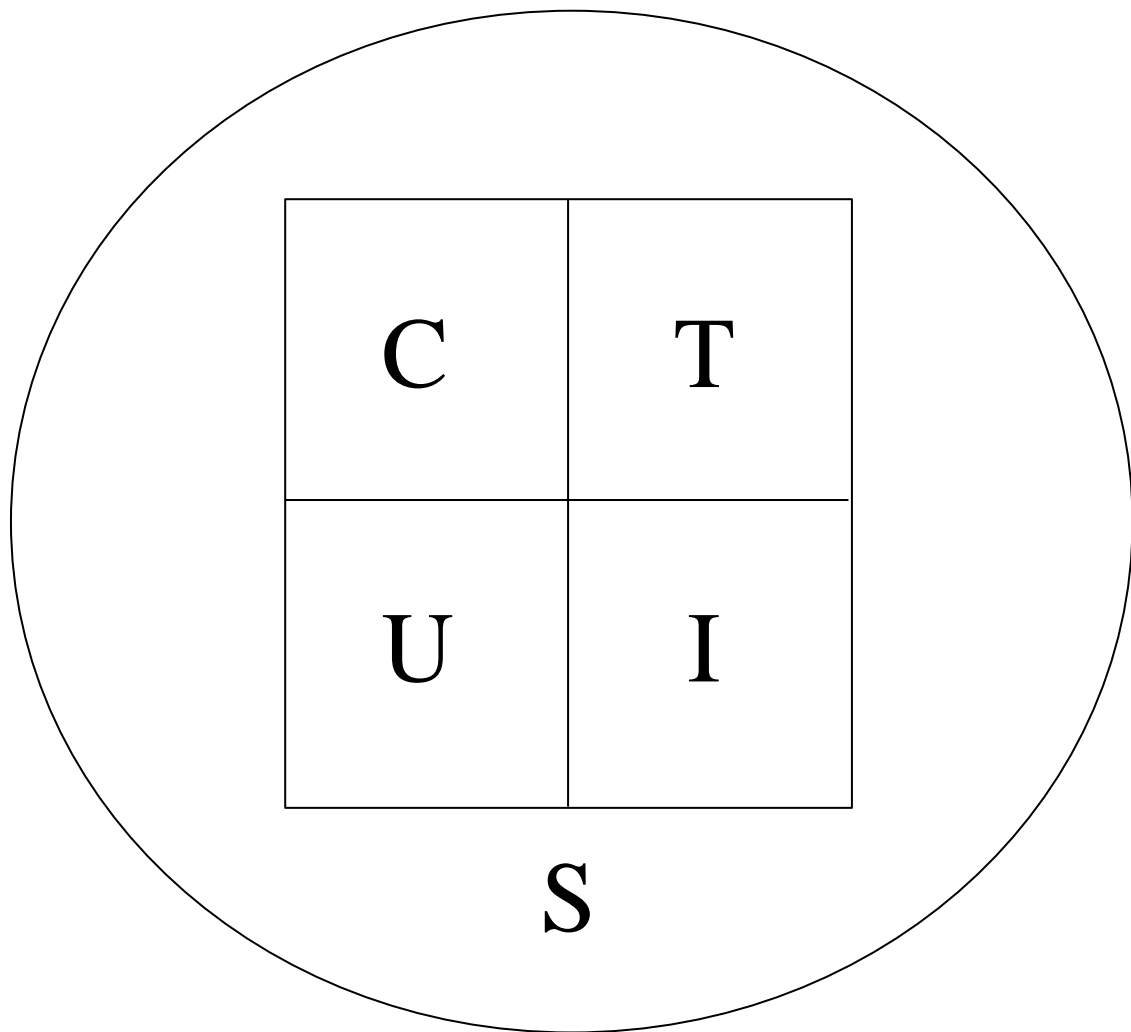
Quantum Mechanical Model of a Community of Interacting Personalities



Quantum Mechanics of Consciousness: Criticisms

- **“Only a metaphor”**
 - So is science
 - So is conceptualization
- **“Not quantitative”**
 - *cf.* Greek science
- **“Sacrilege to Quantum Mechanics”**
 - Perhaps Quantum Mechanics is a special application of “Consciousness Mechanics”
- **“Intrinsically participatory”**
 - Yes! Consciousness wants in

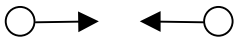
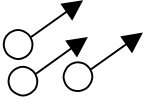

Modular Model of Mind/Matter Manifestations (M⁵)



C	T
U	I

Module (T)

Tangible Matter (Substance): Natural Environment; Physical World

<i>Function:</i>	Establish habitat; preserve and evolve itself.
<i>Composition:</i>	Materials and structures; elements and systems thereof, e.g., atoms, molecules, gases, liquids, crystals, etc.
<i>Mechanics:</i>	Physical and biological Sciences
<i>Energies:</i>	Kinetic, gravitational, electromagnetic, chemical, and nuclear
<i>Information/Communication:</i>	Contact interactions 
	Transports 
	Radiations 
<i>Metric:</i>	Distance, time, mass, charge
<i>Academic Disciplines:</i>	Physics, chemistry, geology, astronomy, biology, engineering

C	T
U	I

Module C

Conscious Mind

Functions:	Perception	(awareness)	←
	Cognition	(contemplation)	↻
	Memory	(recollection)	↓
	Volition	(intention)	↑
	Emotion	(subjectivity)	↻
	Activation	(behavior)	→

1. Materialist (Physicalist) View:

Composition: Tangible brain materials and structures (neurons, synapses, microtubules, etc.)

Mechanics & Energies: Brain processes (chemistry, e & m, biology); all experiences are epiphenomena of brain.

Information/Communication: Biophysiological processes

Metrics: Biophysical measurability and behavioral indices

Academic Disciplines: Psychology, biology, psychophysiology, neurophysiology, psychiatry, ...

2. Extensive (mind ≠ brain) View

Functions, structure, and mechanics far more subtle and elusive; Scholarly approaches and categorizations not well established.

C	T
U	I

Module (U)

Unconscious
Subconscious
Preconscious } Mind

Functions: Storage (deep memory)
Protection (from trauma and other experiential overloads)
Autonomic functions
Instinct (?)
Inspiration (?)
Extraordinary abilities (?)
Undifferentiated { basis
source } for (C)

Composition: Same brain/mind dilemma as (C)

Mechanics & Energies: ? (cf. Janet, Freud, Jung, Adler, Ellenberger, *et al.*)

*Communication/
Information:* ?

Metric: ?

Distinctions: “procedural;” “dynamic;” pre-conscious;”
“permissive;” “group consciousness;”
 (“synchronicity”) and other extraordinary
abilities

Academic Disciplines: Psychology, psychiatry, philosophy;
(but also, art, music, religion, mystical
practices)

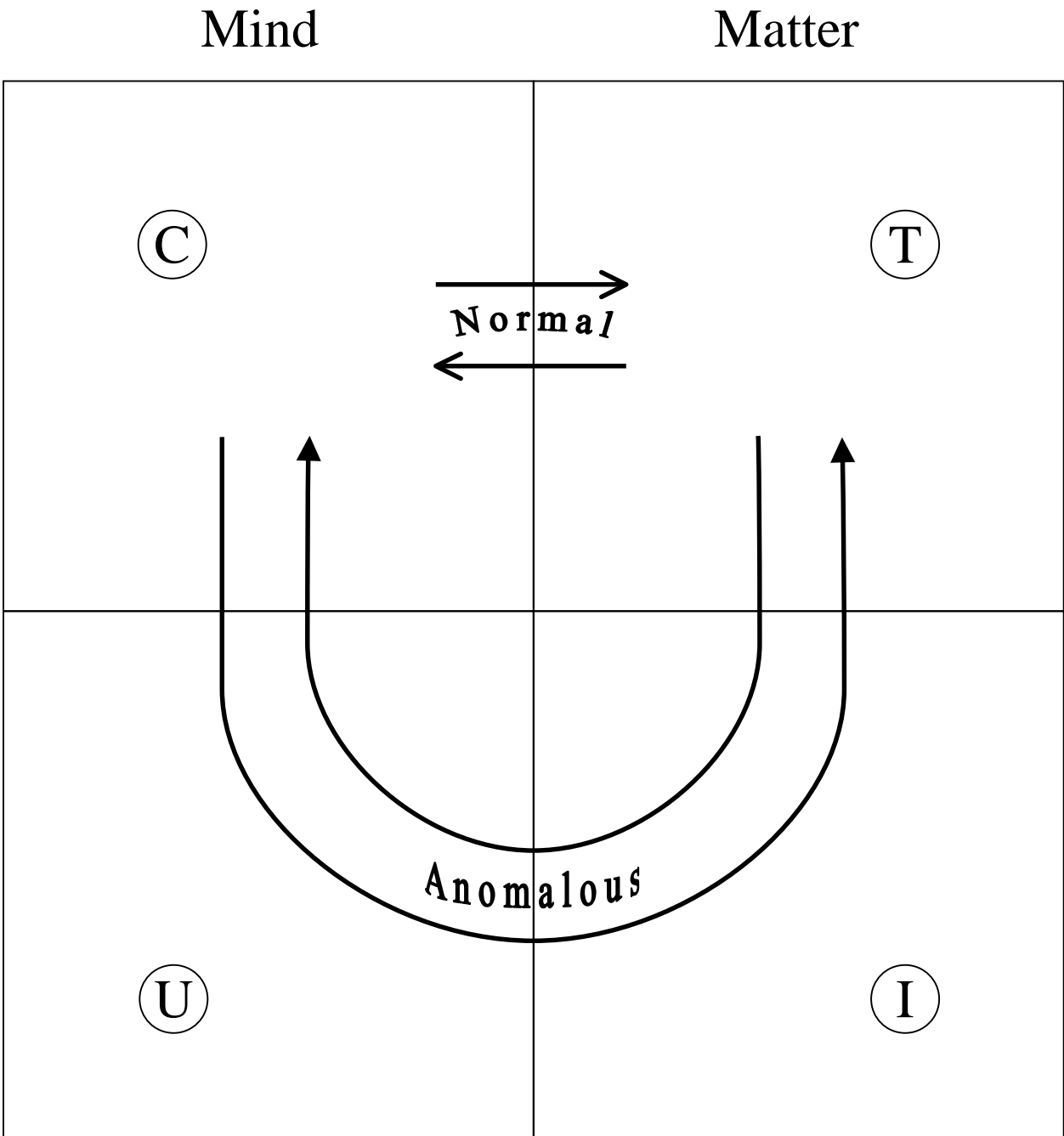
C	T
U	I

Module I

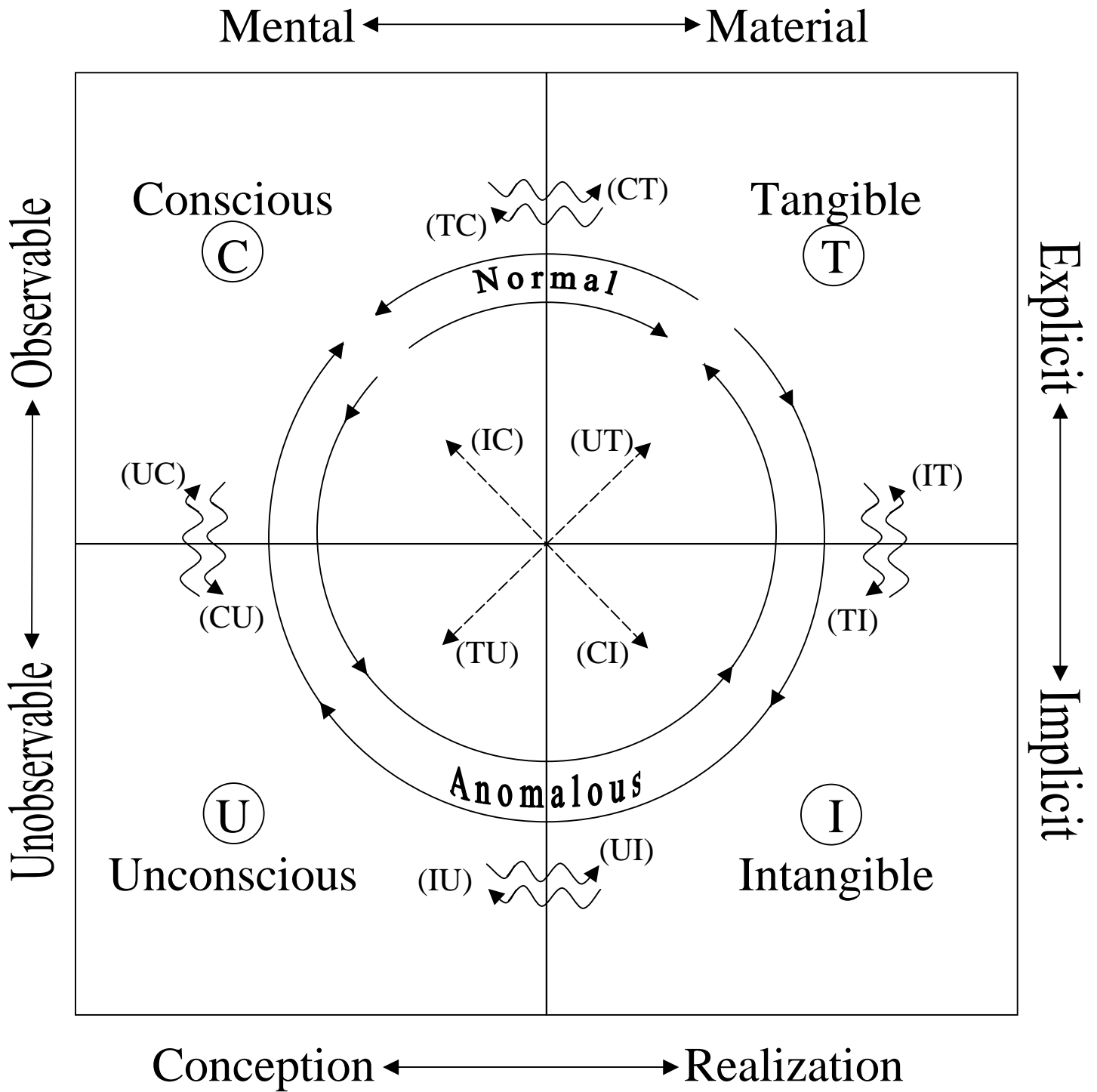
Intangible Physical Processes and Structures

<i>Function:</i>	Undifferentiated { basis } for (T)	source }
<i>Composition:</i>	Undiscriminated { substance }	information }
		energy }
<i>Mechanics & Energies:</i>	Abstract theoretical physics and mathematics, <i>cf.</i> :	
	Quantum mechanics	Entanglement
	Complex/chaotic systems	String theory
	Ontic order	EPR systems
	Implicate Order	Vacuum physics
	(also <i>cf.</i> James: ASM/BBC; and other philosophers)	
<i>Information/Communication:</i>	Internal: Automatic and implicit; distance and time merge; <i>mind and matter merge</i>	
	External: With (T) : current topic in physical science	
	With (U) : most essential problem of all	
<i>Metrics:</i>	Depend on theory	
<i>Academic Disciplines:</i>	Theoretical physics, mathematics, philosophy (but also religion, mystical practices, healing)	

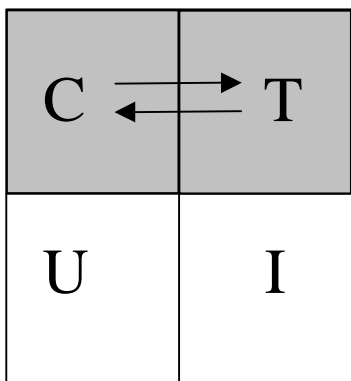
Modular Model of Mind/Matter Manifestations



MODULAR MODEL OF MIND/MATTER MANIFESTATIONS (M⁵)

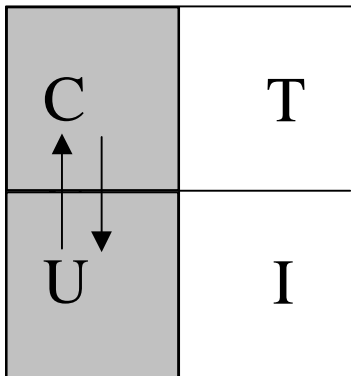


Interfaces (Consciousness Filters)



\overrightarrow{TC} : Sensation/Perception
Tactile, visual, auditory,
olfactory, taste, thermal

\overrightarrow{CT} : Manipulation/Activation



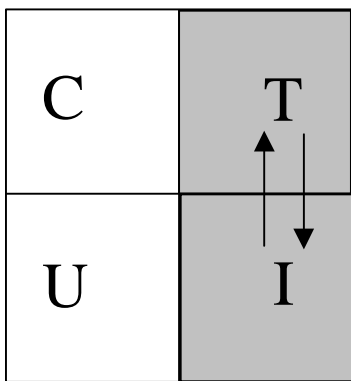
\overrightarrow{CU} : Learning; habitation; trauma;
hypnotic suggestion; meditation;
distraction; relaxation; ...

\overrightarrow{UC} : Dreams; metaphors; symbols;
hypnotic regression/recall; instinct;
intuition; inspiration; creativity

Interfaces

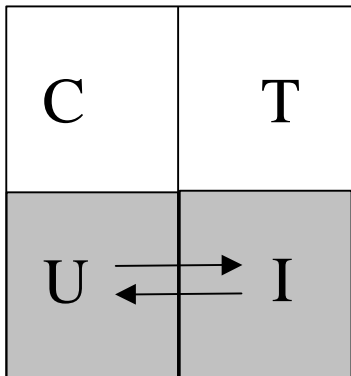
(Consciousness Filters)

(continued)



$\overrightarrow{\text{TI}}$: Models and theories; abstractions; metaphors; waves; fields; probabilities; quantum mechanical functions.

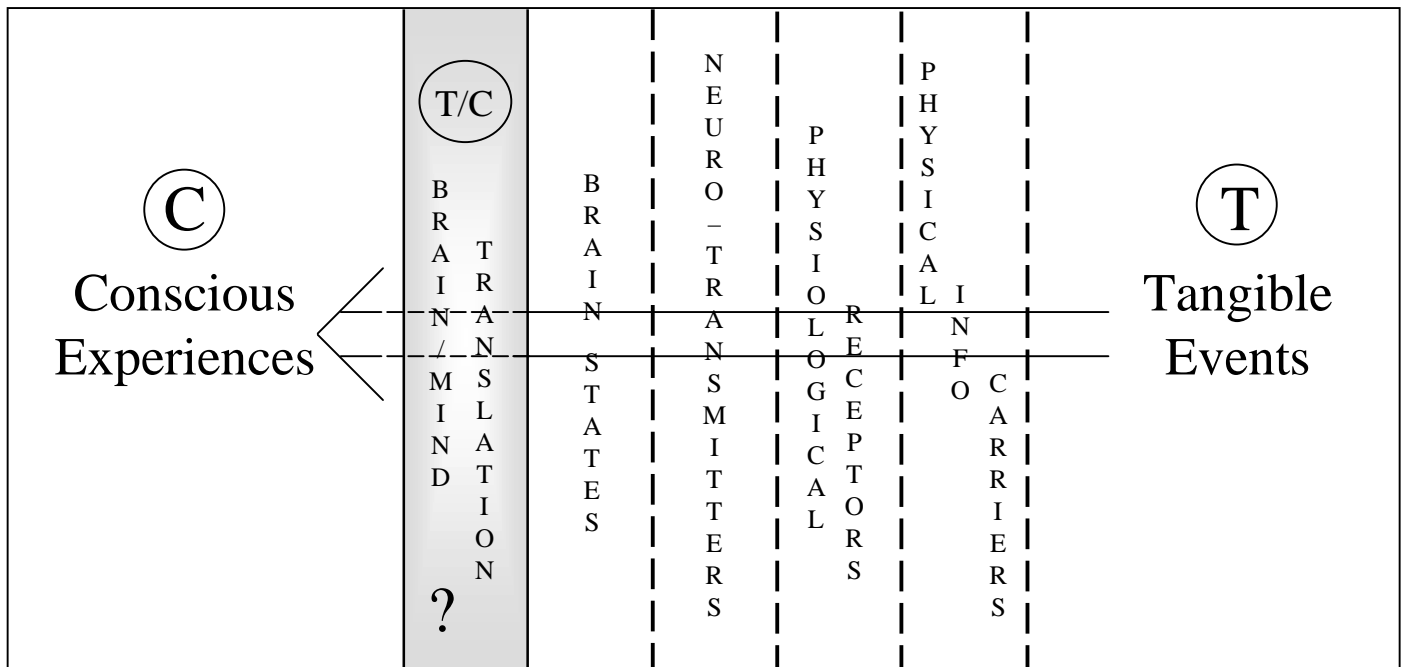
$\overrightarrow{\text{IT}}$: Observation; experience; collapse of ? ; context; meaning



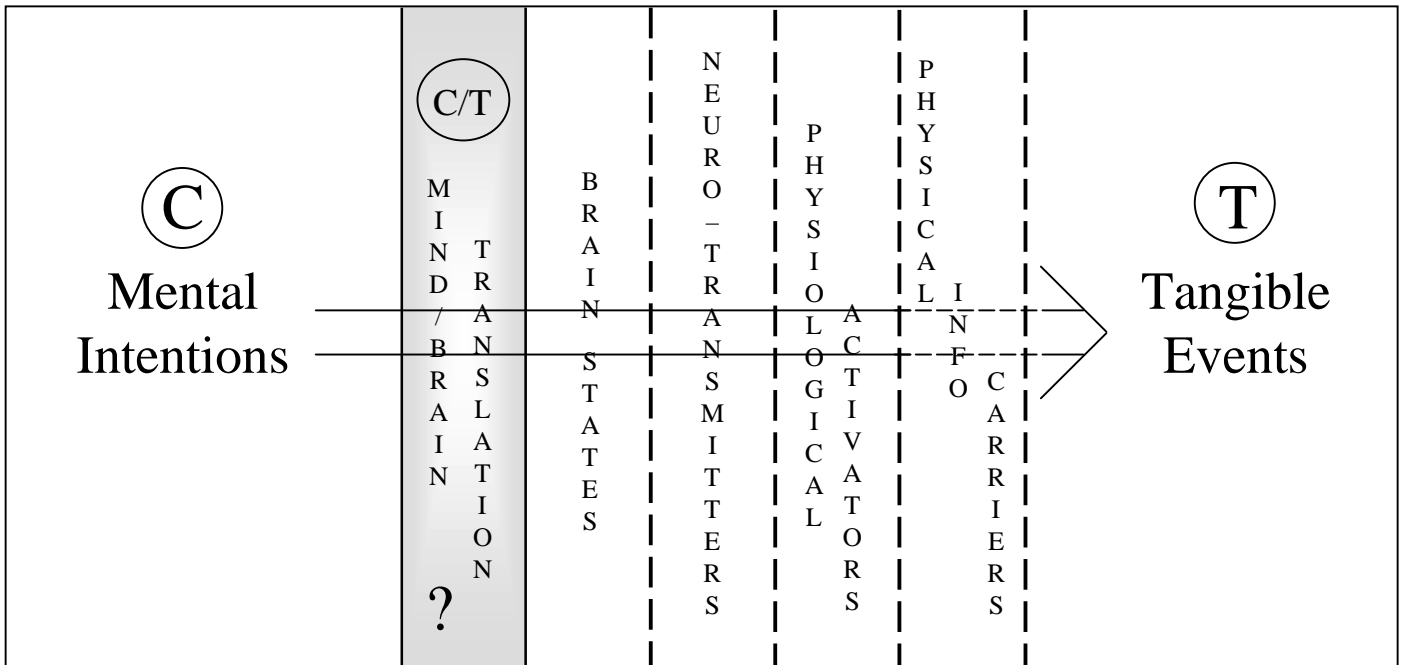
$\overrightarrow{\text{UI}}$: Prayer; magic/alchemy; need

$\overrightarrow{\text{IU}}$: Instinct; inspiration; intuition; ritual programming; genetic response

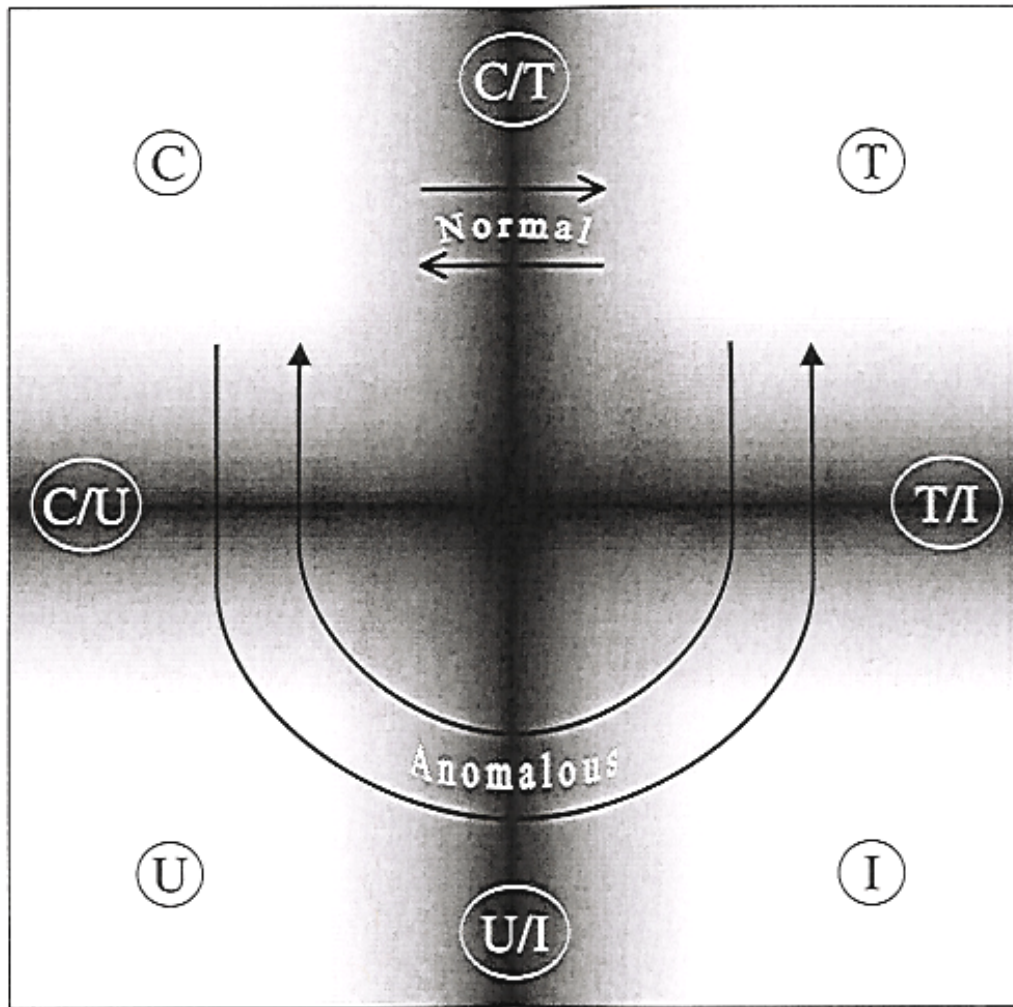
Interactions of Conscious Mind with Tangible Matter: Acquisition of Information from Environment



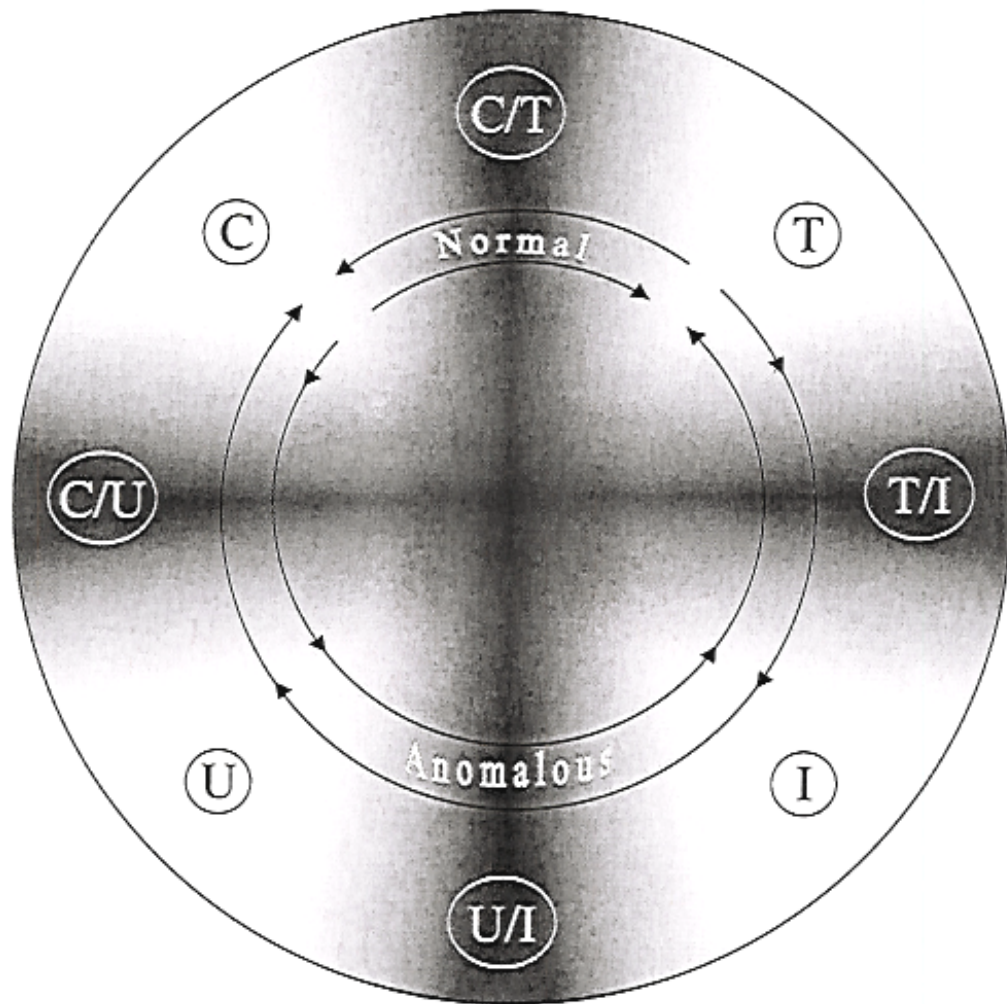
Interactions of Conscious Mind with Tangible Matter: Insertion of Information into Environment



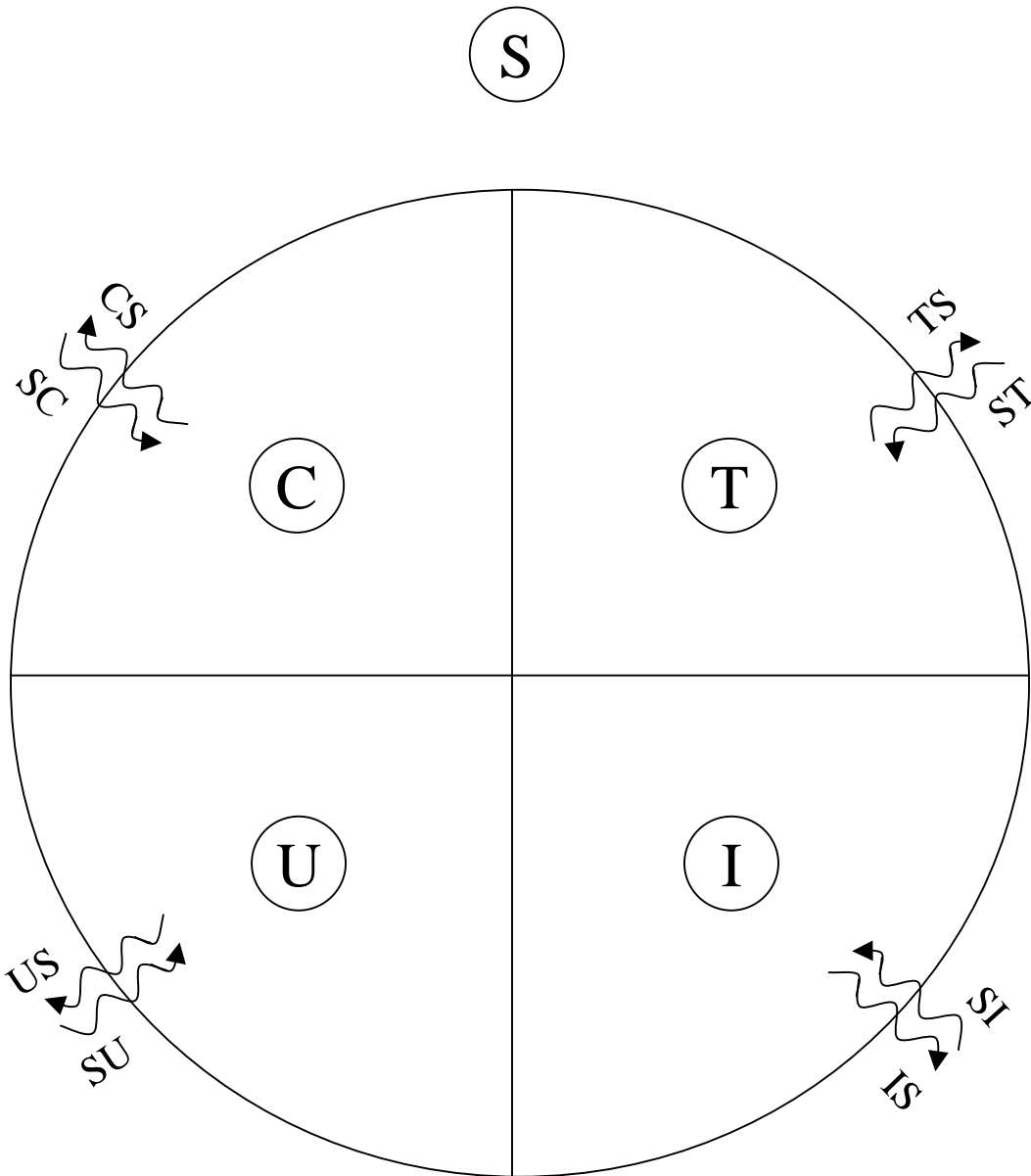
Modular Structure with Fuzzy Interfaces: Rectilinear Representation

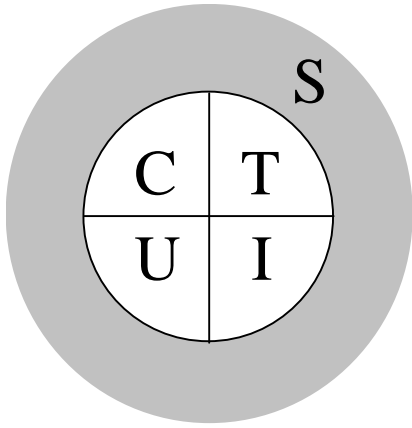


Modular Structure with Fuzzy Interfaces: Circular Representation



Fifth Module: Supreme Source (?)





Module (S)

Supreme Source

(Explicit or Implicit? Primary or Derivative?)

<i>Function:</i>	Creation; direction; celebration; Source of power, wisdom, love
<i>Composition:</i>	Σ of all others; or, ineffable
<i>Mechanics & Energy:</i>	Likewise
<i>Information / Communication:</i>	Prayer Divine revelation/intervention Evolutionary Coding Cosmic Order Holistic resonance
<i>Metric:</i>	Ineffable; unbounded
<i>Academic Disciplines:</i>	Theology/religion, philosophy; mysticism (but also, art, music, healing)

Mind / Matter Correlations

