Mind-Thinking-Creativity

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Crisis of Thinking

- What looks like a series of disparate crises is really one crisis that manifests itself in various ways—one all-encompassing crisis that arises from inner contradictions that are inherent in modern culture.

  William Byers, *The Blind Spot, Science & The Crisis of Uncertainty*

Our problems are the result of the way we think.

Faculties of Mind

- Observation
- Memory
- Relationship
- Discrimination
- Comparison
- Categorization
- Measurement
- Organization
- Symbol formation
- Calculation
- Visualization
- Judgment
- Definition
- Inference
- Deduction
- Imagination

What is thinking? 1 + 1 = ?

- Relating two or more sensations, memories, objects, people, actions, events, feelings, facts, thoughts, ideas, values

Lightning + Thunder

- Relation of facts generates **THOUGHT**

Typewriter + TV = PC

- Relation of thoughts generates **IDEAS**

Government + Elections = Democracy

- Relation of ideas generates **CONCEPTS** and **Conceptual Systems**

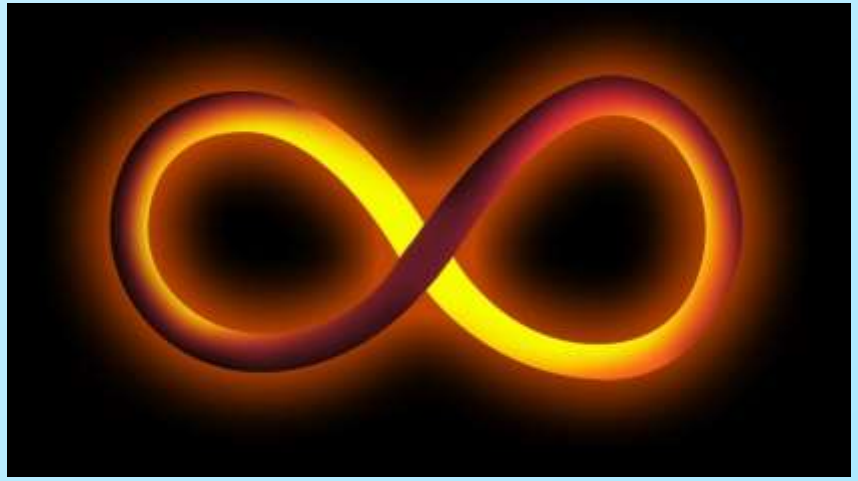
$$E = MC^2$$

Types of thinking

- Symbolic – sounds, signs and images -- Language
- Correlation -- create relationships
- Mathematical – abstract symbolic thinking
- Causation – infer cause and effect
- Logic – rule based thinking – applying physical logic to ideas

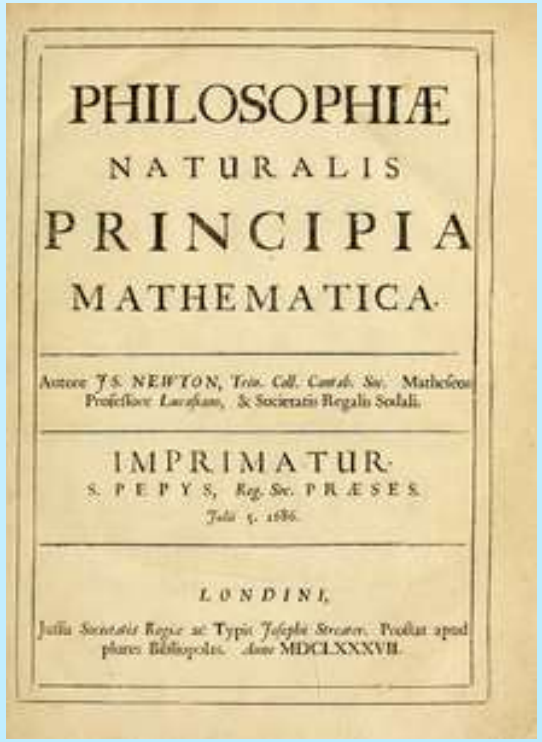
Symbol formation

- Symbols = Ideas + Power
- Images
- Signs
- Insignias
- Numbers
- Alphabet



Concept formation

- Abstract concepts
- Logical reasoning
- Mathematics
- Conceptual systems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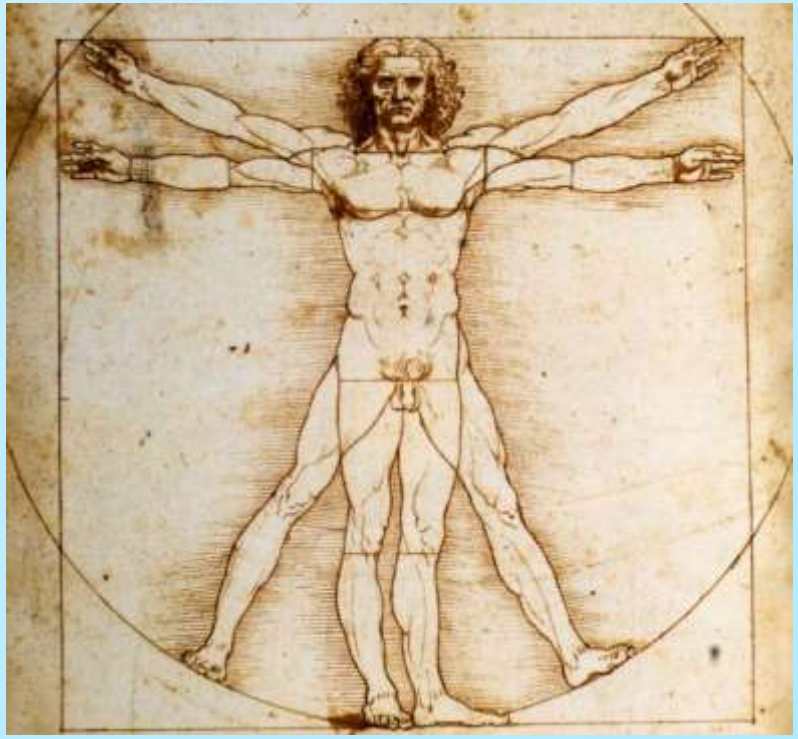


Analytic Thinking

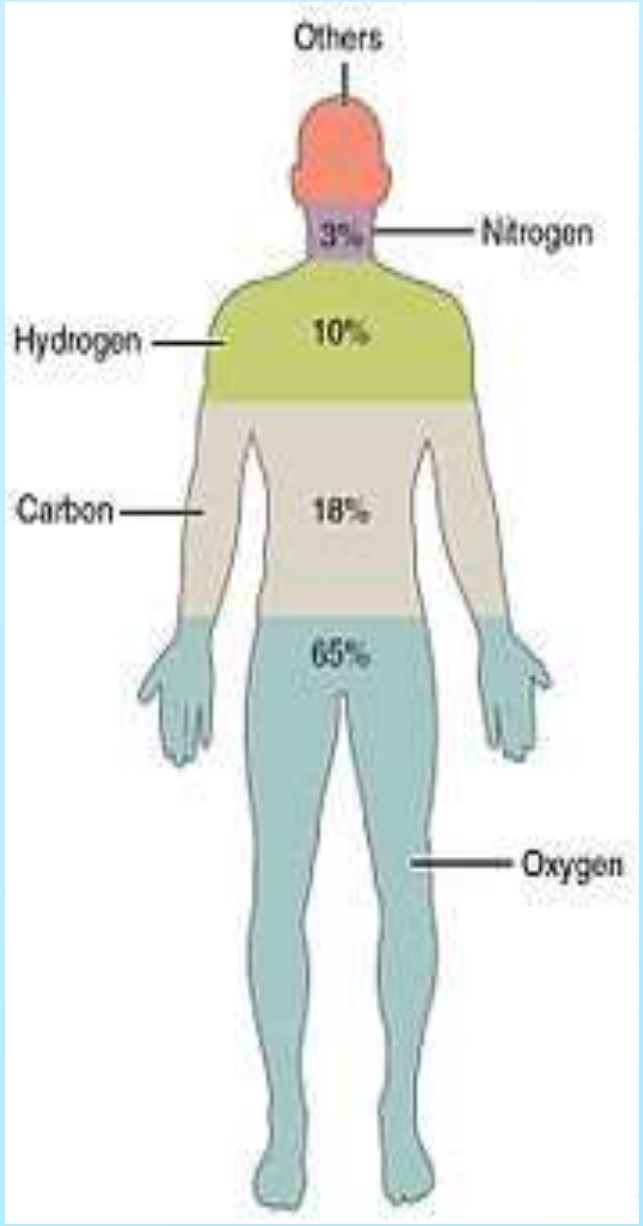
- Divides reality into smaller parts and studies each as the whole
- Categorizes everything
- Regards each subject as an independent reality
- Reduces causality to the lowest common denominator

Achievements of Analytic Thinking

- Periodic table of elements
- Standard model of the atom
- Structure of molecules
- Varieties of species
- Genetics of DNA
- Physiological processes
- Computer commands

Limitations of Analytic Thinking

- Reduces complex reality to basic constituents
- Fragments knowledge into 1000 subdisciplines
- Constructs models independent from reality – law of supply and demand
- Suppresses significant differences by statistical analysis



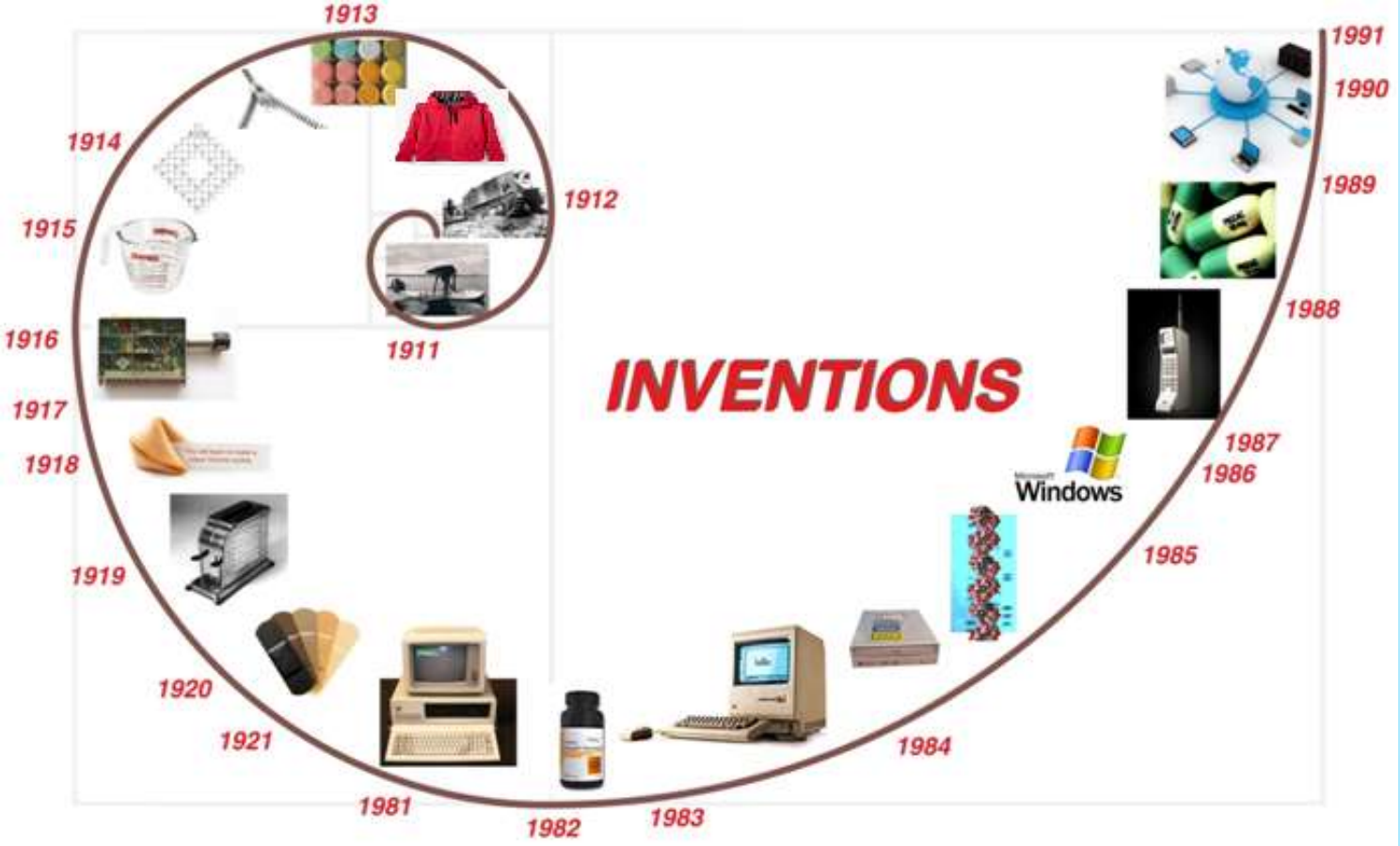
57% H_2O

Synthetic, Systemic, Ecological Thinking

- Focus on the interconnectedness and interdependence of reality
- Recognizes complexity
- Strives to conceptualize the whole

Achievements of Systems Thinking

- Electric network theory
- Mechanical engineering
- Weather forecasting
- Population projections
- Economic modeling
- Internet
- Artificial Intelligence



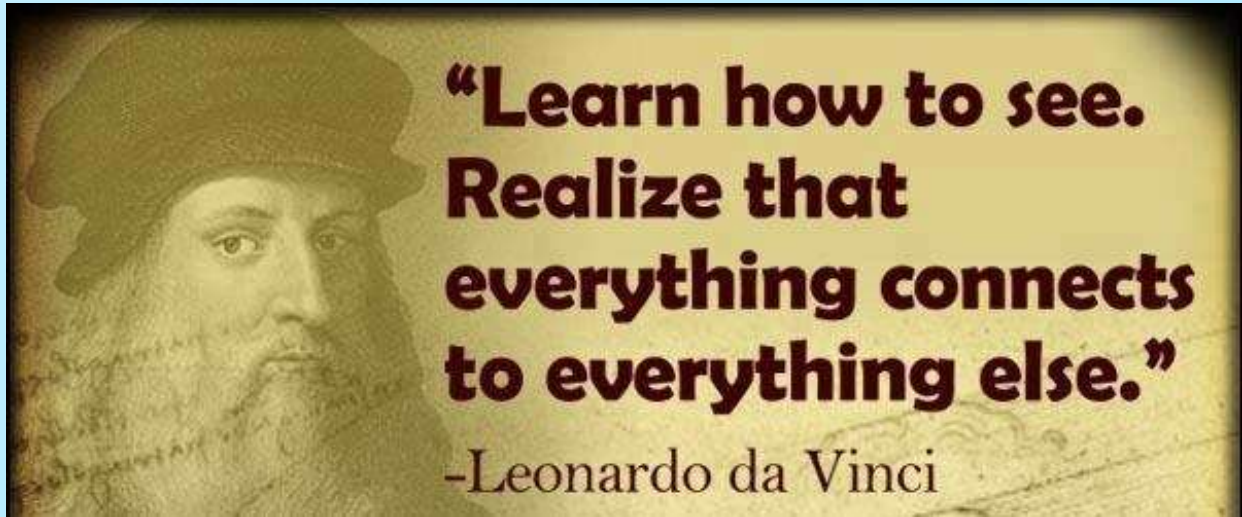
Limitations of systems thinking

- Mechanization of reality
- Reduces human behavior to systems & rules
- Suppresses the subjective dimension of reality
- Suppresses individual differences and uniqueness

Integral, Organic Thinking

- Sees the whole greater than the sum of its parts
- Unifies the objective and subjective dimensions
- Reconciles individuality with collectivity

All knowledge seeks unity



Integral Conceptions

Harmony

Happiness

Health

Personality

Life

Beauty

Wealth

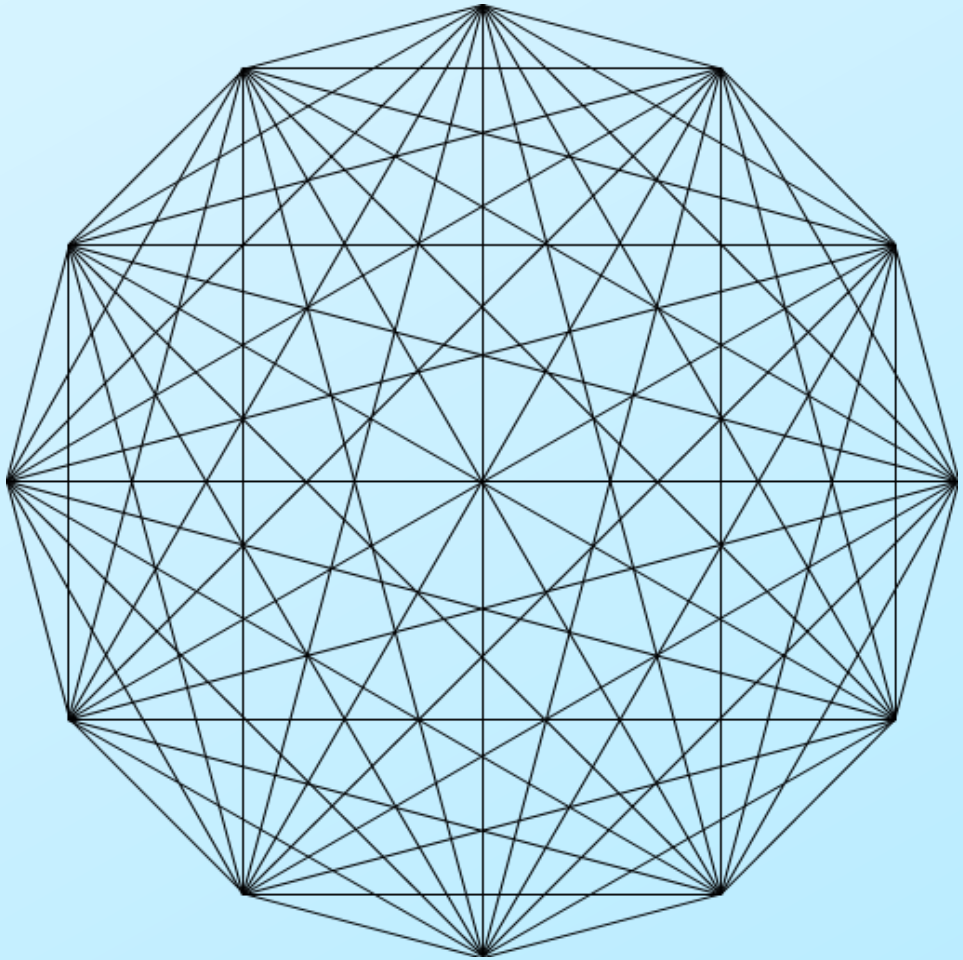
Peace

Mind

Truth

Society

Human Security



All is in each, each is in all

Dualistic, Synthetic & Integrative Thinking

- Dualistic – views reality in terms of contradictions or mutual exclusive opposites – truth vs. truth -- categorization
- Holistic – views reality comprehensively and inclusively
- Integrative – reconciles apparent contradictions as complementary poles of a wider reality – truths completing truths – reveals the underlying transdisciplinary principles

Reconciling Contradictions

“The test of a first-rate intelligence is the ability to hold two opposed ideas in mind at the same time, and still retain the ability to function.”

F. Scott Fitzgerald

Characteristics of Mental Knowing

- Perceives reality indirectly through the senses
- Creates thought-symbols to represent reality
- Proceeds linearly from thought to thought
- Divides reality into smaller parts
- Aggregates the parts to reconstitute the whole
- Constructs concepts based on explicit and implicit premises
- Separates the observer from the object
- Views reality from a single perspective and set of premises

Insight & Intuition

- Perceives hidden relationships in ambiguity and paradox
- Reconciles opposites & contradictions within a larger unity
- Not dependent on thought forms for knowing
- Emerges when thinking mind is silent
- Our self-awareness is knowledge by identity
- Instinct is subconscious intuition. Intuition is superconscient

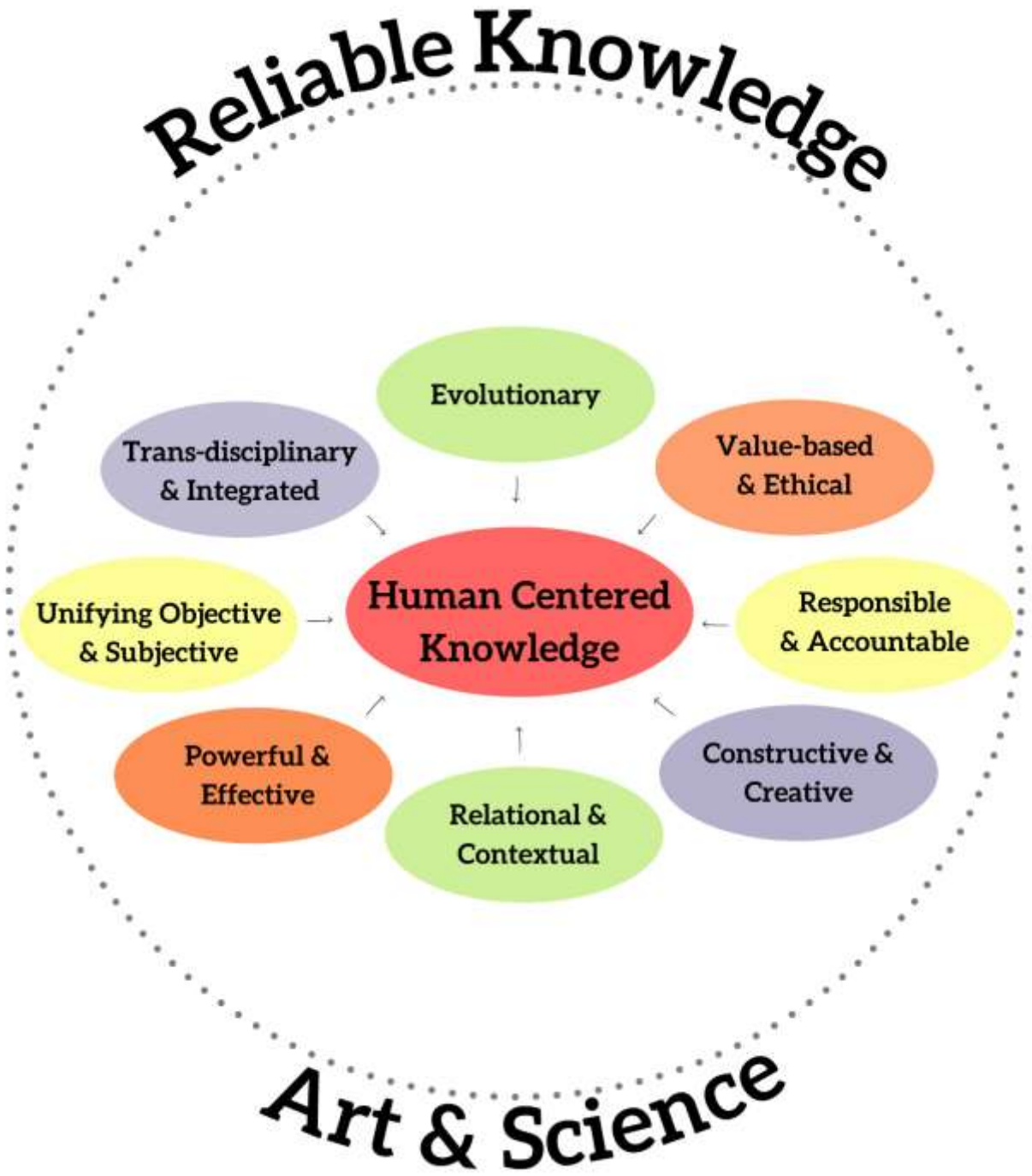
The intuitive mind is a sacred gift and the rational mind is a faithful servant. We have created a society that honors the servant and has forgotten the gift.

Albert Einstein

Creativity in Art & Science

"Science for me is very close to art. Scientific discovery is an irrational act. It's an intuition which turns out to be reality at the end of it--and I see no difference between a scientist developing a marvellous discovery and an artist making a painting."

Carlo Rubbia, Nobel Laureate in Physics, CERN Director


Reliable Knowledge
Evolutionary
Value-based & Ethical
Responsible & Accountable
Constructive & Creative
Relational & Contextual
Powerful & Effective
Unifying Objective & Subjective
Trans-disciplinary & Integrated
Human Centered Knowledge
Art & Science

WAAS
PROGRAMS & PROJECTS

A transdisciplinary, transnational inquiry into the social consequences and policy implications of knowledge –

- Artistic
- Cultural
- Ecological
- Economic
- Educational
- Financial
- Legal
- Political
- Psychological
- Scientific
- Social
- Technological