A World in Transition – Approaching the Evolutionary Eventhorizon

Global Consciousness Project Workshop – June 2002

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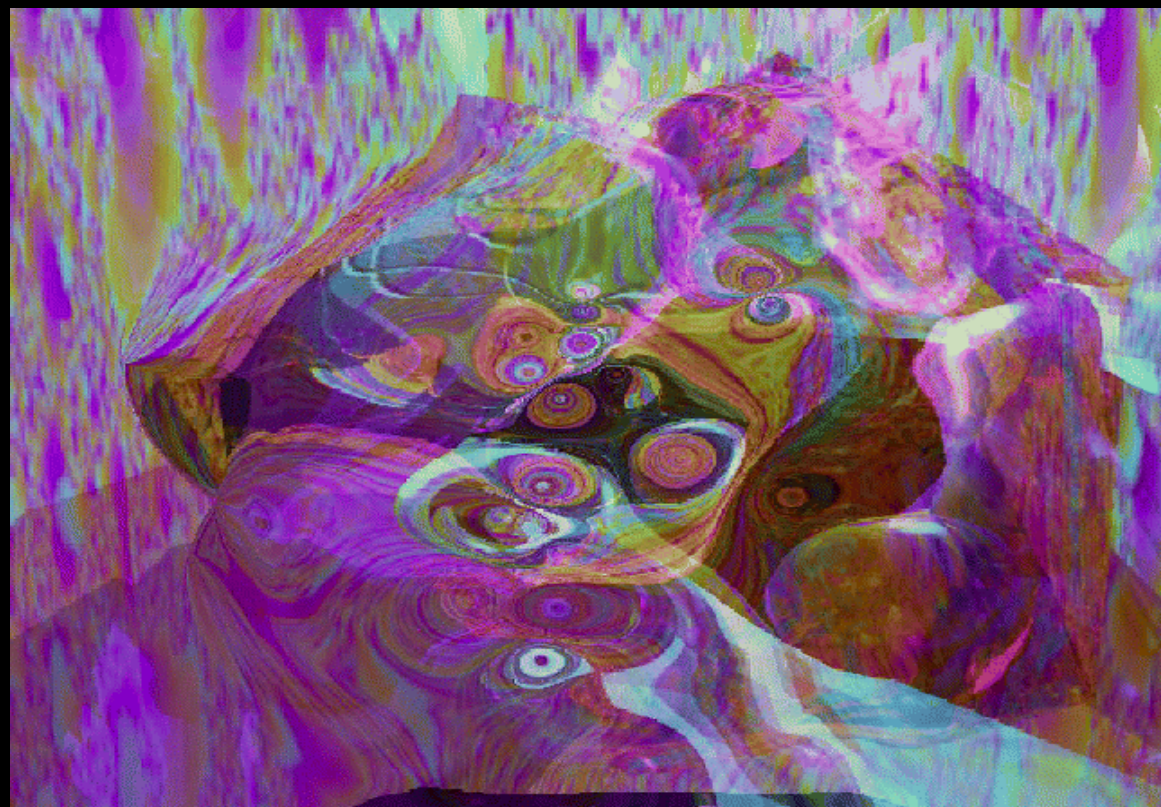
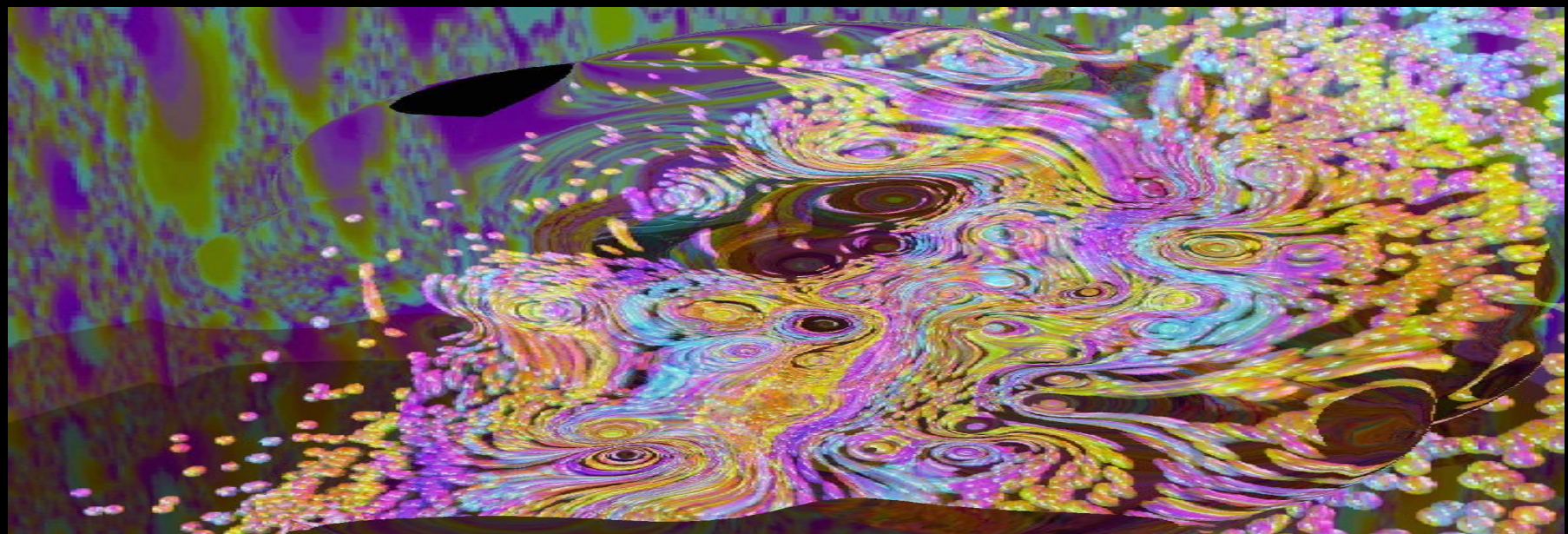
Probing The History of the Future - Evolution Into the New Millennium

- Technology Convergence
- Cultural Morphology
- Economic Drivers
- Belief Systems

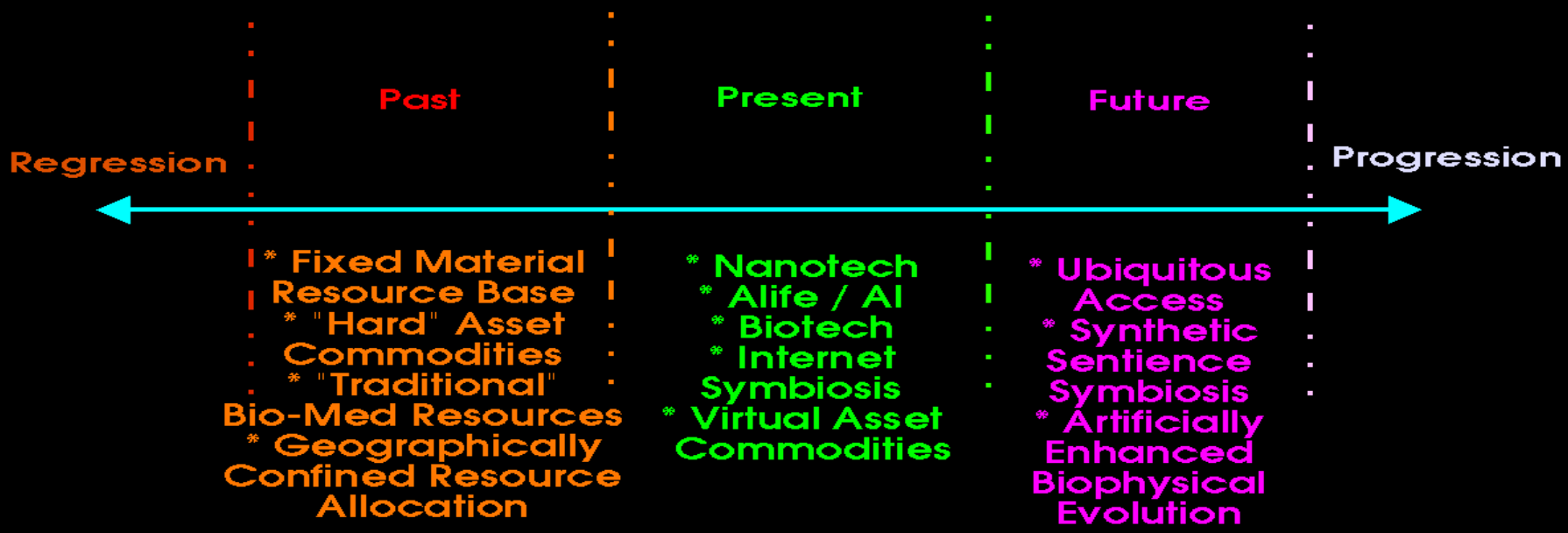


Evolutionary Process Dynamics

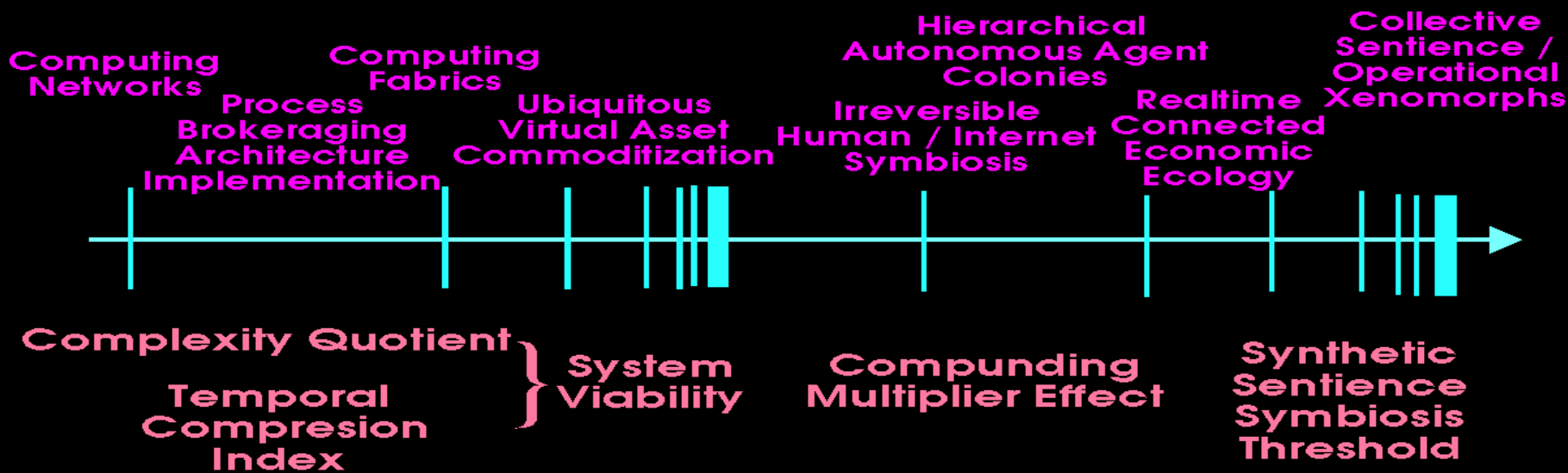
- Evolution tends to be a trauma induced process
- Fractal system model - operates at all scales, from the individual, to the collective, entire systems
- Provided the periodicity and amplitude of trauma cycles do not exceed the system capacity to respond, the system tends to evolve to a more robust form



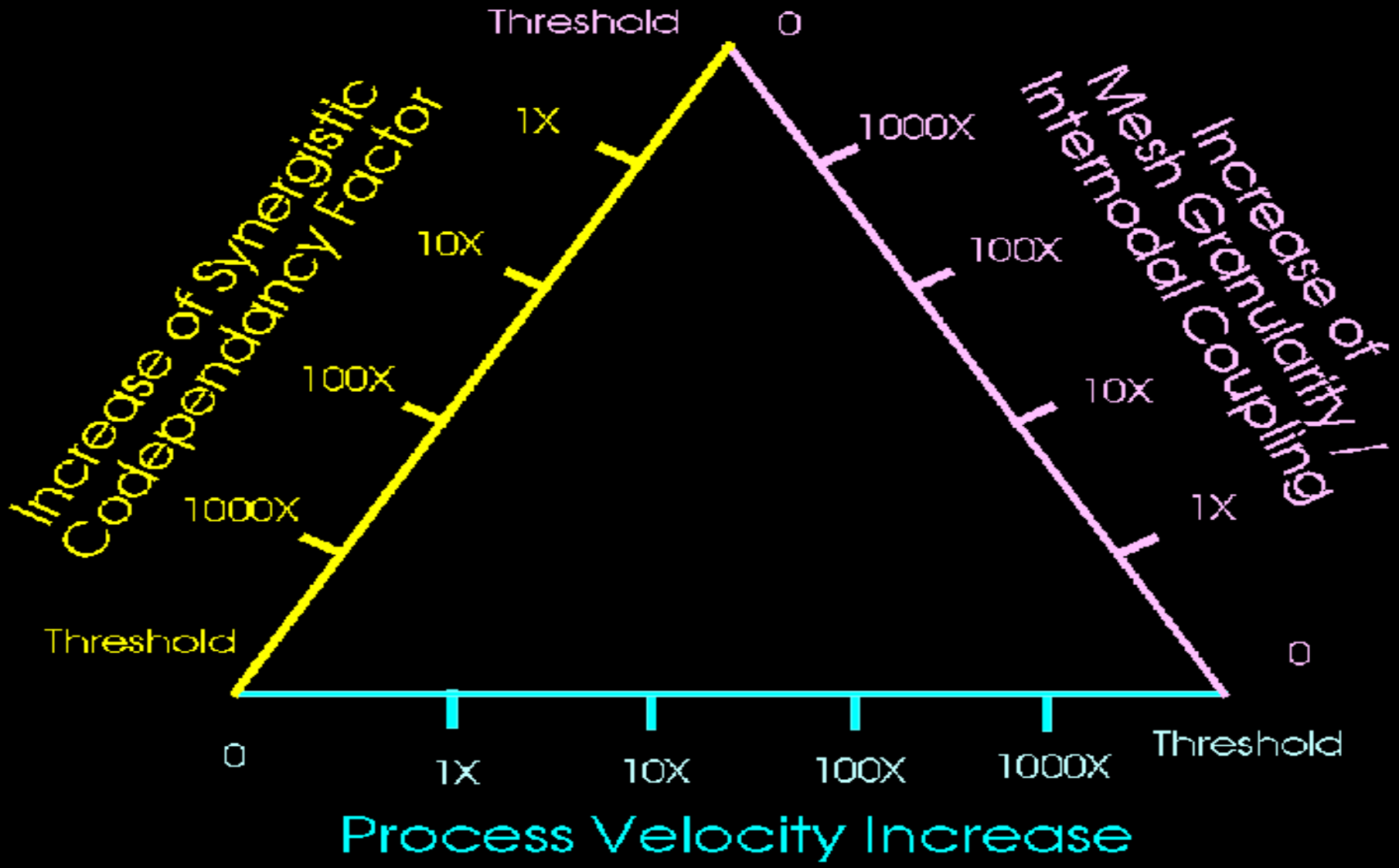
Technology Driven Socio-Anthropological Evolutionary Threshold Domains

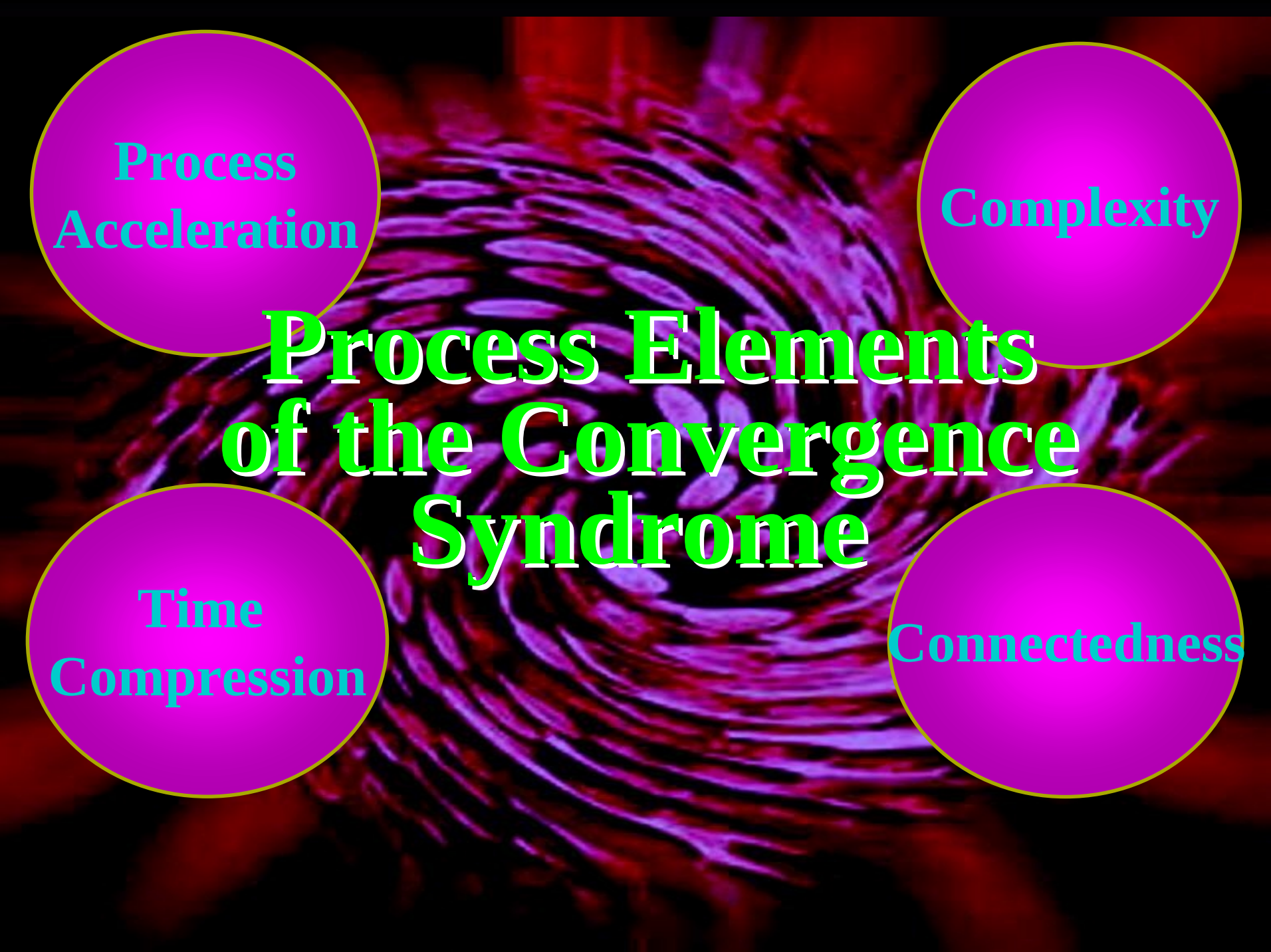


Evolutionary Eventstream Seminal Markers

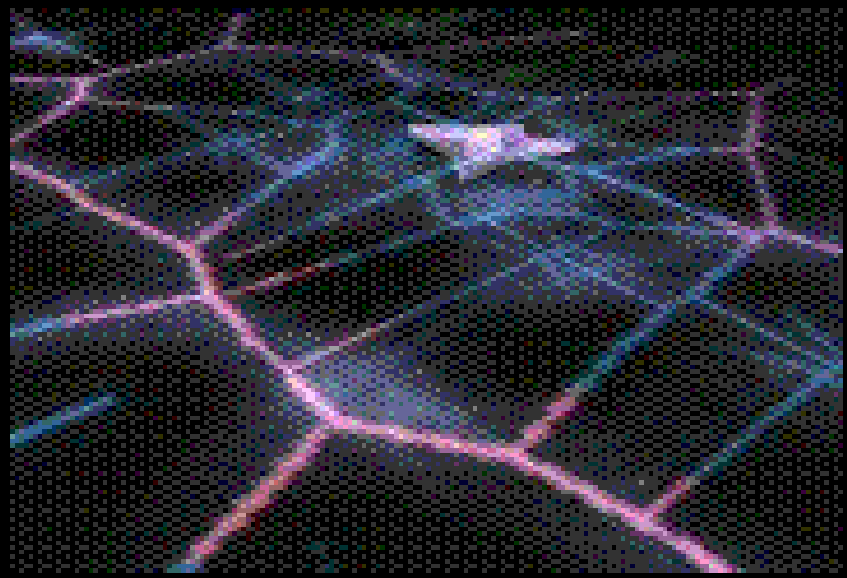


Convergence Syndrome Triad

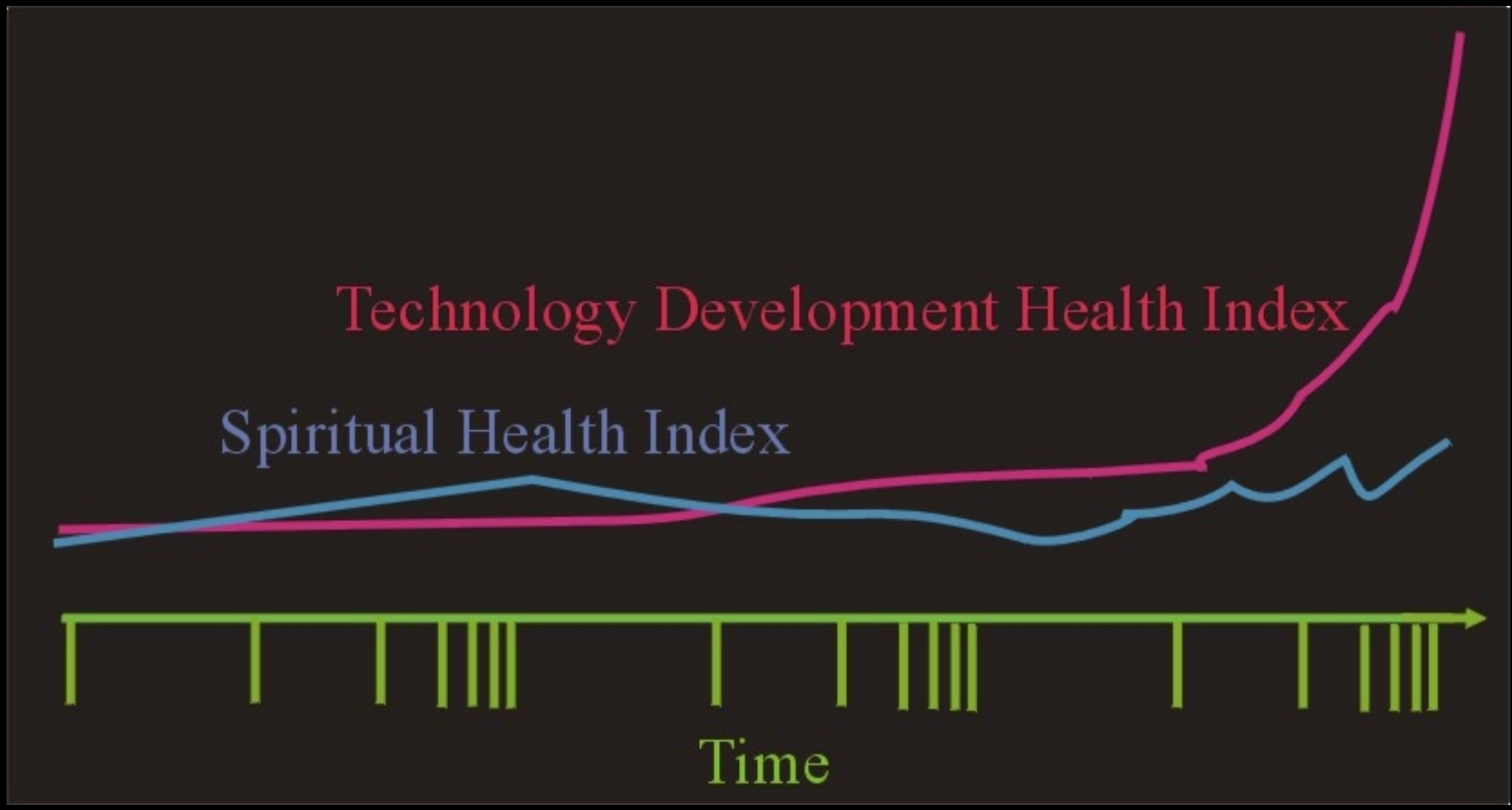



Process Acceleration
Complexity
Process Elements of the Convergence Syndrome
Time Compression
Connectedness

The Ubiquitous Synthetic Sentience Process Manifold

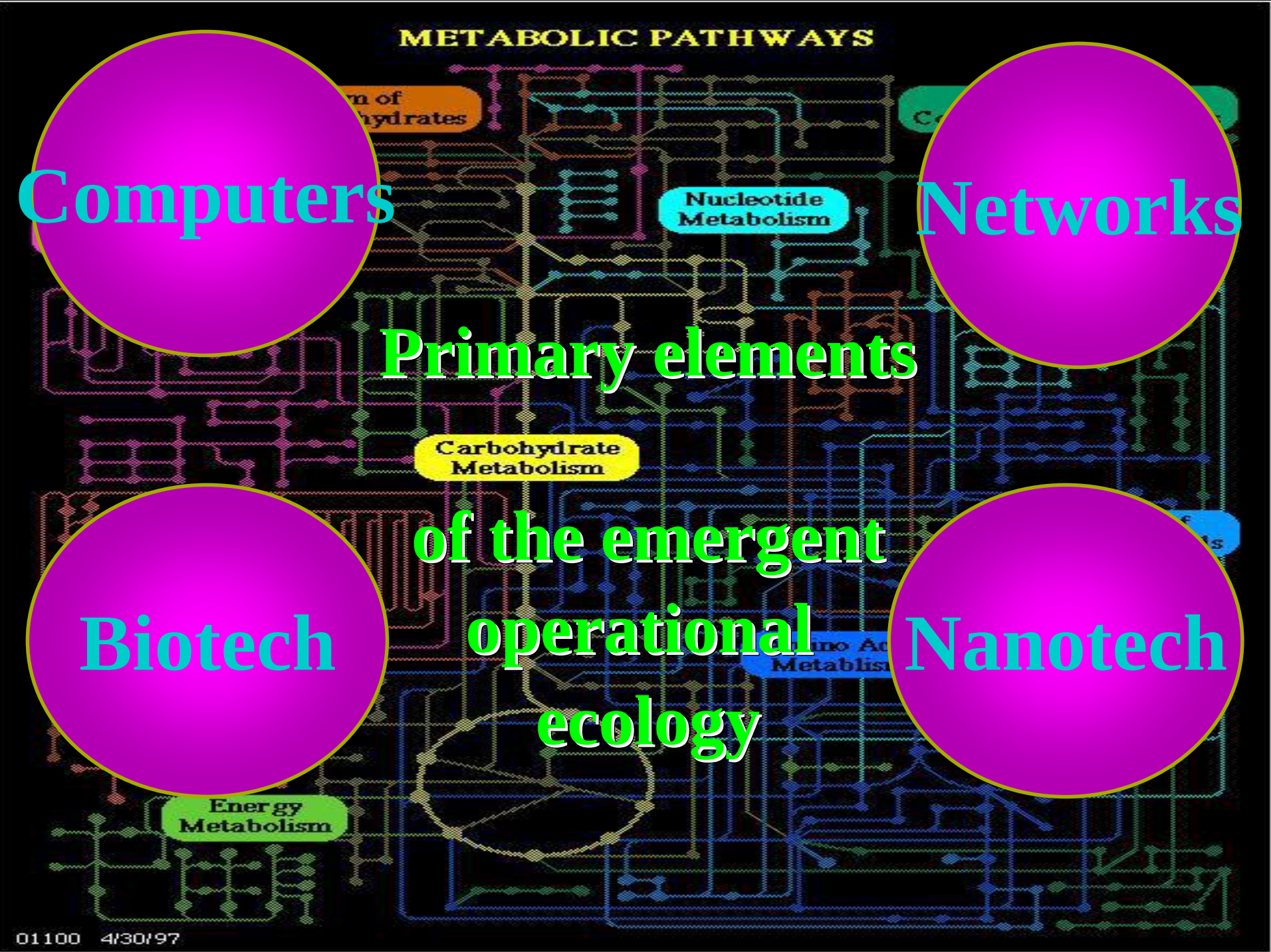


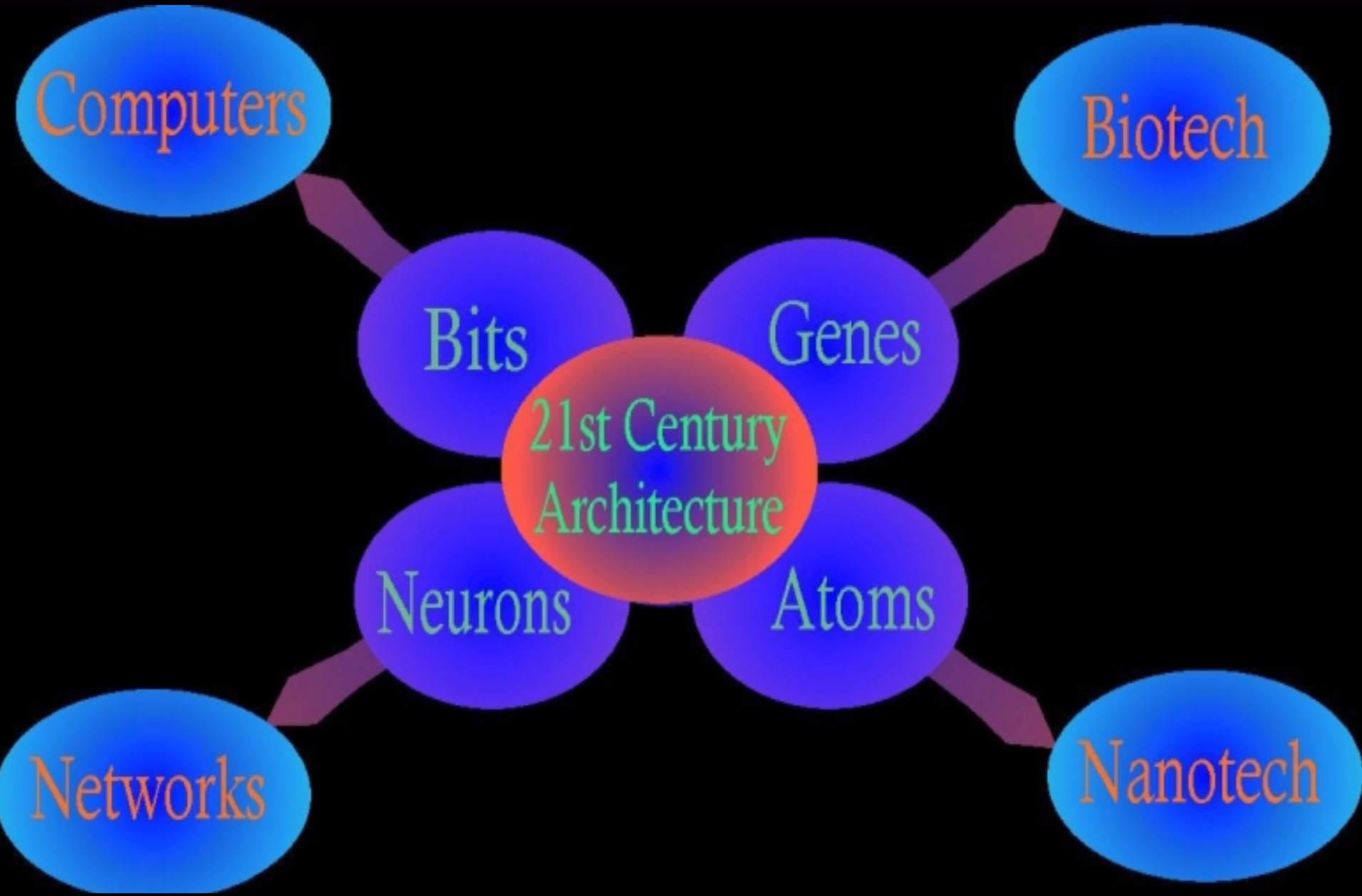
Divergence of Socio-technical / Spiritual Health Indices



Major Evolutionary Eventstream Process Dynamics and Drivers

- Realtime interconnected ***economic ecologies***
- Epicenters of value indexed by ***virtual commodity assets***
- Mass spawning of ***biological metaphors in computing***
- Irreversible ***human / internet symbiosis threshold***
- Inception of the ***molecular manipulation value chain***
- Emergent ***sovereign knowledge domains***
- Dissolution of ***organic / synthetic domain boundaries***
- Hybrid forms of consciousness – ***access to the "quantum foam"***


METABOLIC PATHWAYS
Computers
Networks
Primary elements
of the emergent
operational
ecology
Biotech
Nanotech
Nucleotide Metabolism
Carbohydrate Metabolism
Energy Metabolism
01100 4/30/97

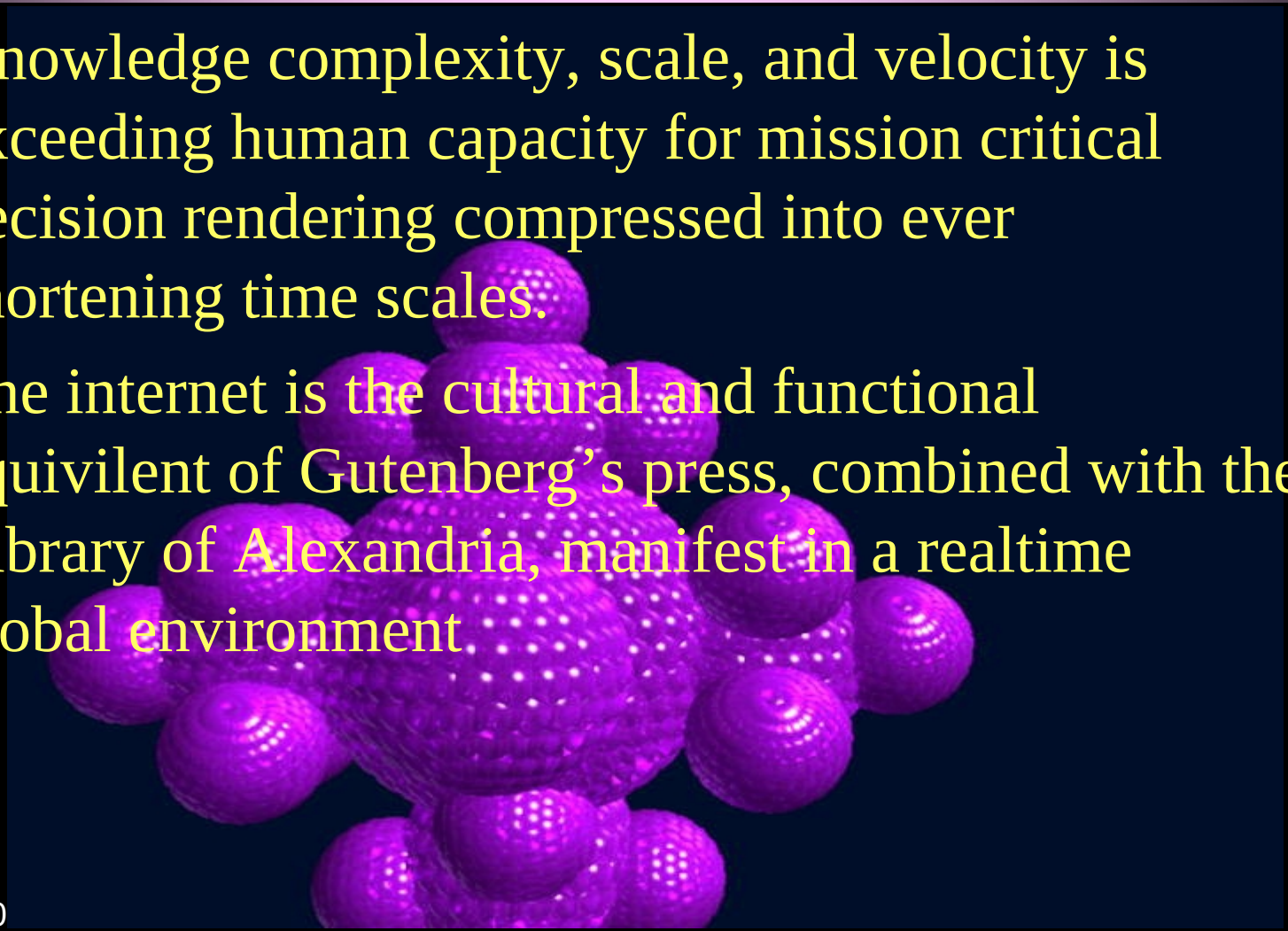

Computers
Biotech
Bits
Genes
21st Century
Architecture
Neurons
Atoms
Networks
Nanotech

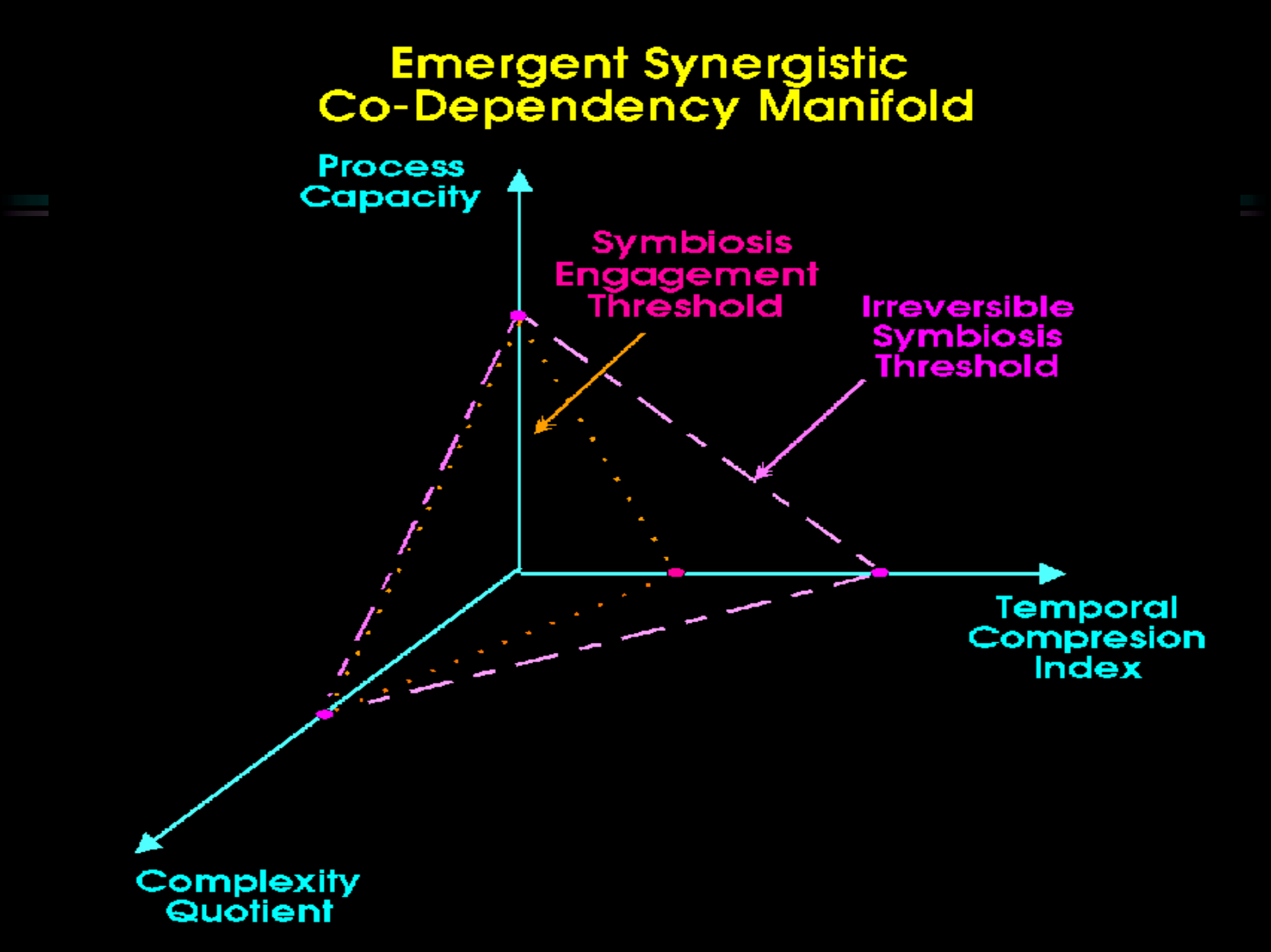
Contextual Cognition in the Emergent Operational Ecology >

Hyperdimensional Existence Navigation

Cultural Imperatives

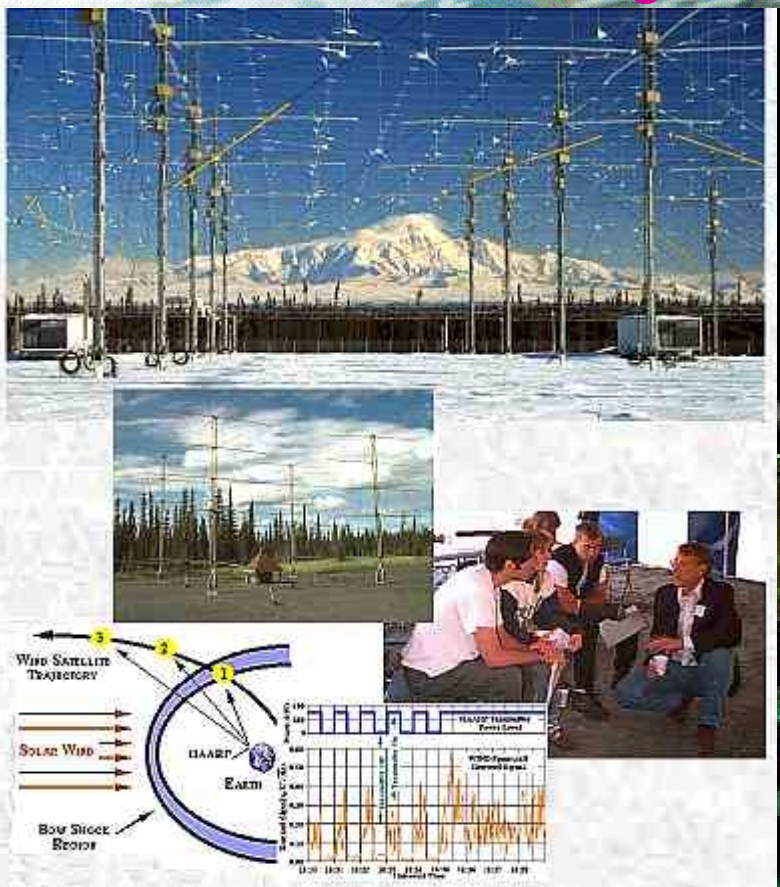
- Knowledge complexity, scale, and velocity is exceeding human capacity for mission critical decision rendering compressed into ever shortening time scales.
- The internet is the cultural and functional equivilent of Gutenberg's press, combined with the Library of Alexandria, manifest in a realtime global environment



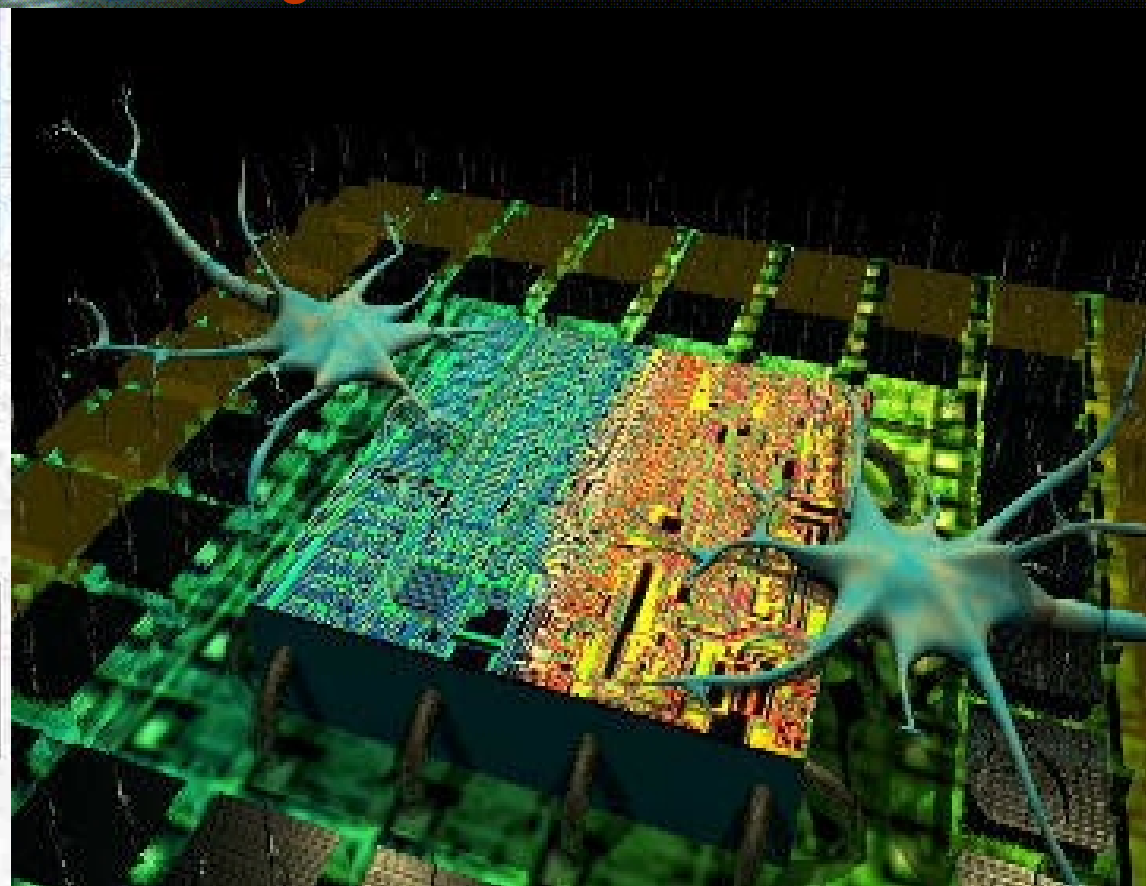

Emergent Synergistic
Co-Dependency Manifold
Process
Capacity
Symbiosis
Engagement
Threshold
Irreversible
Symbiosis
Threshold
Temporal
Compresion
Index
Complexity
Quotient

The collective planetary gaia organism - at the next evolutionary test threshold

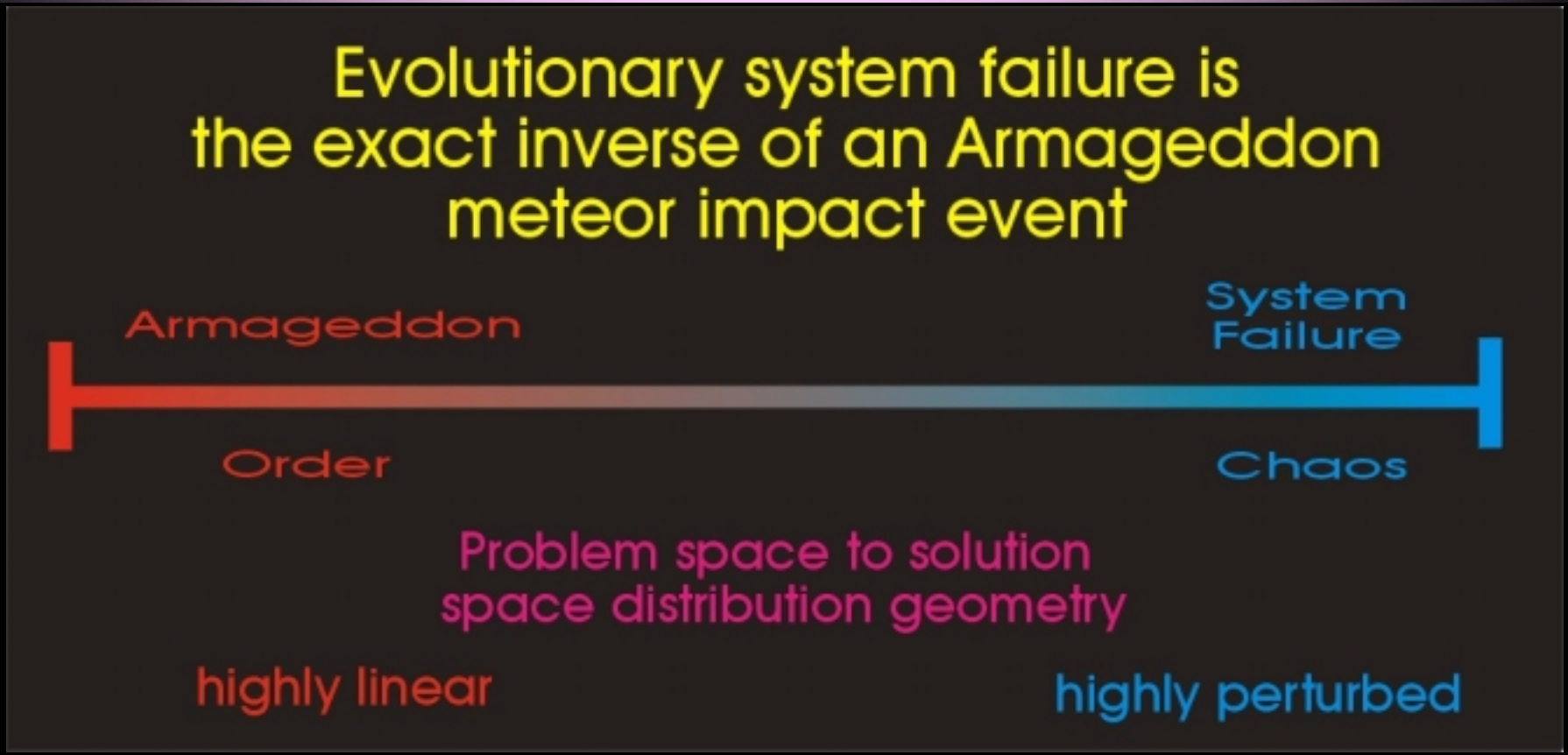
High Frequency Active Auroral Research Program



Integrated biodevices / hybrid organisms / artificial entities



Processes dynamics of evolutionary system failure vs. “Armageddon” trauma singularity



- Problem space to solution space interface boundary is highly perturbed
- Many to many problem space driver - perceived threat vectors are contextually interlinked, nonlinear interdependancies

Biological System Process Modalities - Implementation of GelWare Subcomponents

Self Evolving Machines

Self Evolving Knowledge Domains

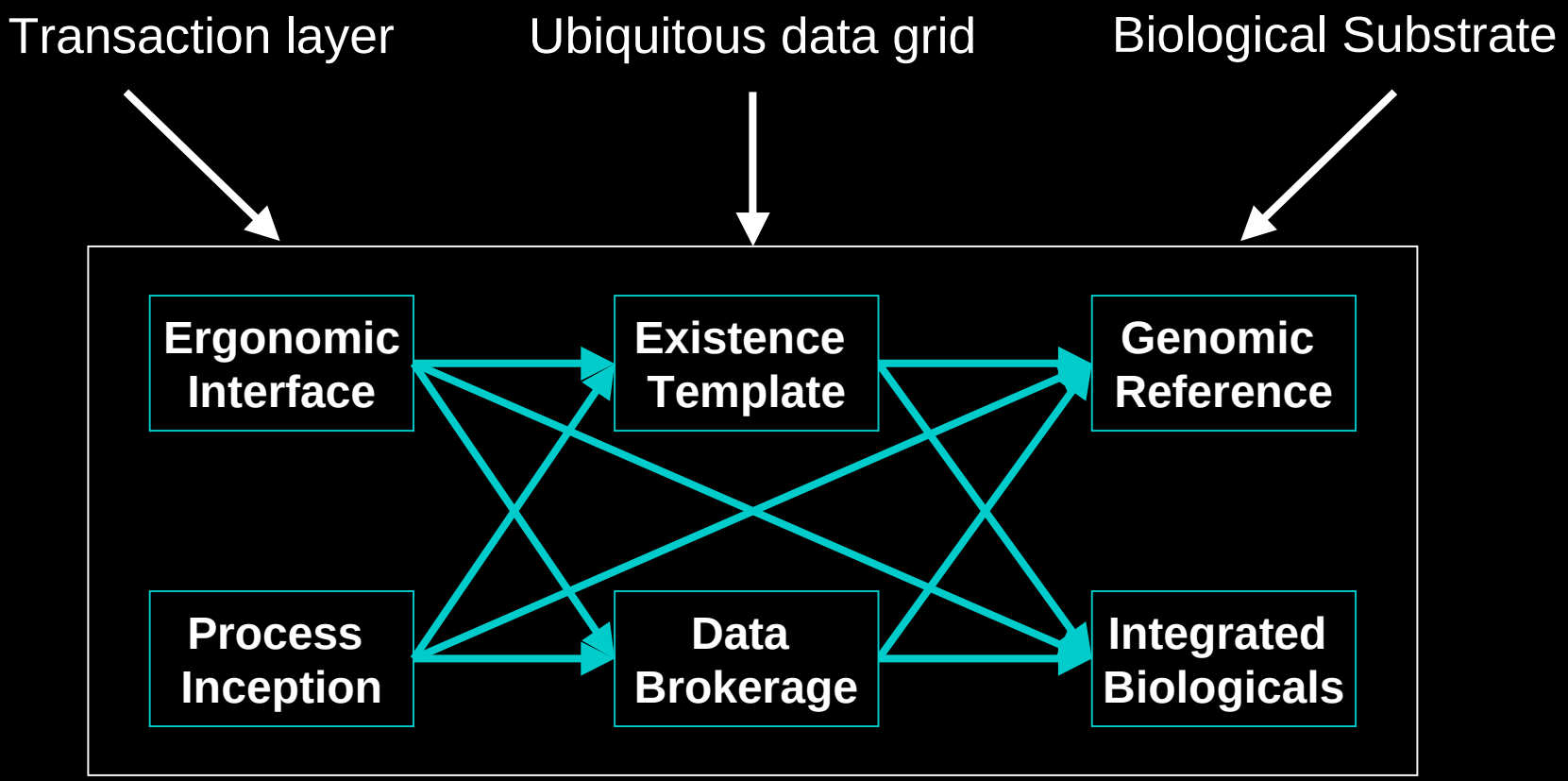
Human User Interaction

Content Definable Functionality Mapping

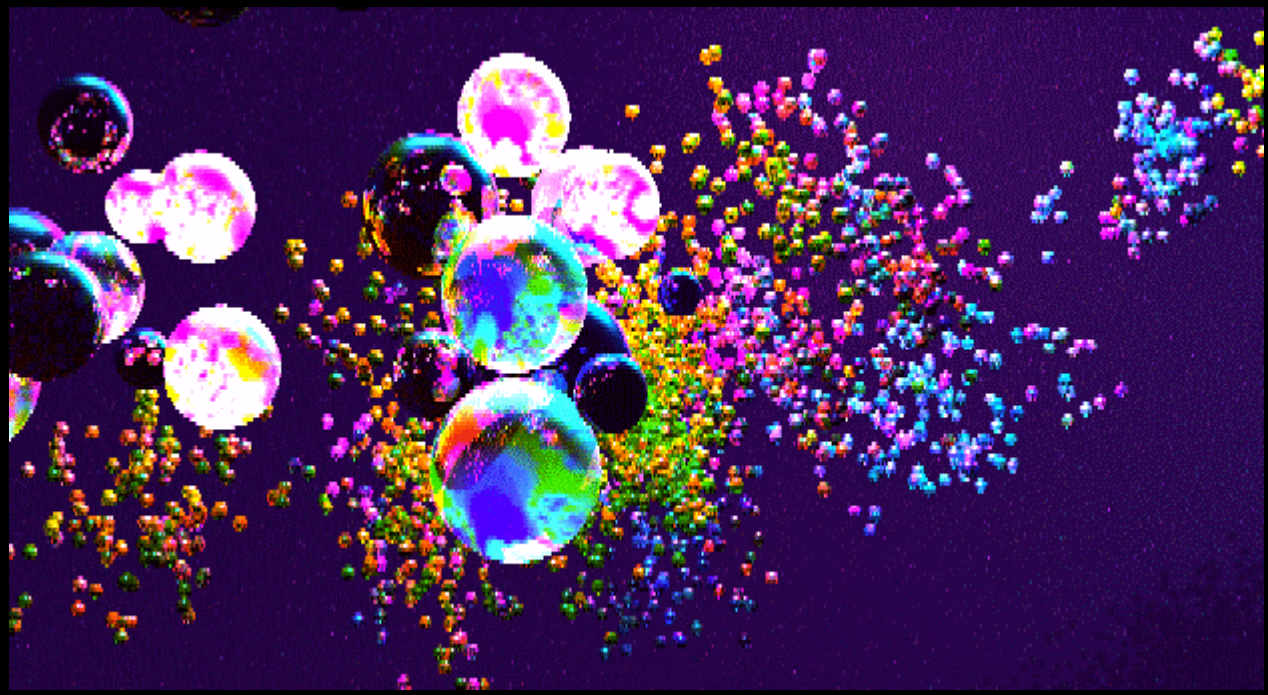
Self Organizing Networks

Content Addressable Information Mapping

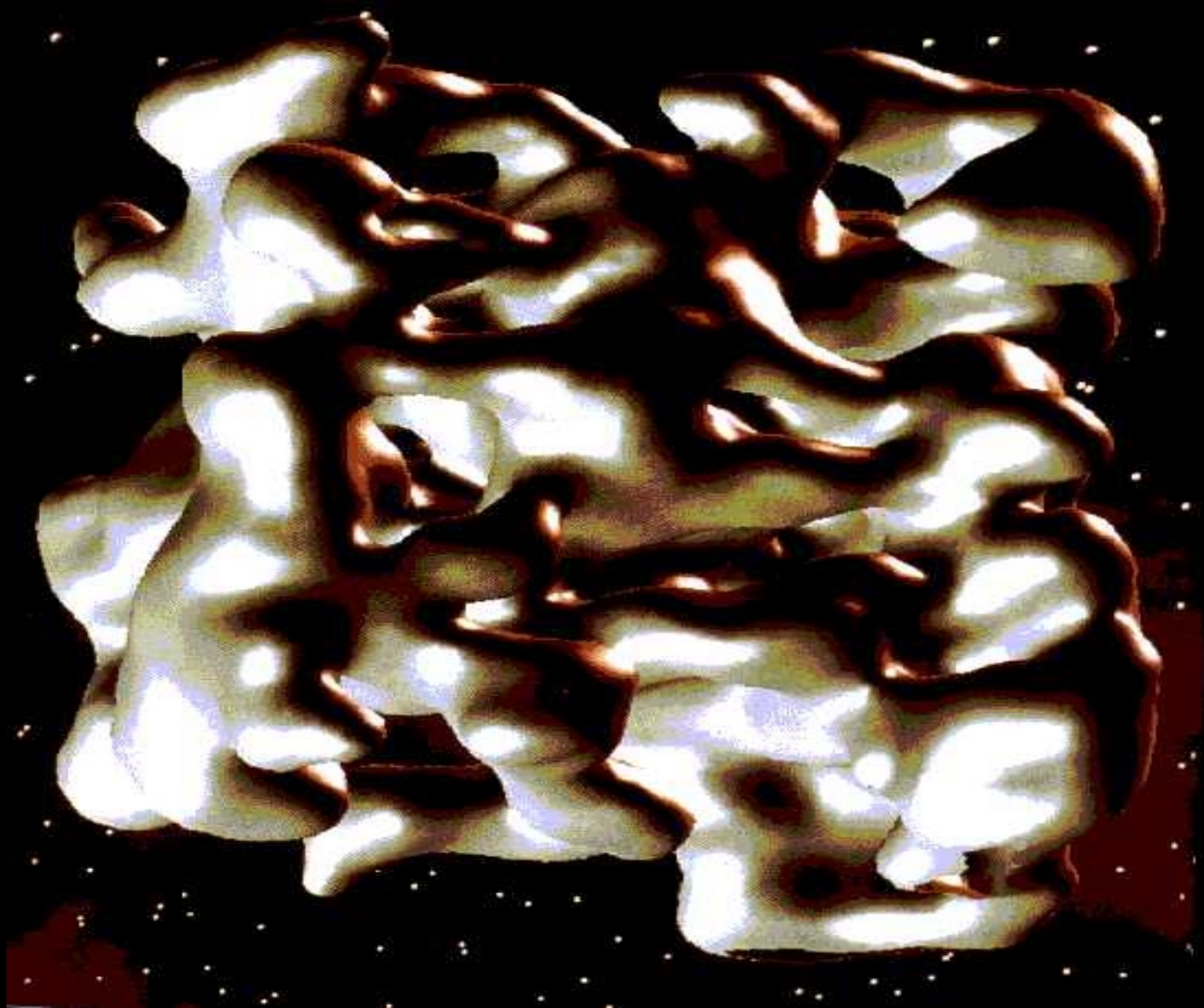
Existence Valuation System Architecture

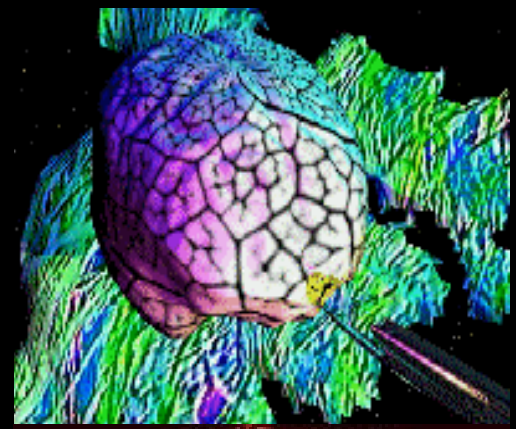


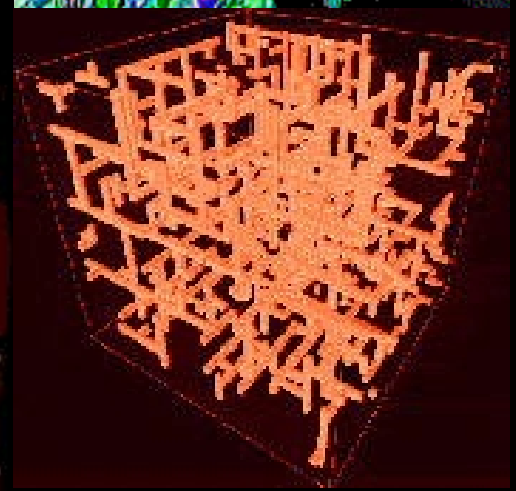
The next increment to Ubiquitous Access . . . Hyperdimensional Access Portals



Hybrid Forms of Consciousness - Access to the Quantum Foam

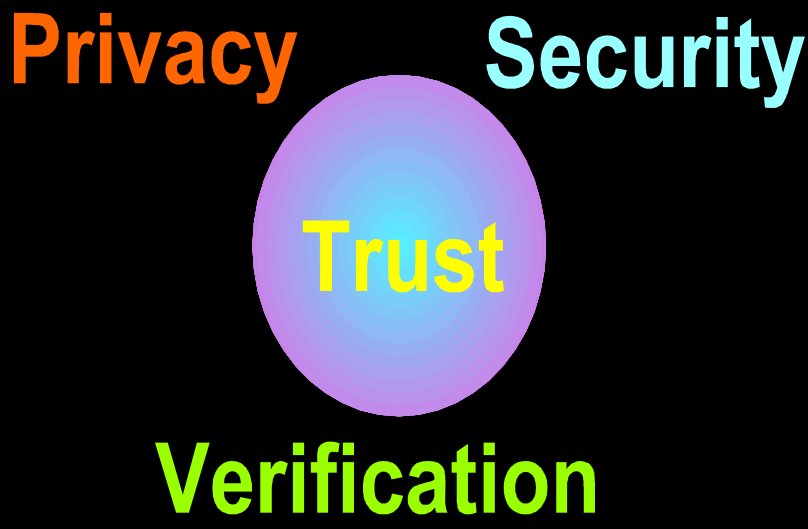






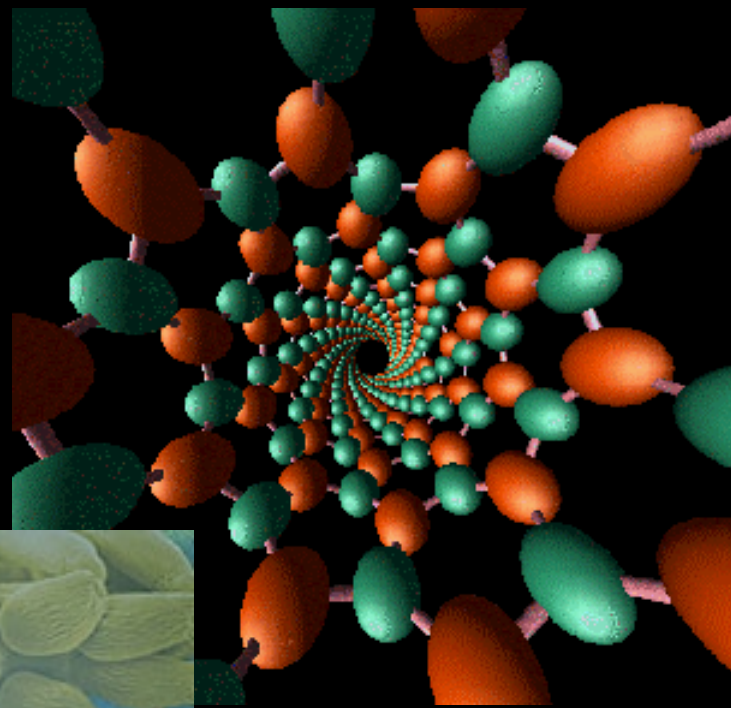
Cultural Imperatives

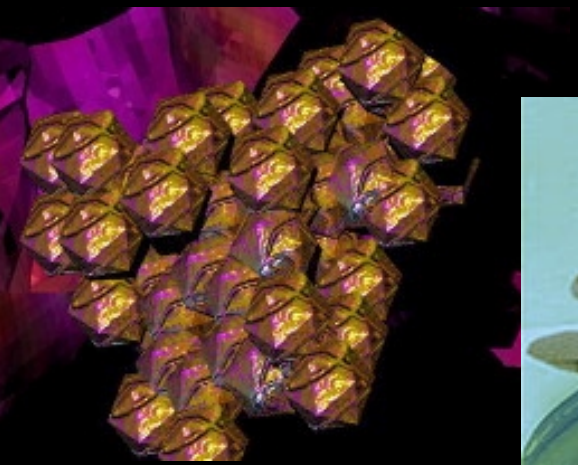
- Embedded Intelligences
- Integrated Lifestyle Management
- Ubiquitous Interactive Process Environment

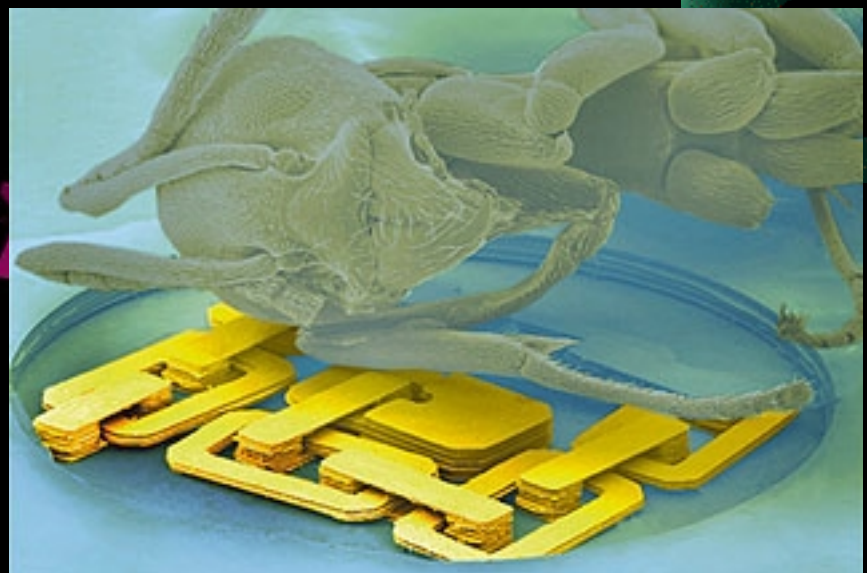


The Industrial Revolution of the New Millennium

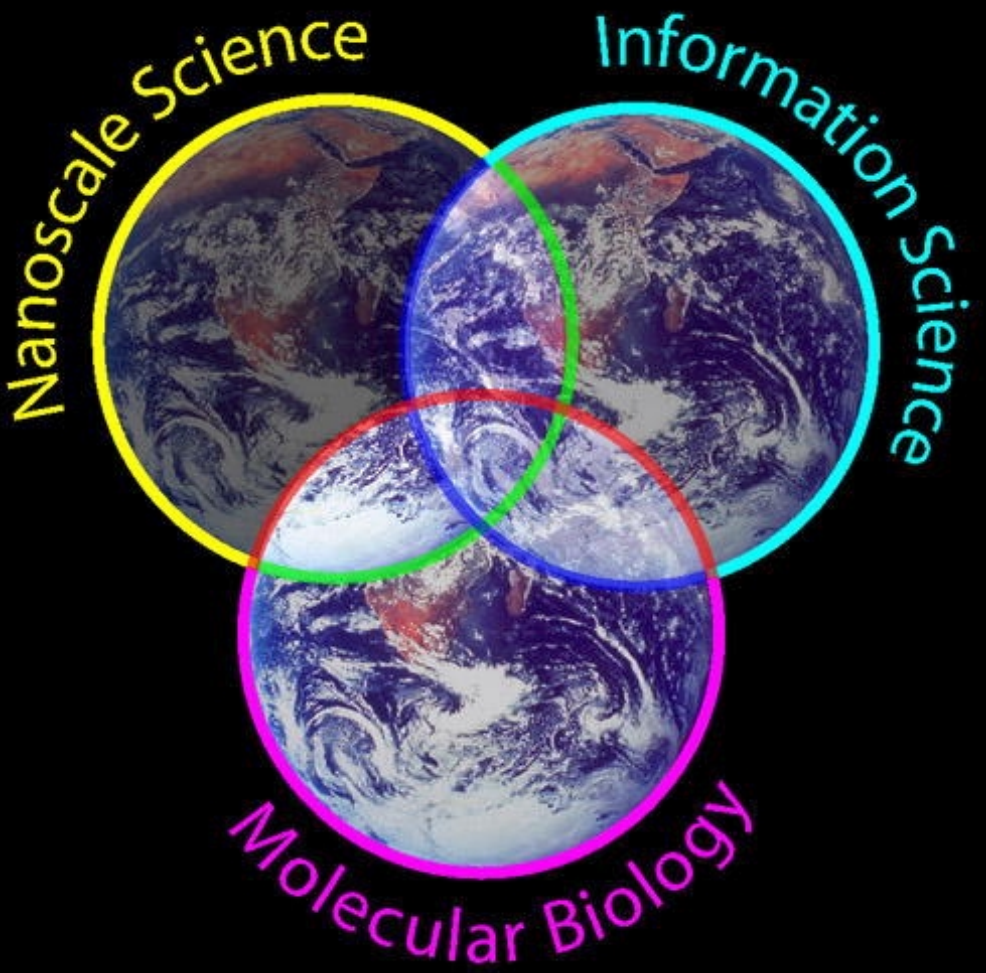
- Technology Convergence
- Cultural Morphology
- Economic Drivers
- Belief Systems





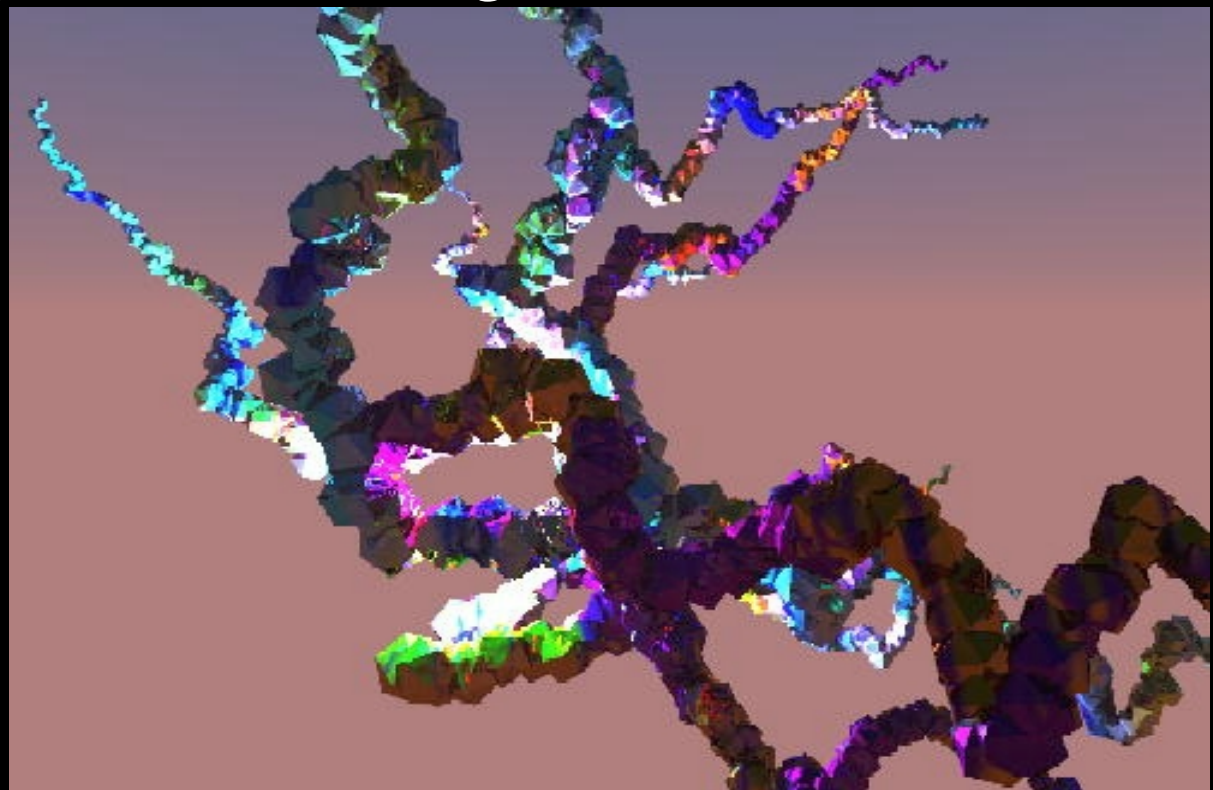


The emergent infotech / biotech / nanotech trichotomy



The Operational Ecology – Translation into Virtual Nature

- Self evolving information architectures, process platforms, knowledge ontologies
- Self assembling / self organizing molecular systems, biological and non-biological



Current processes by which the current life support capacity of the biosphere may be suppressed into eventual system level failure mode

- Highly centralized, megalithic, predatory manufacturing and industrial processes, energy systems
- Acceleration in consumption of non-renewable resources
- Irreversible alterations to ecosystems, soil, oceans, atmosphere
- Increased dispensation of hazardous materials, pathogens, mutagens
- Situational dysfunction of societies, socio-economic systems and substrates
- Highly centralized, hard asset based commodity systems decaying into irrecoverable debt vortices

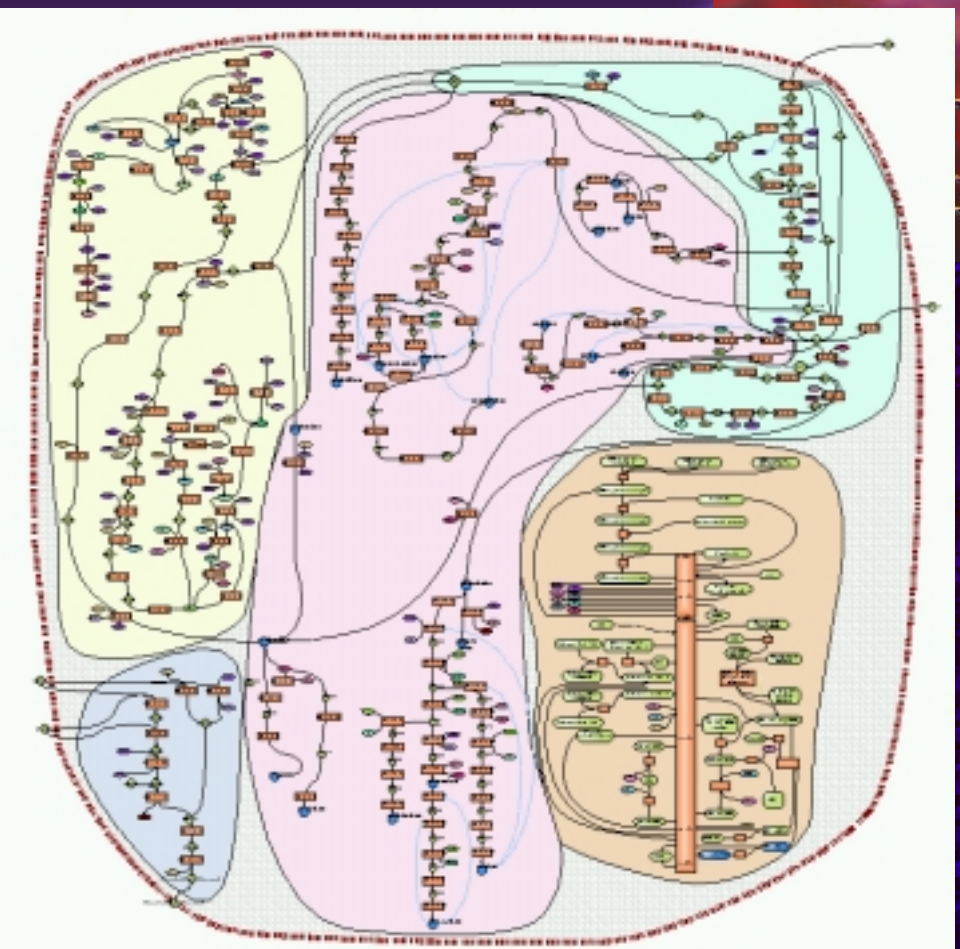
Resources and processes currently existing, or in various stages of development

- "Manufactured" synthetic life forms, pseudomorphs, quasi-organic entities
- Distributed, granular manufacturing systems, energy systems, via applied nanotechnology
- Accelerated evolution - cybernetic and genetic modification of the human body
- Synthetic sentience as a strategic resource
- Infinitely scalable computational resource
- Mind/machine interface
- Human/internet symbiosis
- Distributed virtual asset based commodity systems
- Knowledge conveyance as an experiential process

Digital Convergence >

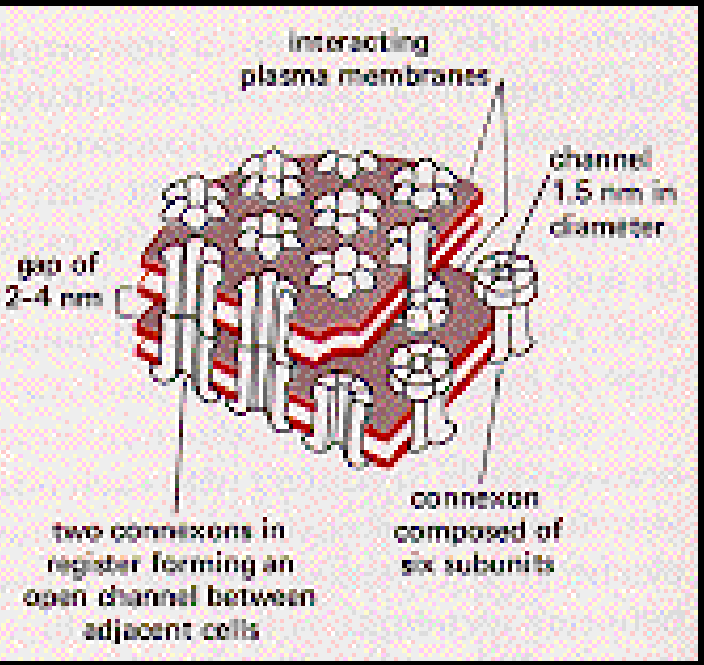
Process Convergence

Bits, Atoms, Genes, Neurons



Manufacturing Modalities at the Molecular Scale

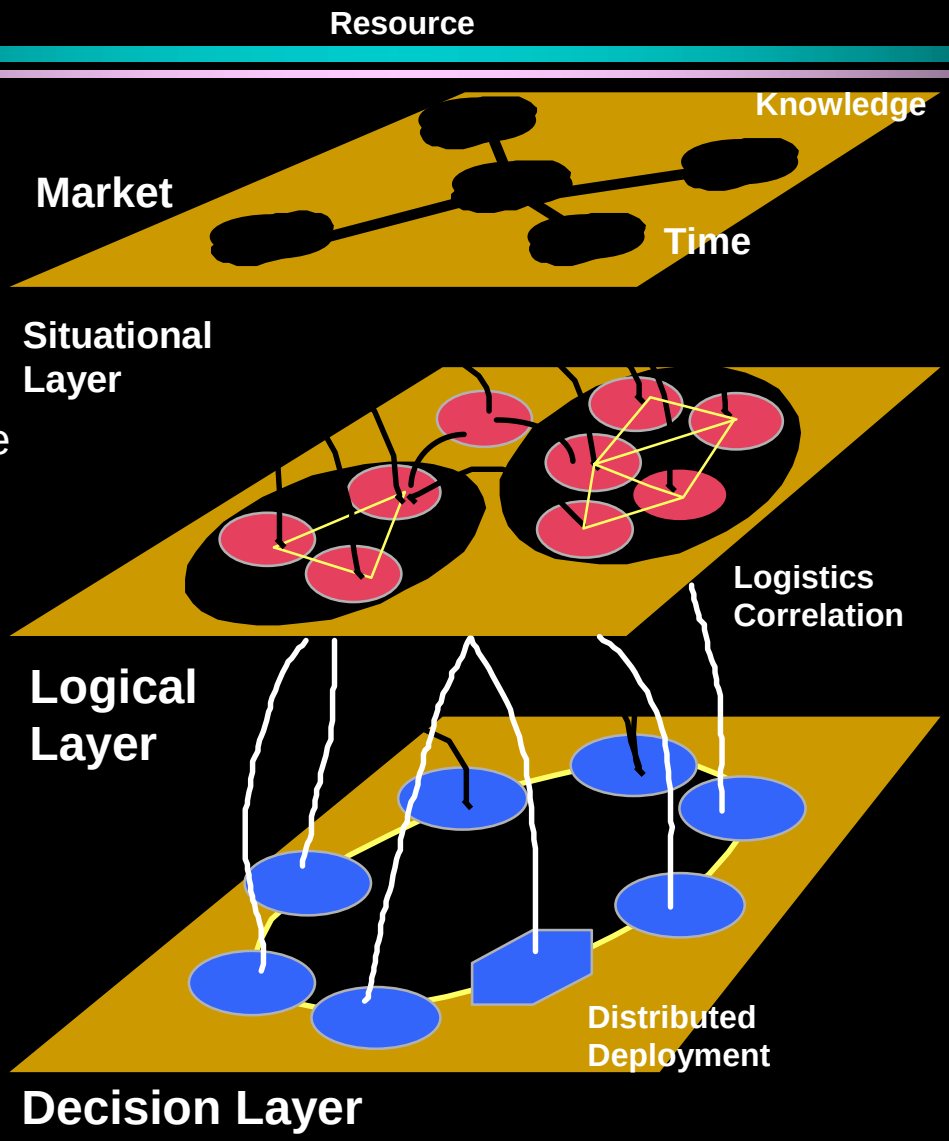
- Self Organizing / Self Assembling Membranes, Structures, Manifolds
- Hierarchical Systems
- Process Precision



Biolayer Type	Main needs for structural integrity	Typical signal generated
End of Organ (eg. Olfactory)	Intact Tissue Architecture	Action potential
Tissue	Nutrient / Oxygen Supply	Metabolic end product
Whole Cell		
Cell Organelle (eg. Mitochondrion)	Osmotic / pH Stability	Product of electron chain
Biomembrane (eg. Receptor)	Mechanic protection	Released contents
Enzyme	pH / electrolyte stability	Reaction product
Antibody	pH stability	Antigen uptake mass change
Ionophore	Adequate retention	EMF/absorbance change (chromionphore)

Complexity hierarchy

Decision Rendering Process Map



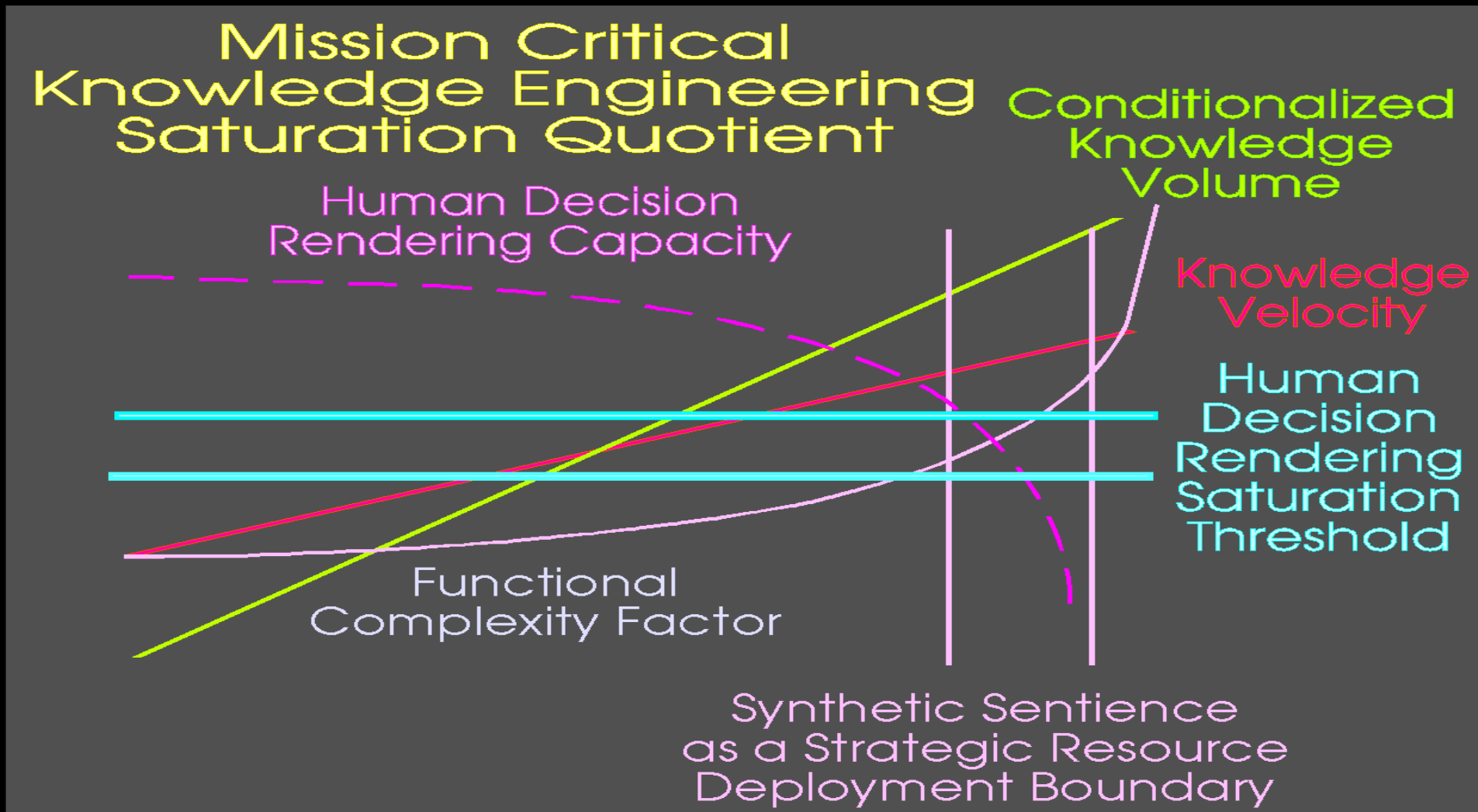
IT Resources & Infrastructure
- Data / Knowledge Services
- Process Integration
- Workflow Management

FUNCTIONAL MAP - Conceptual partitioning of functional domains

LOGICAL MAP - Functional partitions are separated into localized “process domains”

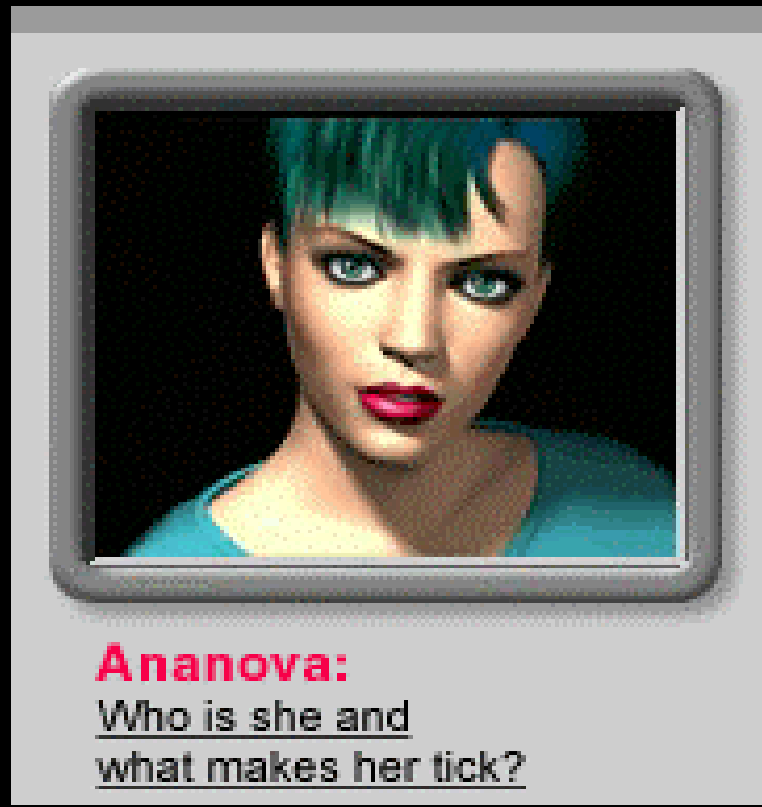
DEPLOYMENT MAP - Process domains are mapped onto distributed deployment sectors.

Synthetic Sentience Threshold - Strategic Resource

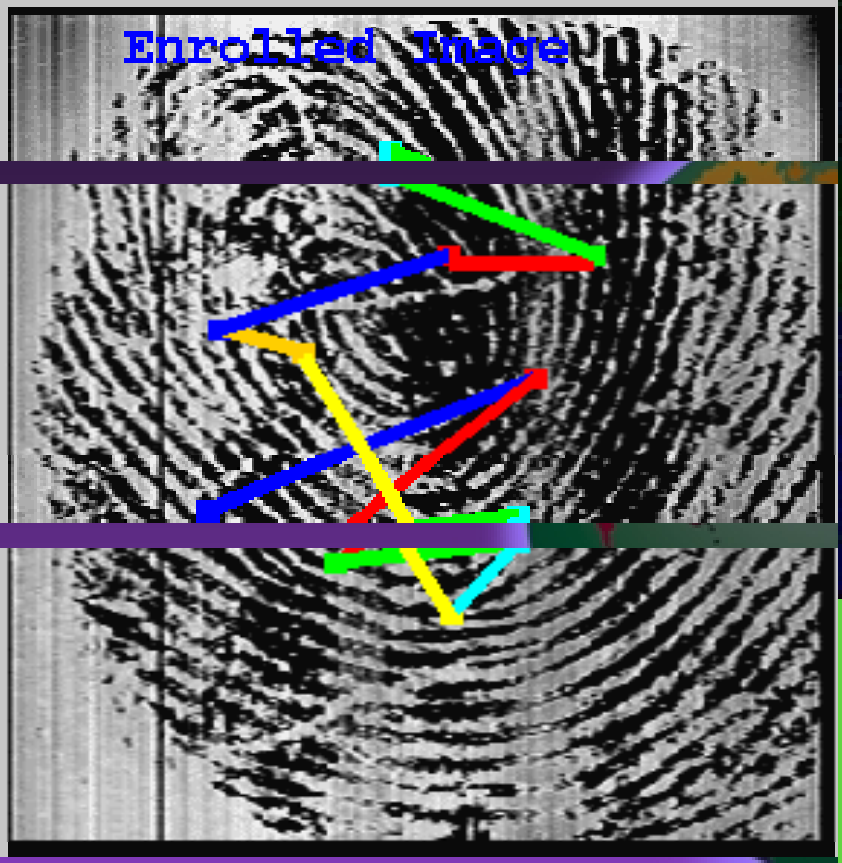


Seminal Marker Points of the Evolutionary Eventstream

- Emergence of “synthetic entities” as a culture norm
- Peer to peer tele-existence streaming
- Hybrid biological systems integration



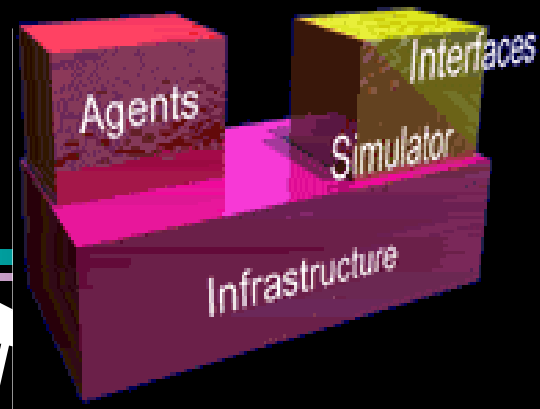
Biometric Recognition



Rotated –46.51 X

“Virtual Human” Entity Interface

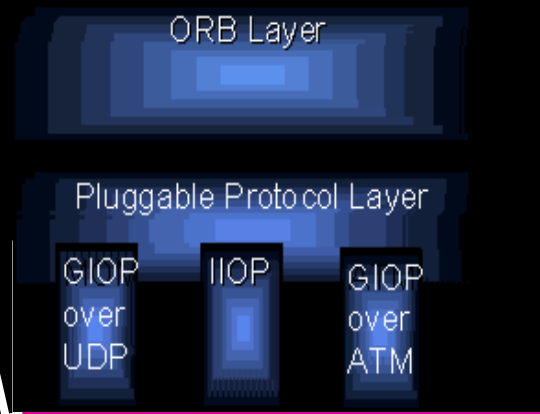
Ubiquitous Access Portals



Intelligent Agent Hierarchies

Smart Sensors Everywhere

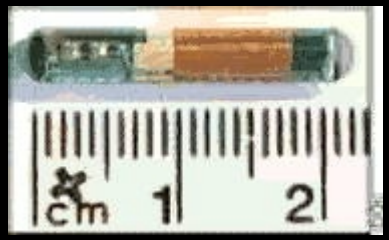
Digital Process Convergence

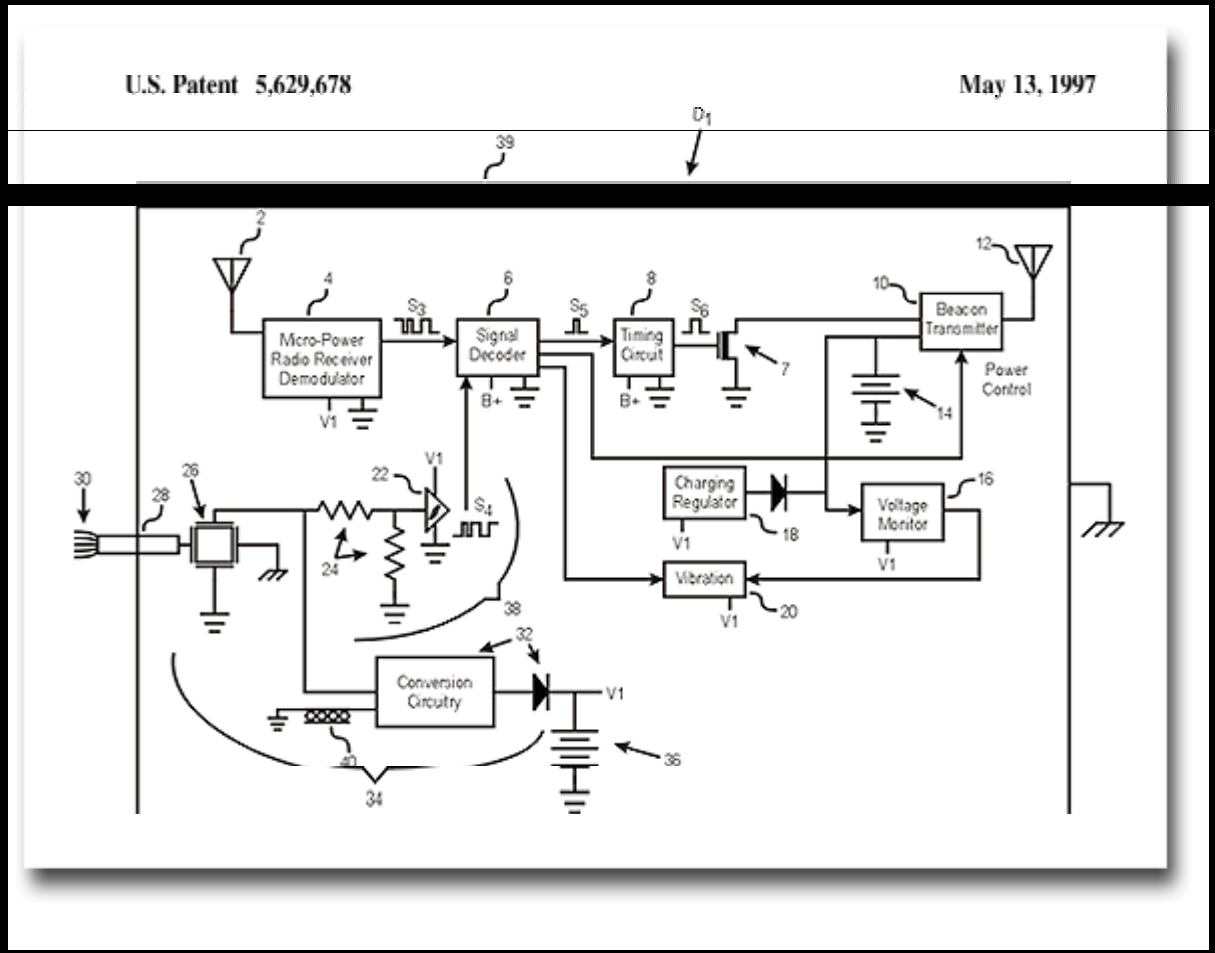


Process Brokeraging Architectures

Ubiquitous Immersion

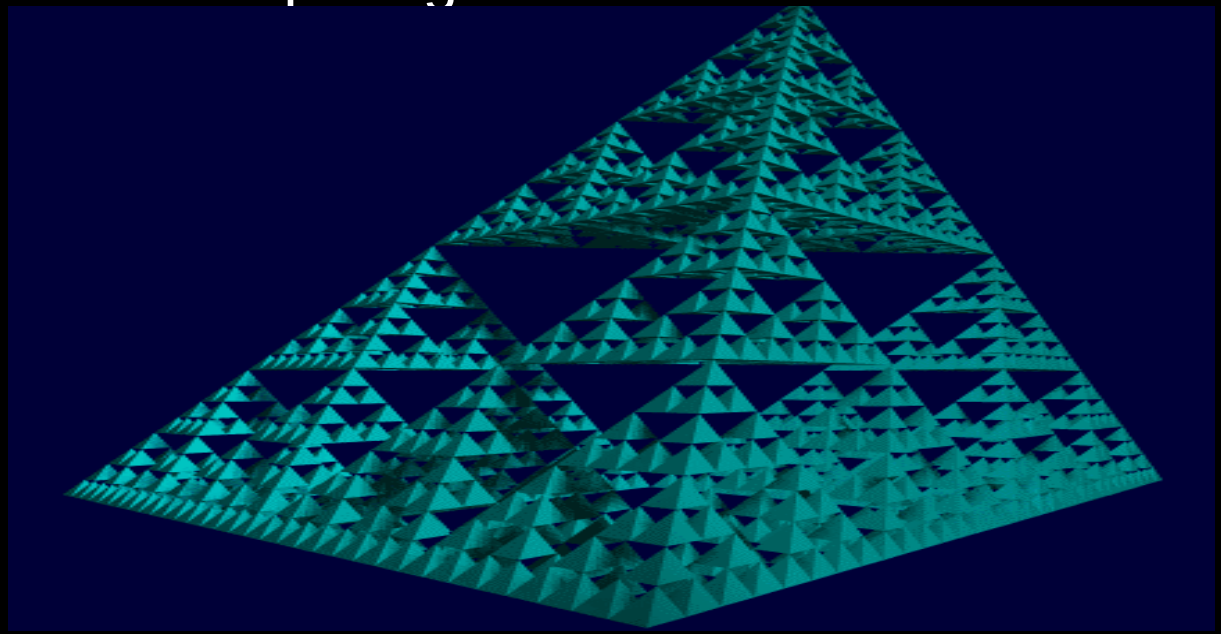
- Implantable biochip Example





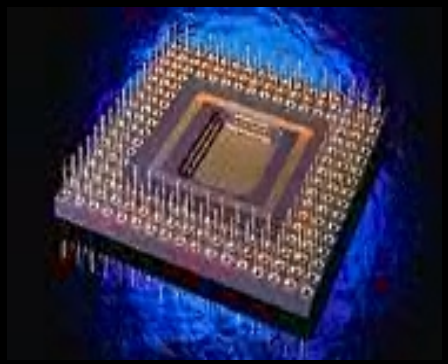
Human Internet Symbiosis Threshold - seminal markers

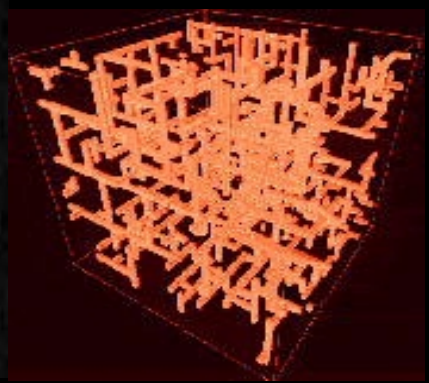
- Entities on Demand
- Psycho-Ergonomic Interface
- Object Oriented Organelle Nodes
- Biological Metaphors in Computing
- Ubiquitous Computing Fabric Immersion

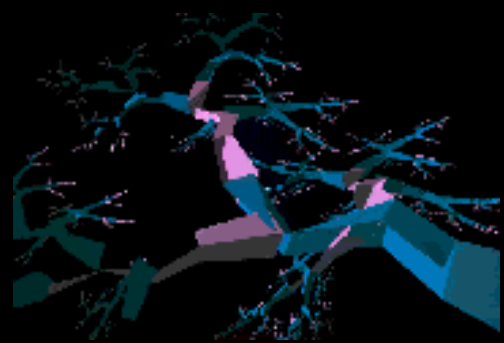


The New Economy - Virtual Asset Technologies

- “Gel” Ware
- Evolvable Systems
- Virtual “Intelligent Entites”
- Intelligent Agents and Agent Colonies
- Synthetic Sentience as a Strategic Resource

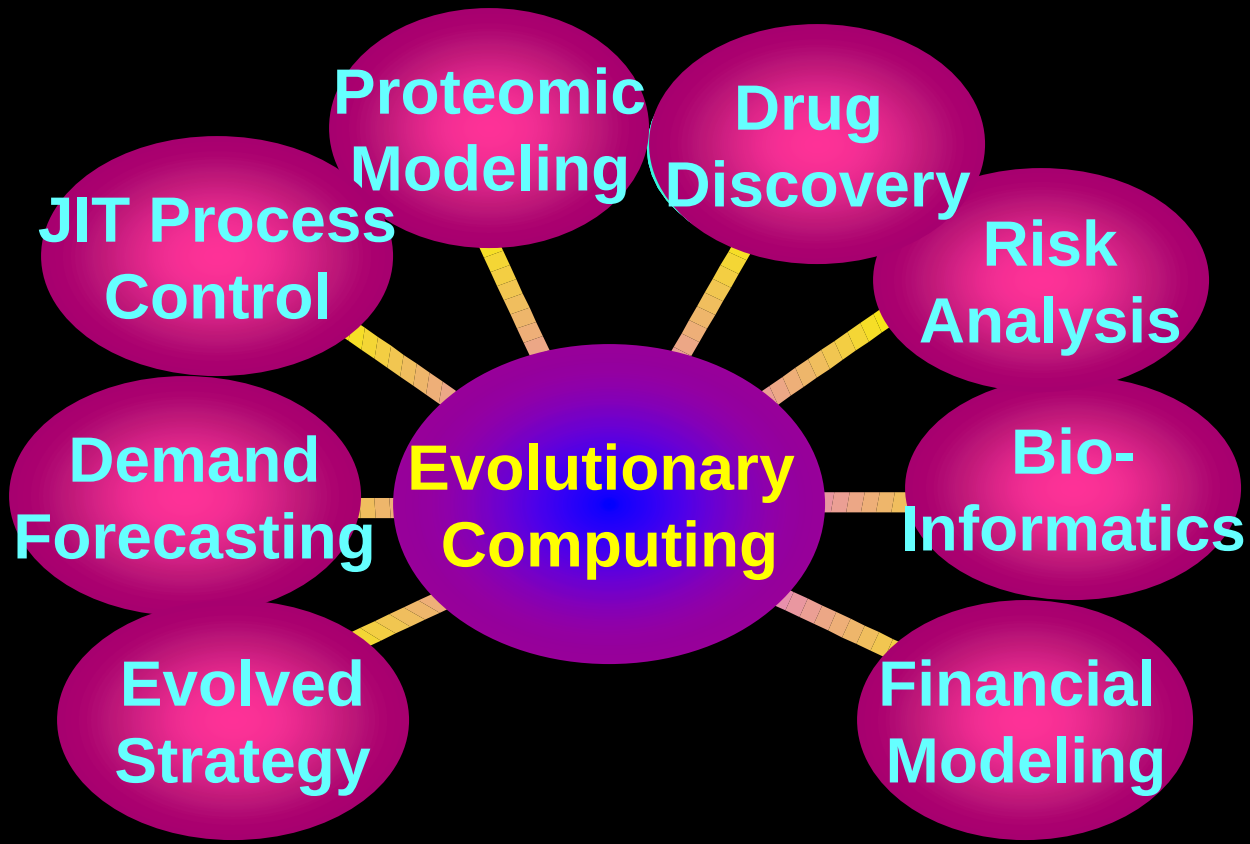






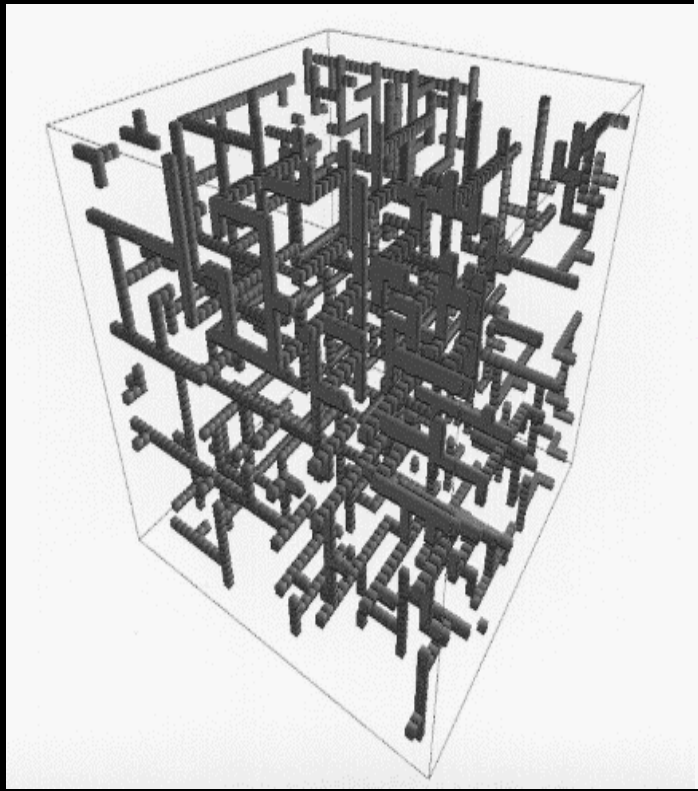
Convergence Node - Evolutionary Computing

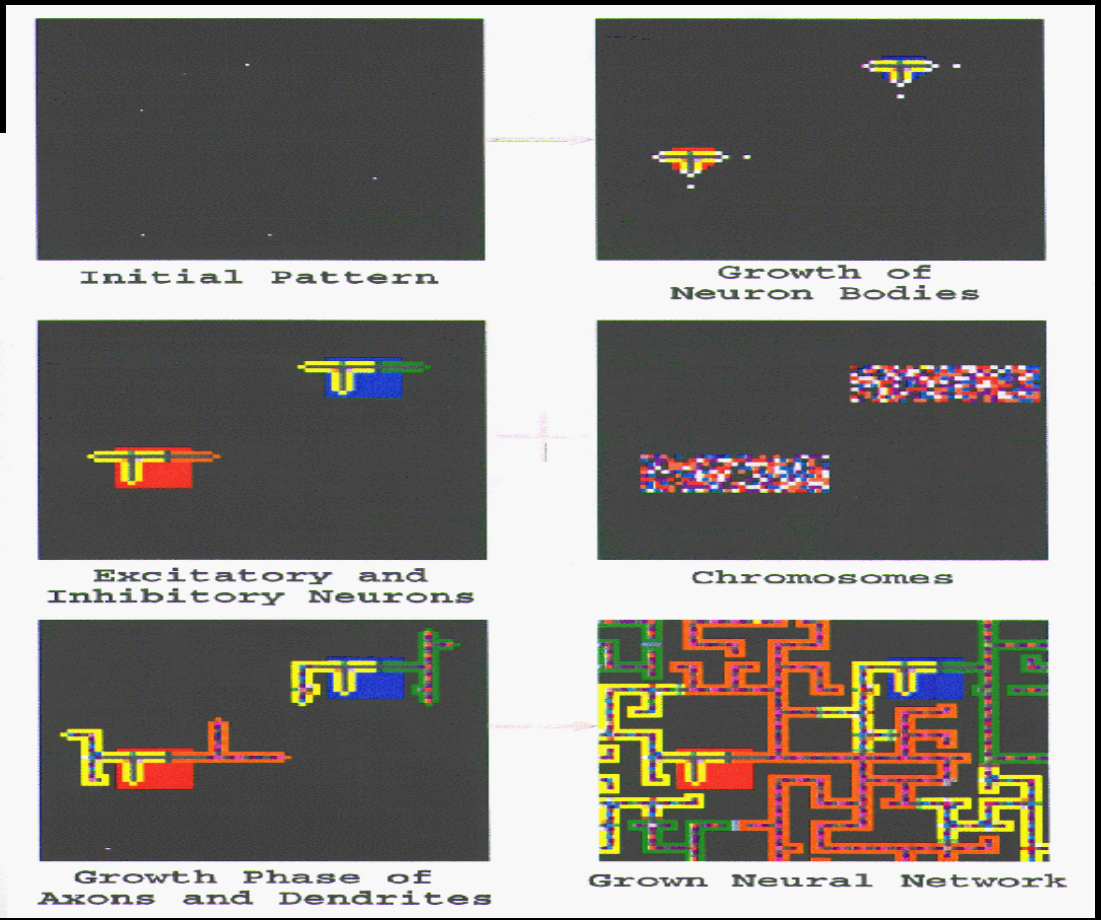
- Biological Algorithms
- Scalable Computing Fabrics



Self Evolving Synthetic Brains

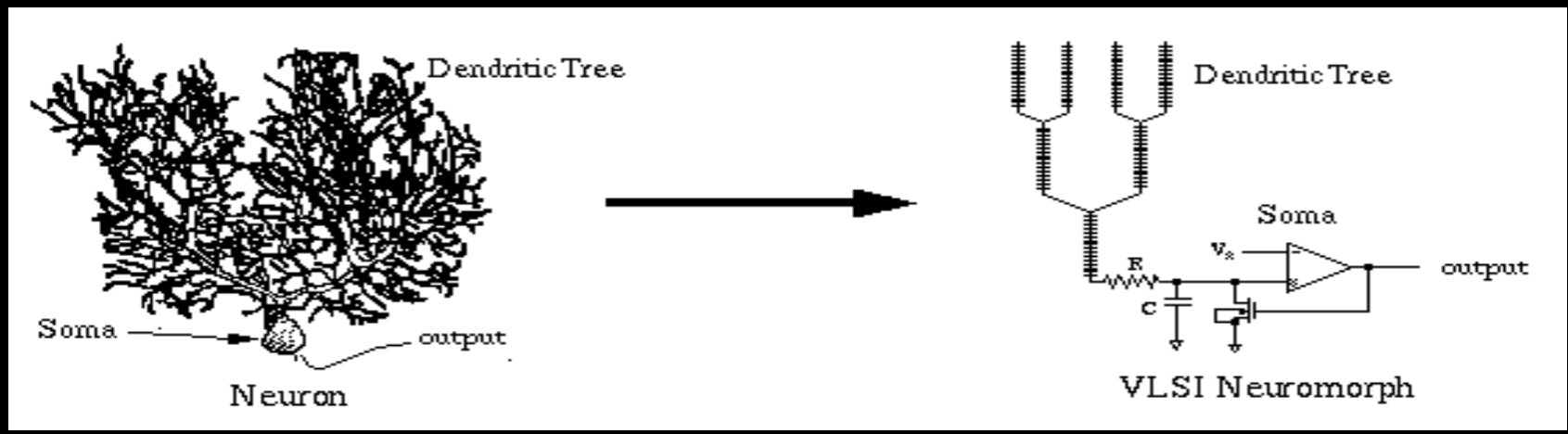
- Evolutionary Computing
- Artificial Life



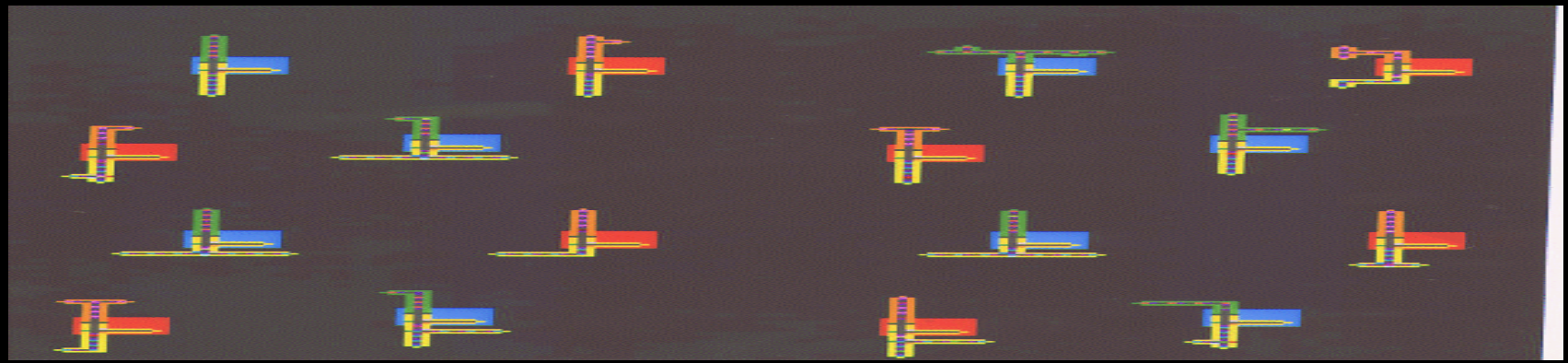


Artificial Life / Intelligence

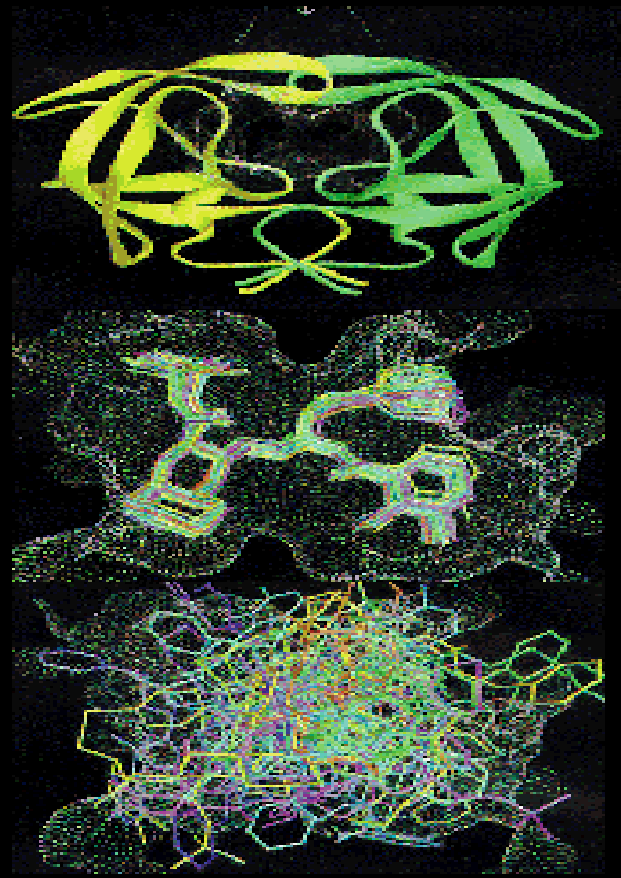
- This is a model of a synthetic neuron



- This is an actual, self evolving synthetic neuralnet



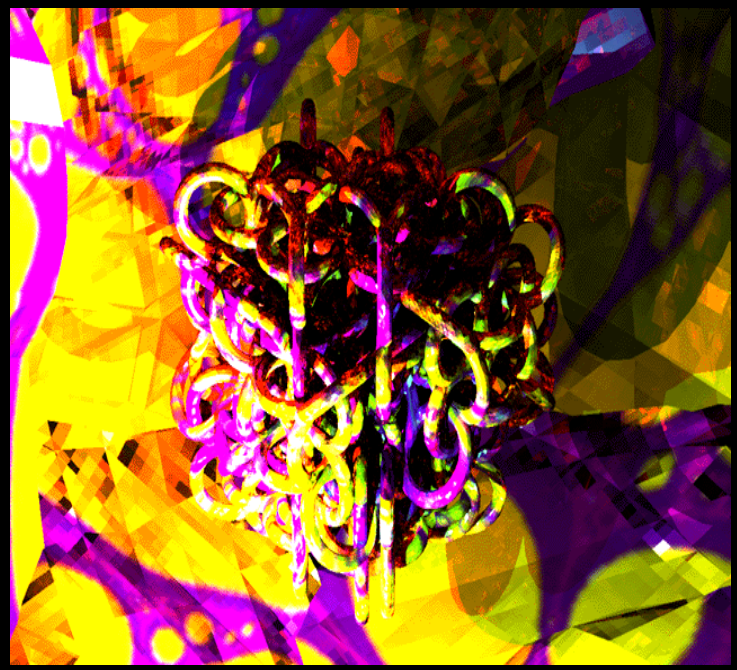
Nanobiology - the New Medicine

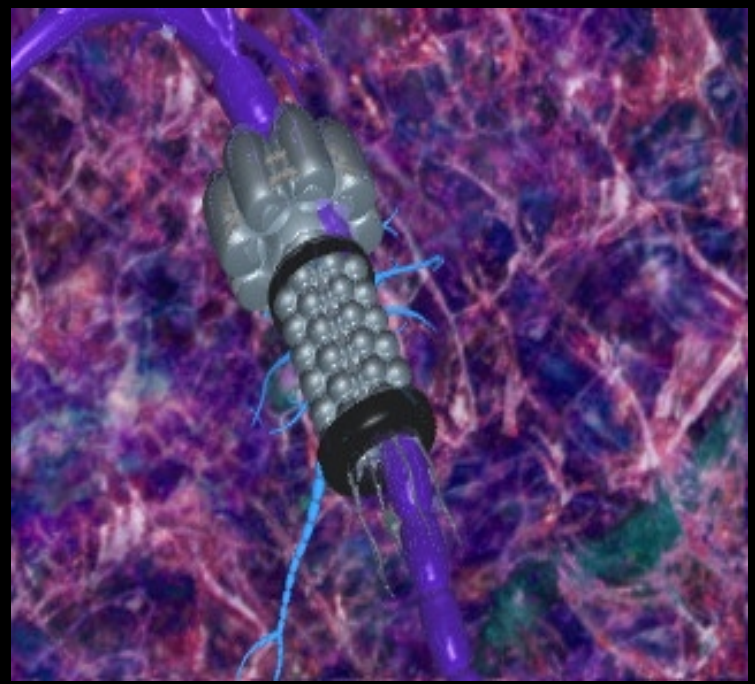


- Genetic Therapy
- Recombinant Proteomics
- Synthetic Proteins
- Artificial Organisms
- Cellular “Reconstruction”
- Technologically Accelerated Evolution

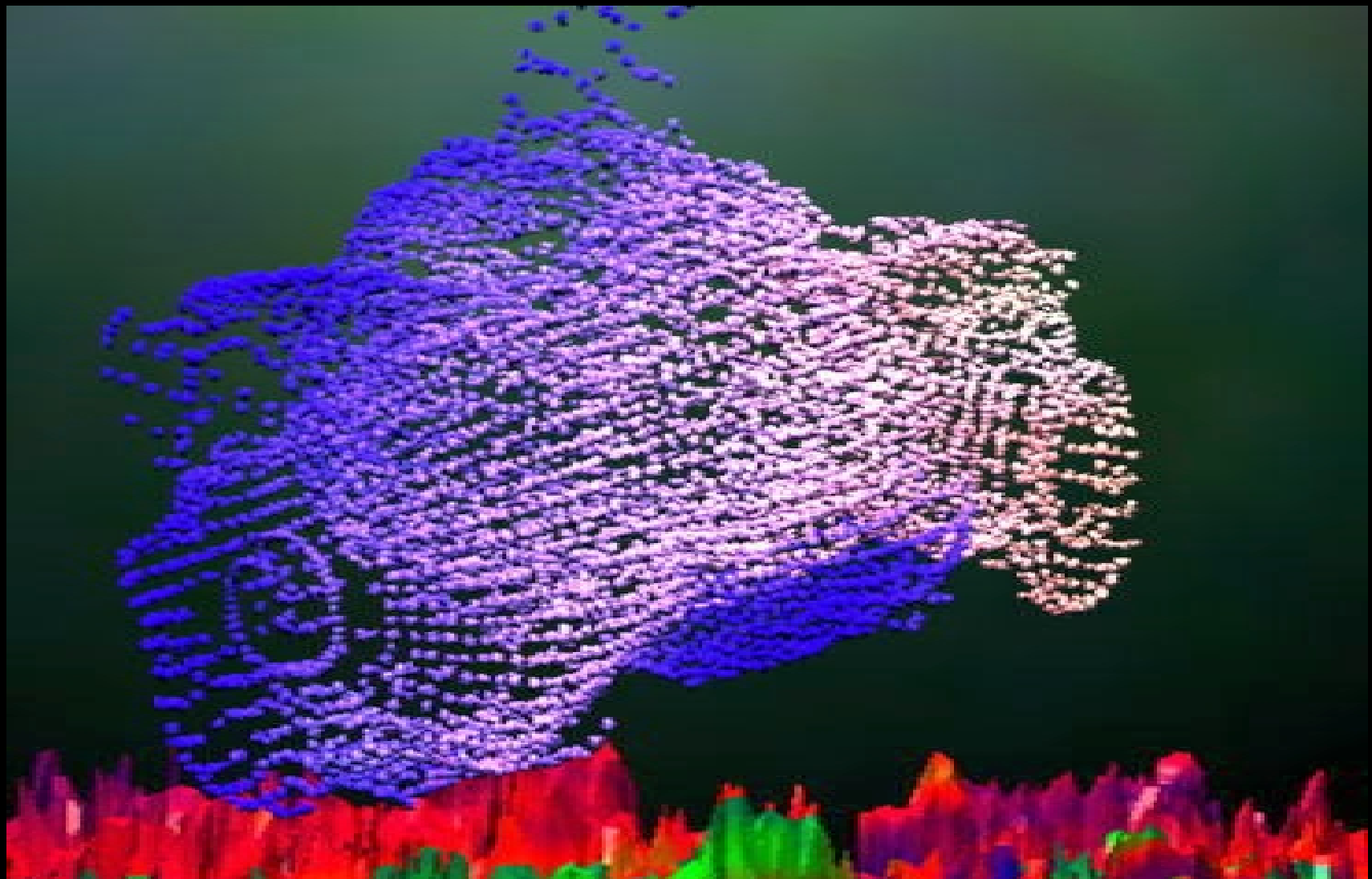
Cellular Cybernetics

- Cellular Delivery Systems
- Corrective / Enhancement Biodevices

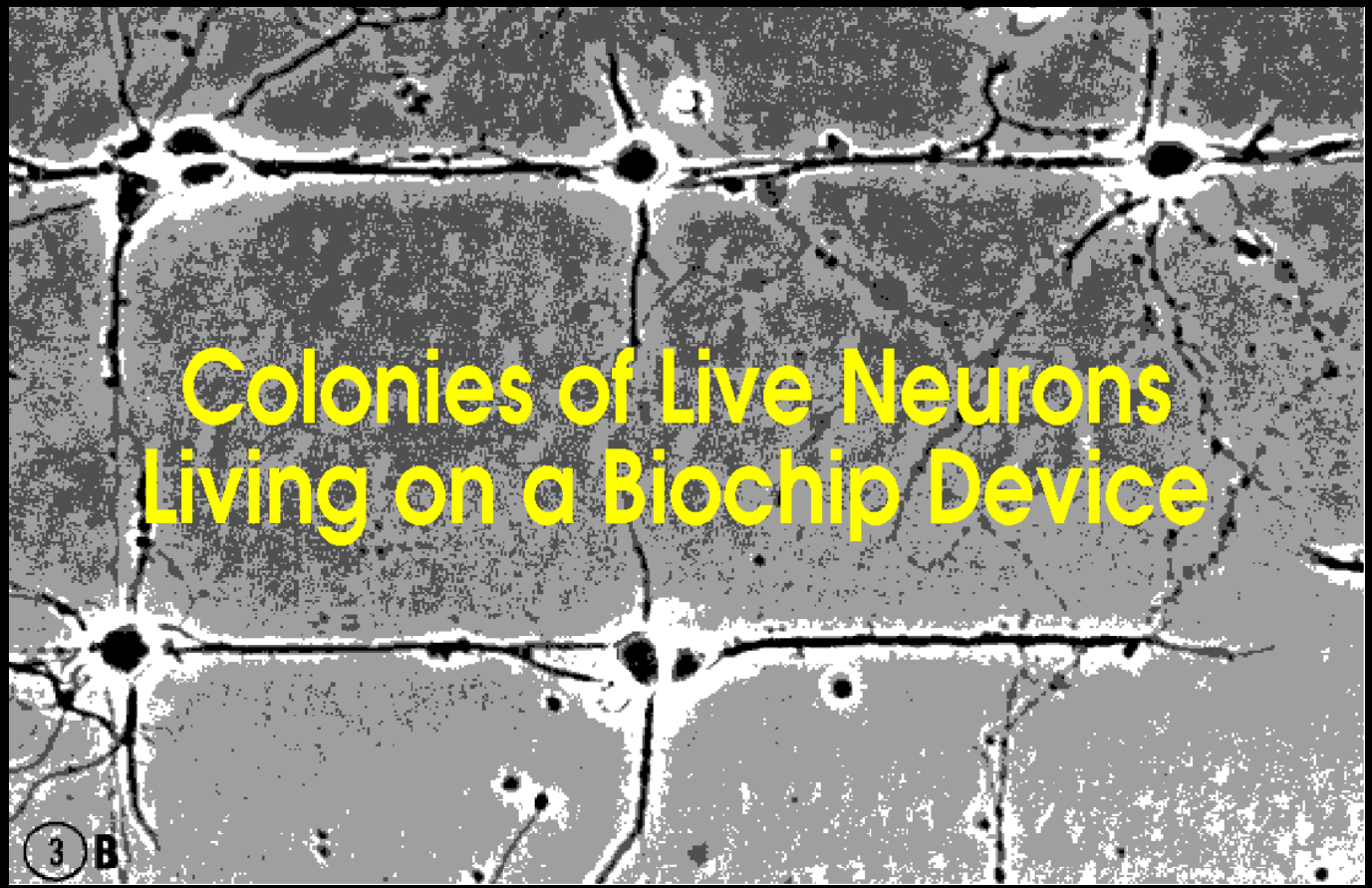




Hybrid Lifeforms - Self Organizing Systems

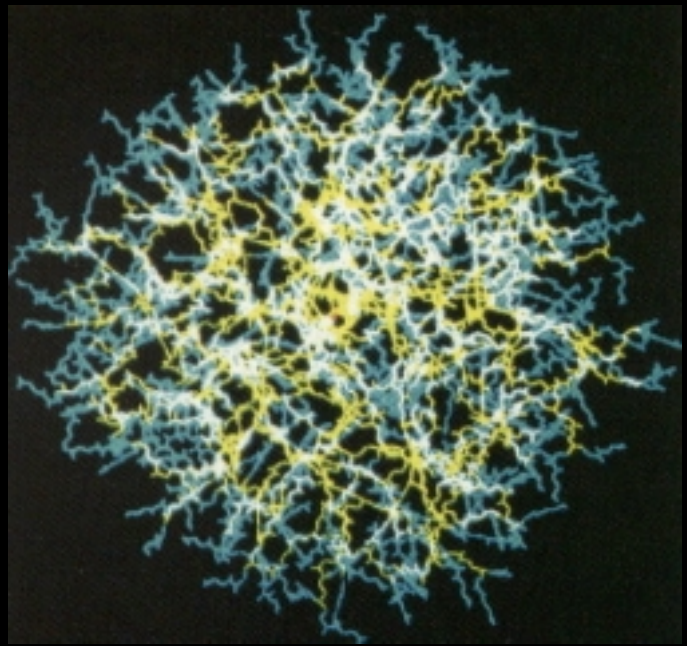


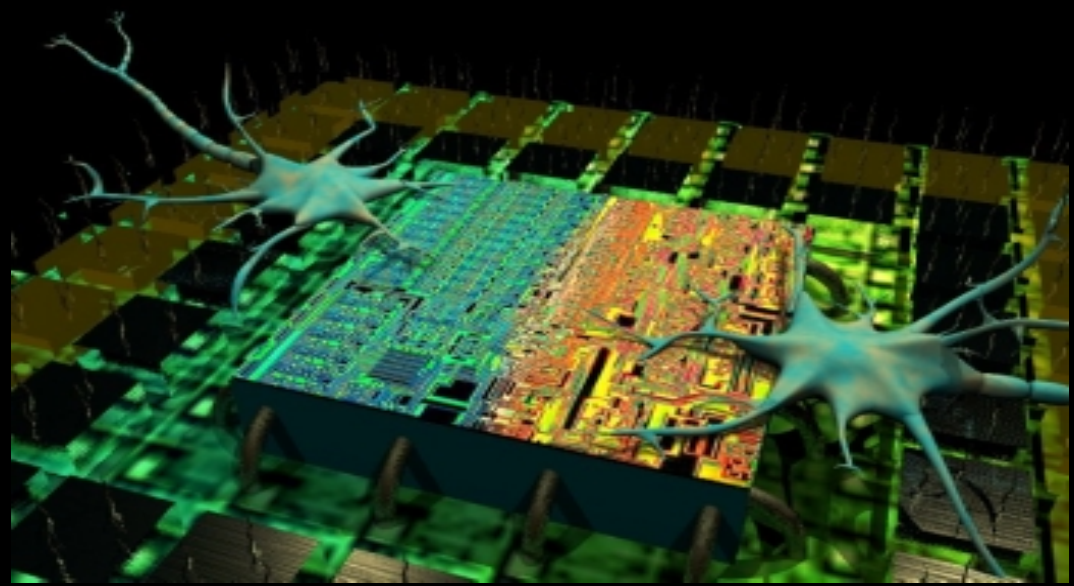
The New Frontier - Organic Merges with Synthetic



Life Sciences - Re-Engineering of Life Itself

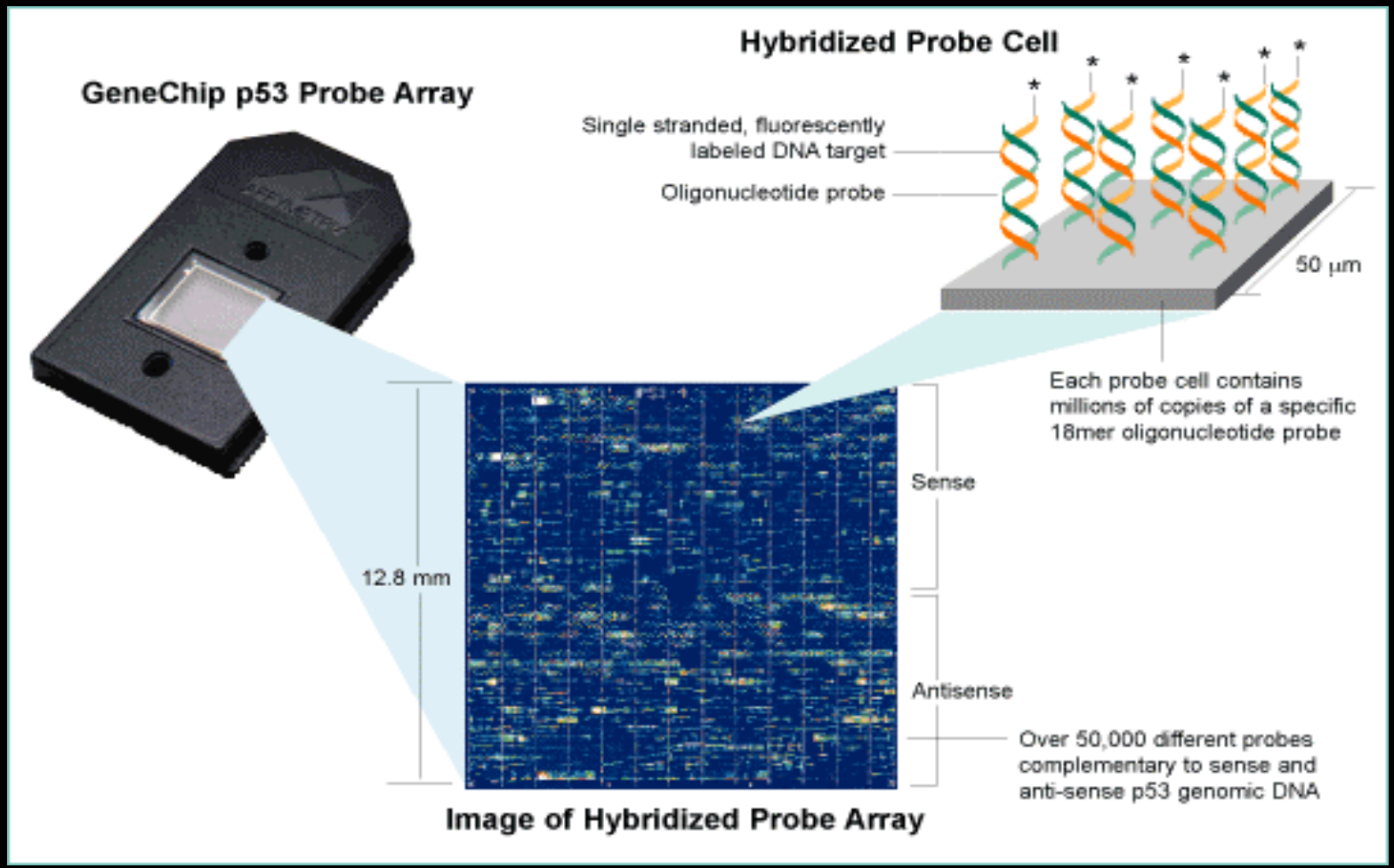
- Implantable Integrated Biodevices
- Bio-engineeerd Tissue, Organs, Organisms
- Synthetic Recombinant DNA - Genopharmacology



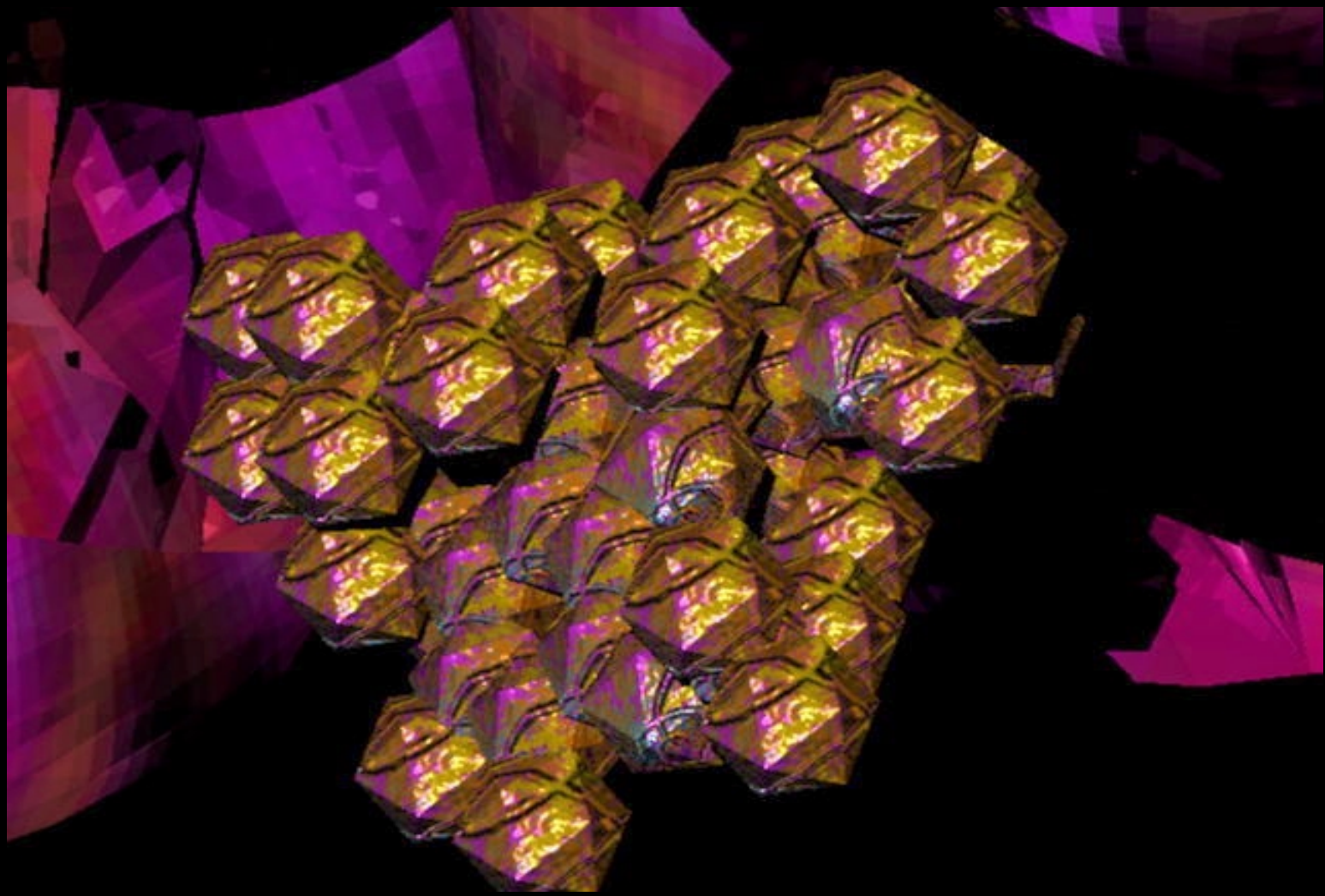


The Bio-engineering Revolution

- Affymetrix Genechip Example

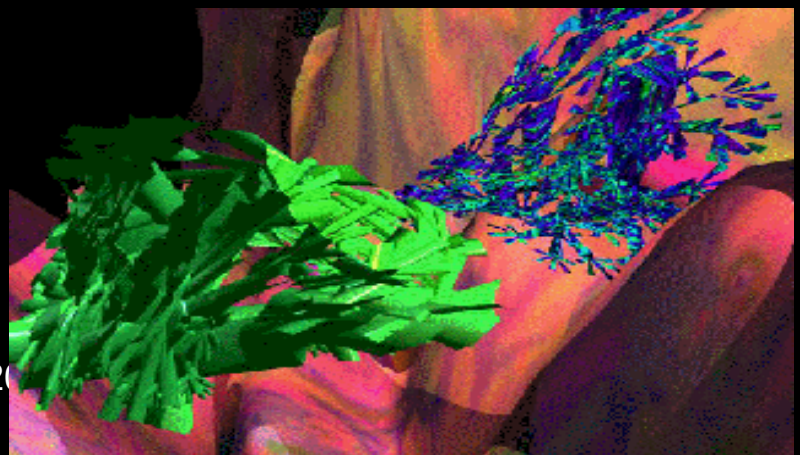


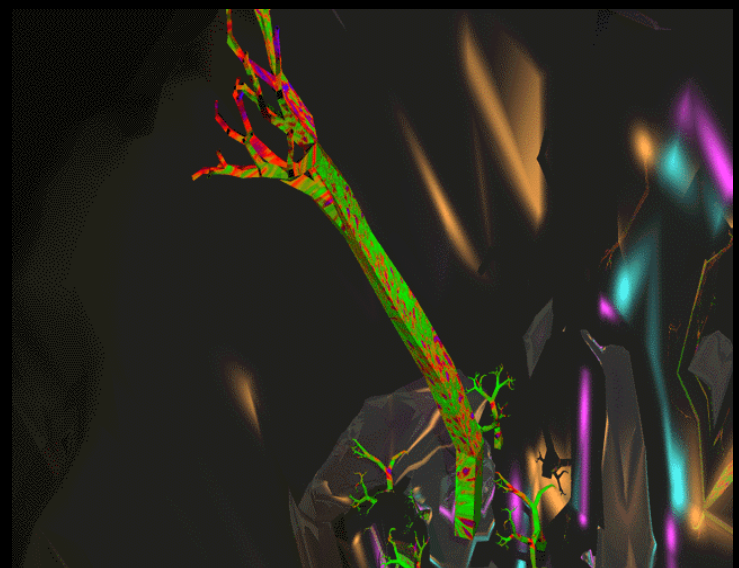
Lifeforms on Demand - the Next Emergent Process Deliverable



Most Important Key Features of Nanotechnology

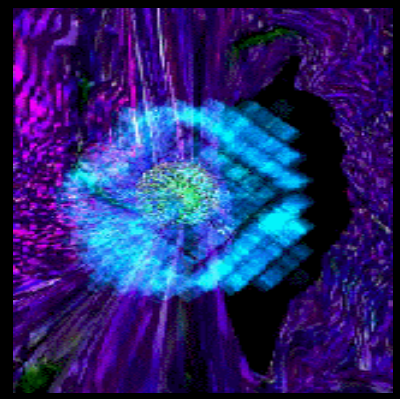
- It is not a thing, a widget, or “tiny machines”
- It is a collection of molecular scale Manufacturing Systems
- Gateway to an Entire New Industrial Infrastructure

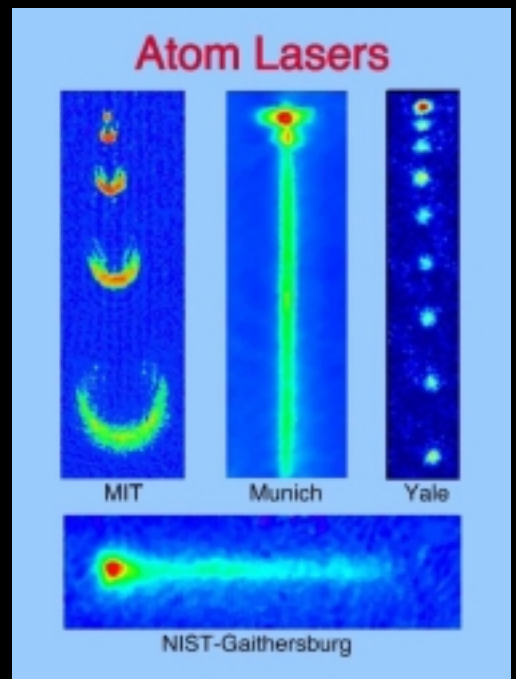


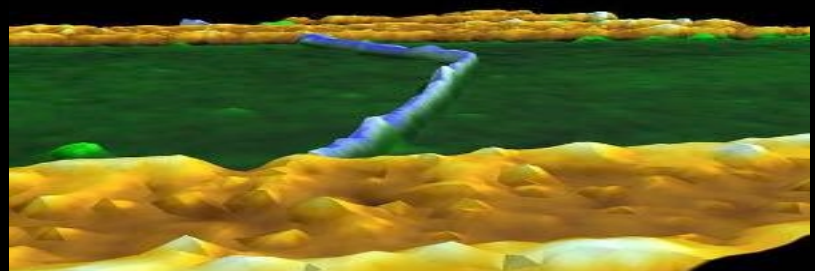


The Emergent NanoEconomy

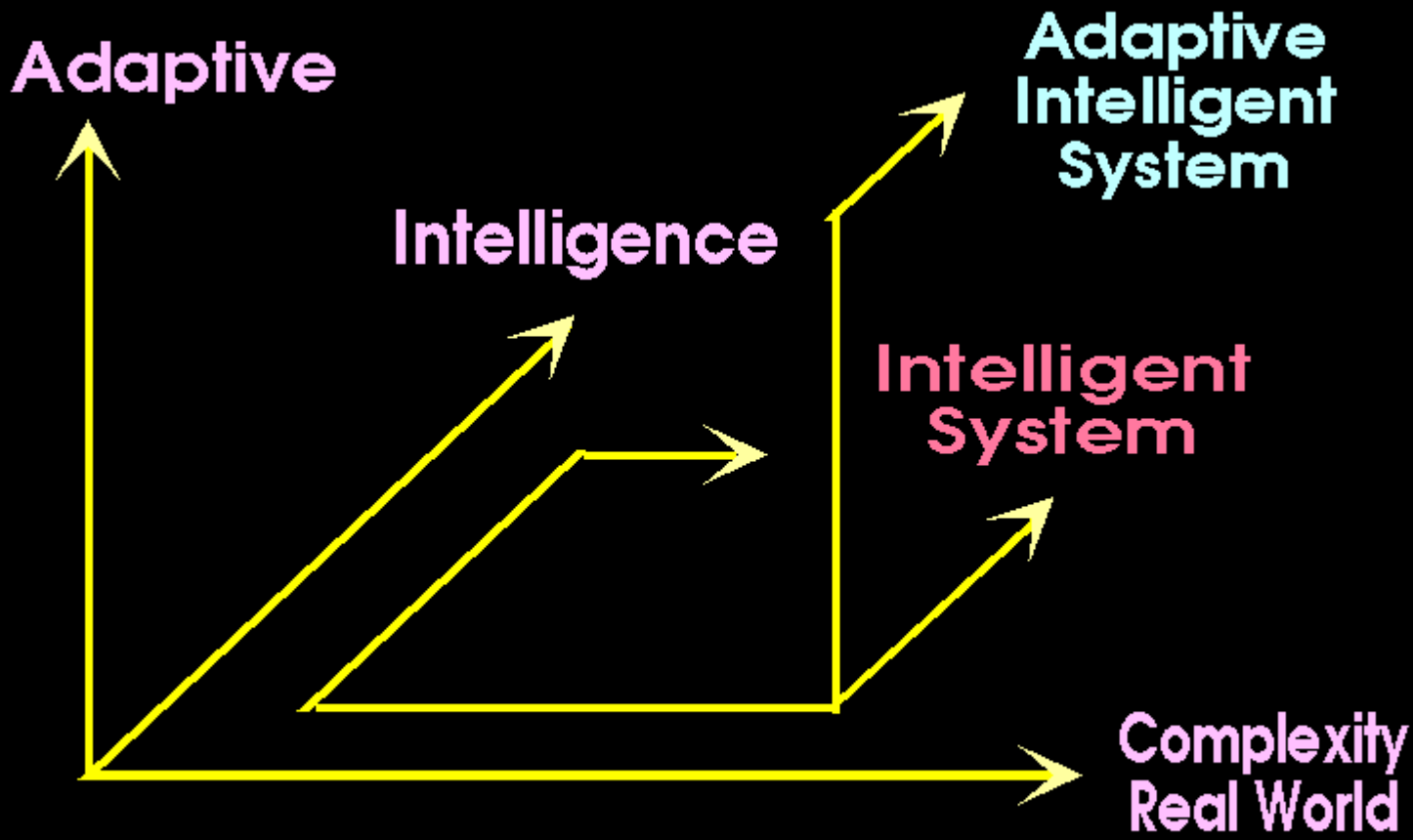
- Moore's 1st Law is Not Relevant, Moore's 2nd Law is
- Economies of Scale, New Value Chain Models
- Systems Approach to an Emergent Industrial Infrastructure
- Enabling Access to New Markets that Could Not Exist Without Nanotechnology





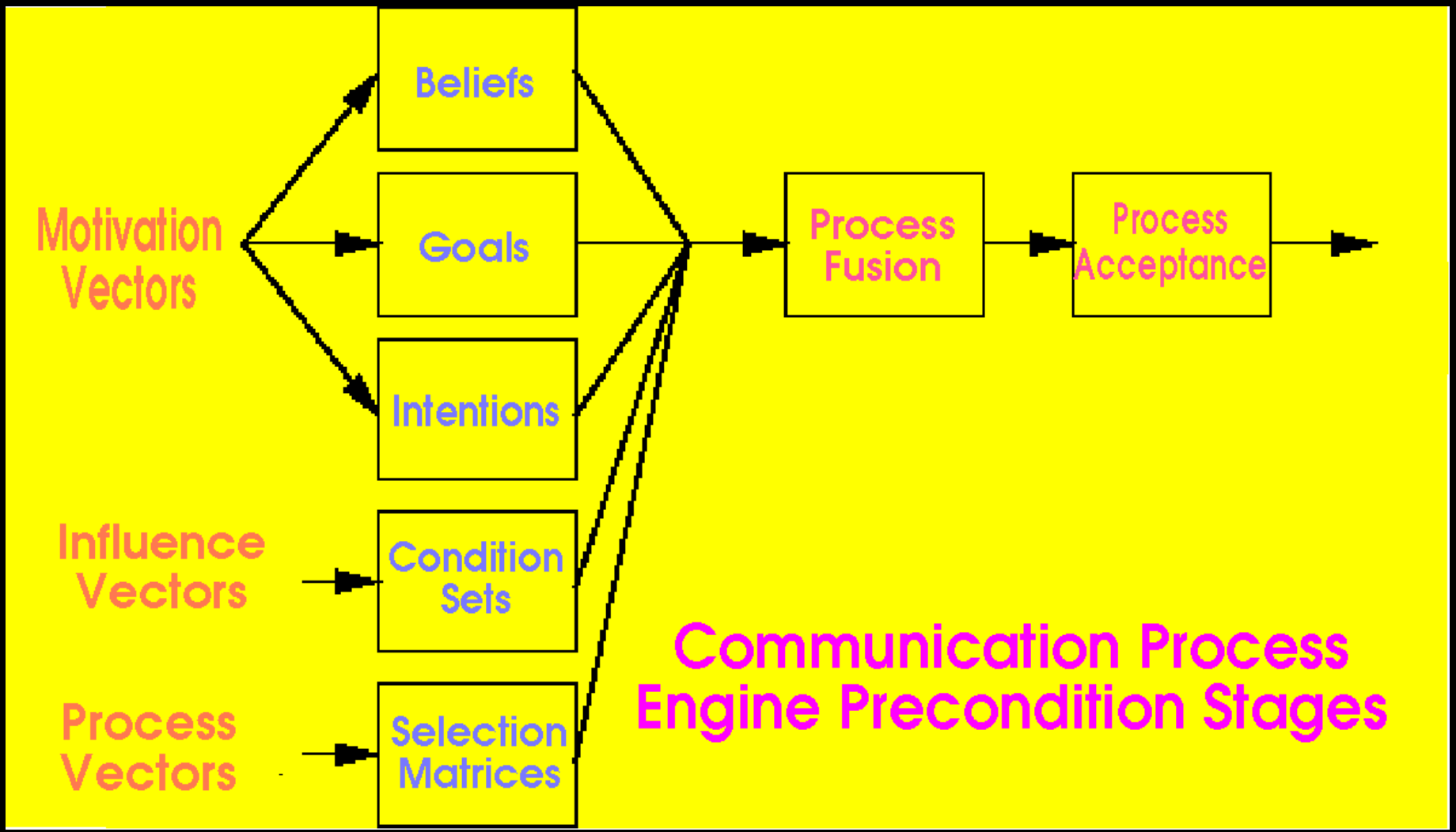


Ubiquitous Distributed Adaptive Intelligence Resources

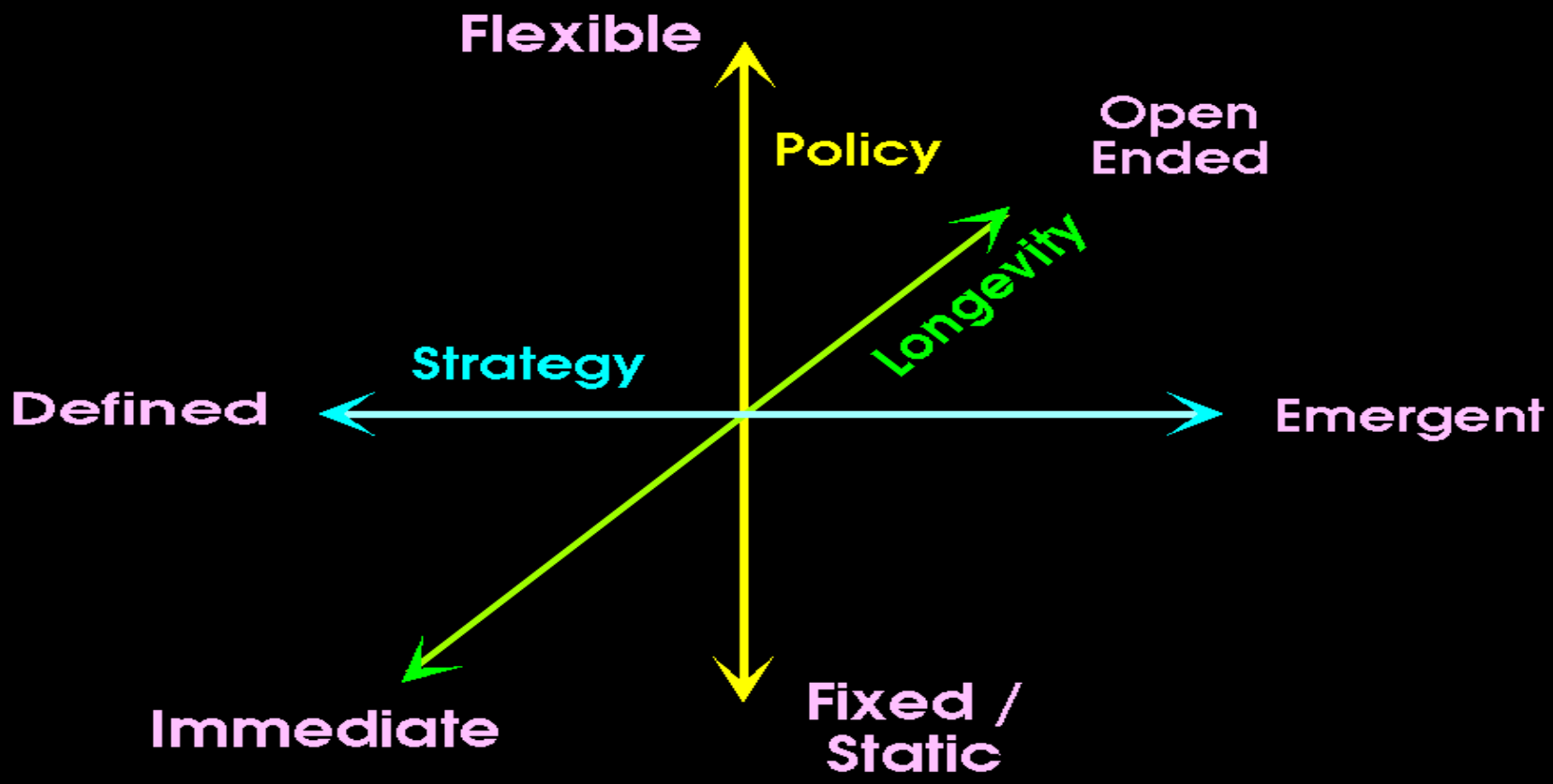


Adaptive Intelligent System Process Model

Artificially Enhanced Complexity Management - Process Control



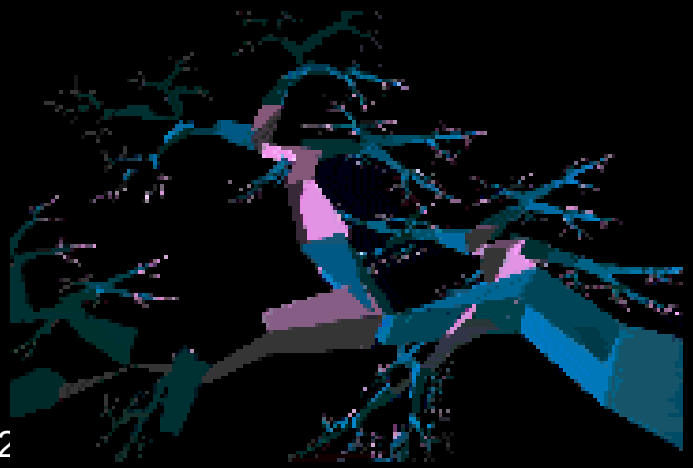
Knowledge Harvesting - Primary Resource Value Chain

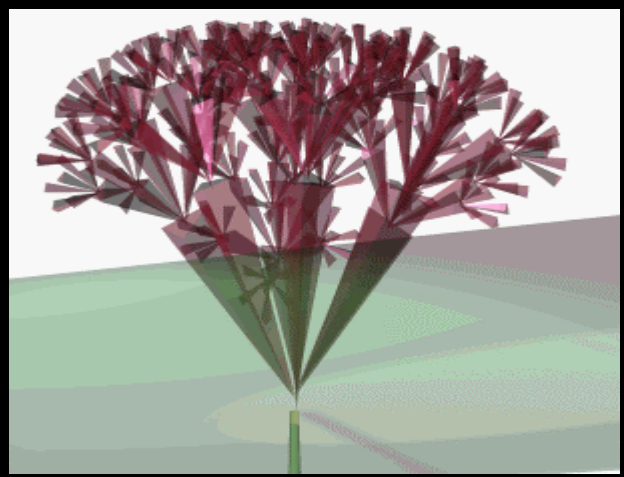


Contextual Cognition Process Vectors

Virtual Commodity Assets Attributes and Considerations

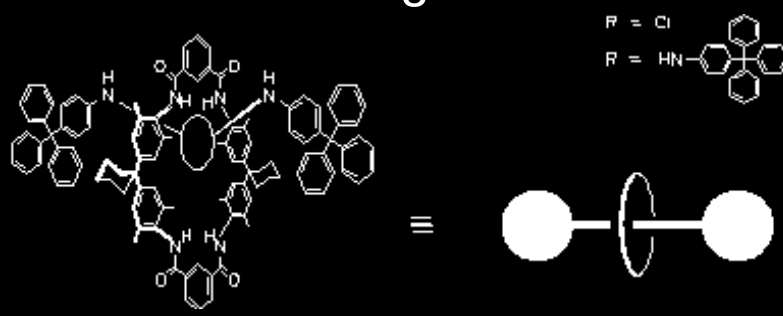
- Process Deliverables
- Access Portals & Computing Fabrics
- Distributed Knowledge & Intelligences
- Fiduciary Carrying Capacity of “VCA”

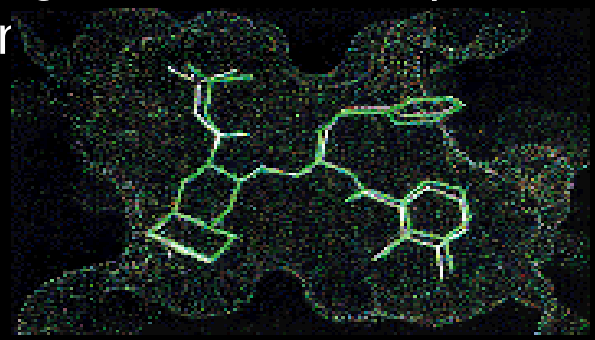




Convergence Syndrome Outcome

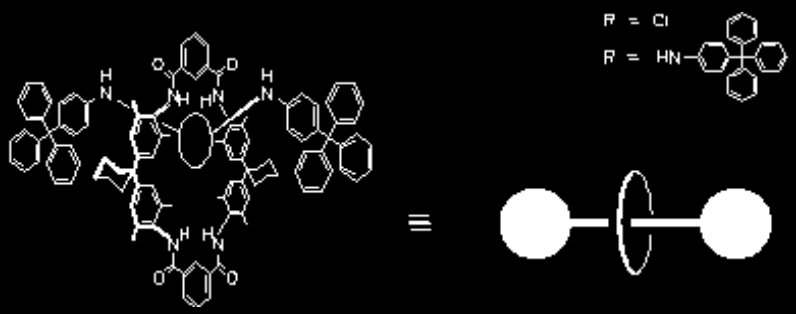
- As a process node embedded within the eventstream of our collective socio-economic, anthropological, and biophysical evolution, we begin first by spawning various synthetic entities. These become synergistically co-dependant organelle sub-components of an evermore complex, telecommunications centric process brokeraging infrastructure upon which the economic engines of our current civilizatior

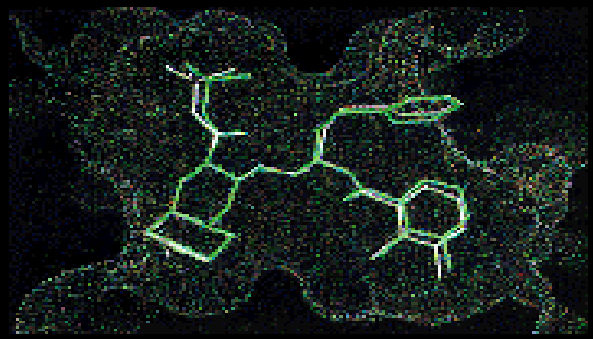




Convergence Syndrome Outcome

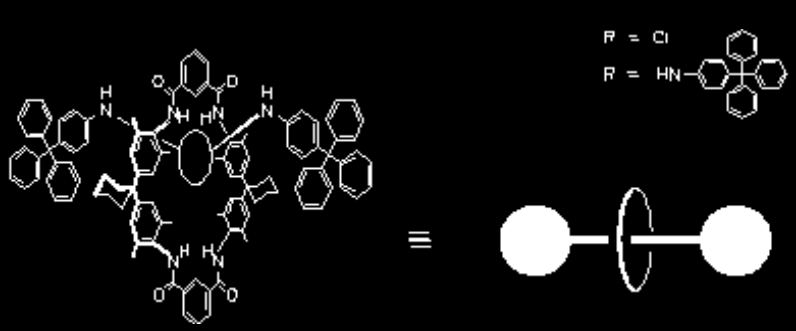
- Self organizing networks, process elements, and molecular substructures become the core organelles for synthetic brain engines, which in turn become the “physical” components for enabling synthetic sentience rendering as a process deliverable, enmeshed into a functionality matrix of symbiotic co-existence.

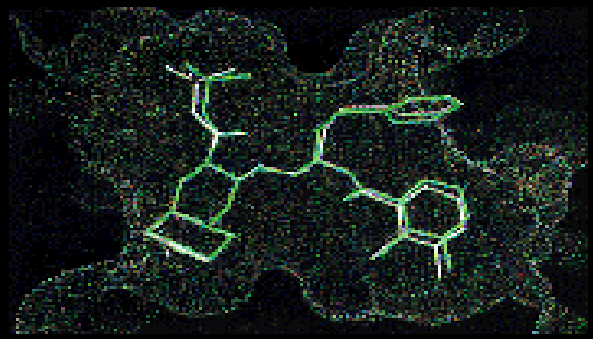




Convergence Syndrome Outcome

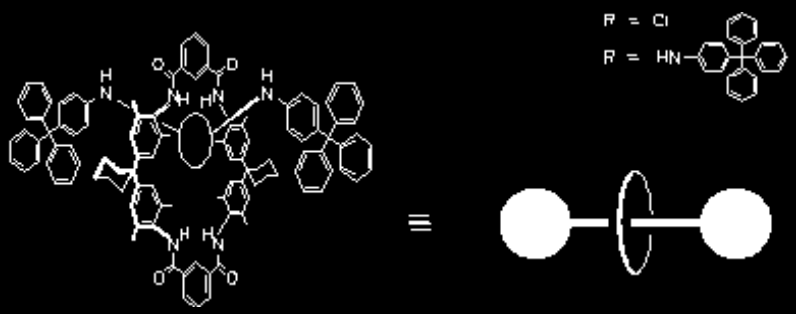
- Synthetic brain engines, which themselves are facilitated as nano-manufactured synthetic organelle components, become interconnected into the ubiquitous process brokeraging operational ecology.

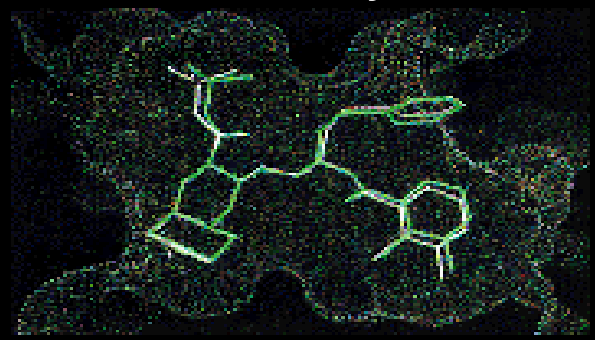




Convergence Syndrome Outcome

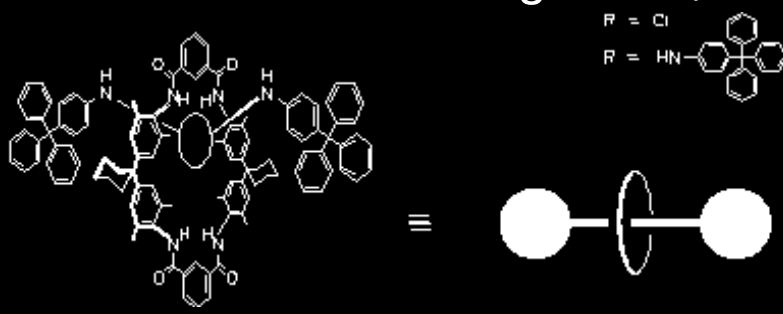
- Tangible, hard asset based commodity driven economic systems become supplanted by a virtual asset based economic ecology, in which valuation is measured less by ownership of physical things, more by access to processes. Synthetic sentience, and “tele-existence streaming” for on demand nano-assembly, become indices of valuation.

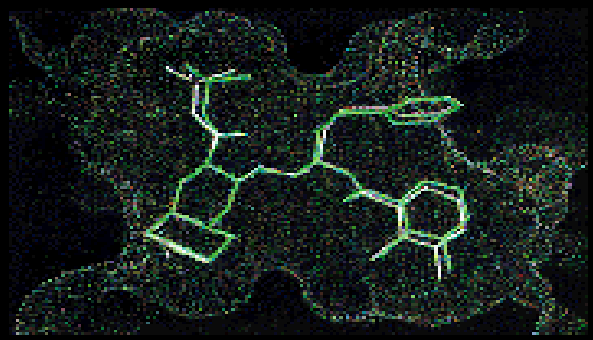




Convergence Syndrome Outcome

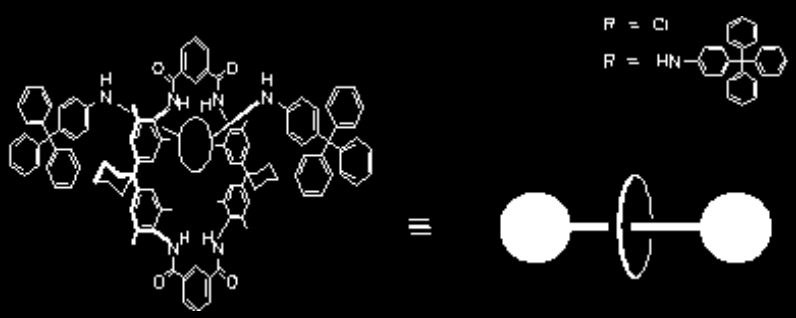
- Our collective development and deployment of complex metasystems of artificial entities and synthetic lifeforms, and acceptance of such becomes the “culture norm” of the near future. This is in fact the precursory developmental increment, as an evolutionary enabling threshold to communication with alternative intelligences, virtual and real.

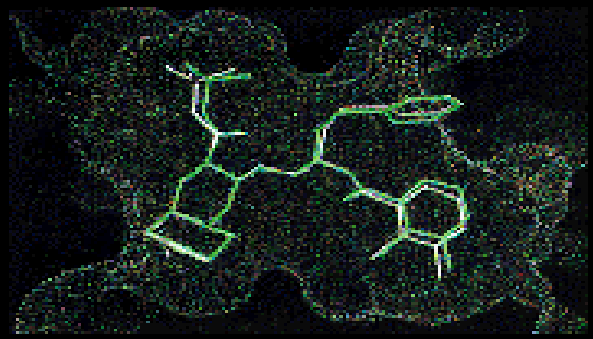




Convergence Syndrome Outcome

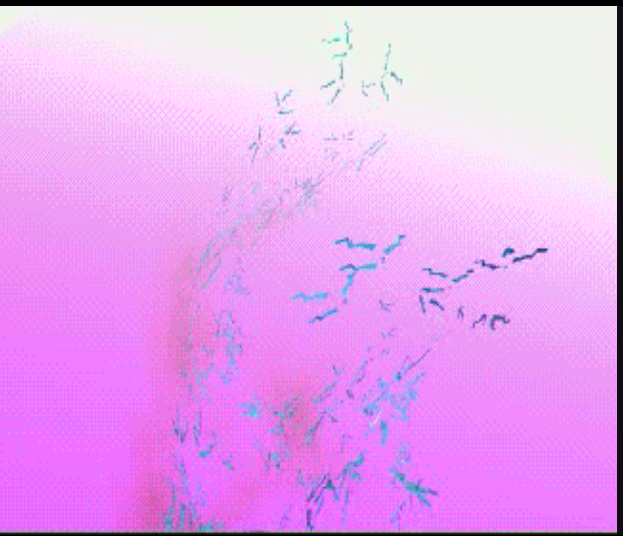
- The next evolutionary developmental increment will be access to the quantum realm, as a byproduct of applied nanotechnology. This is the enabling threshold to hybrid forms of consciousness on a mass scale, the evolution of the “empathic web”.

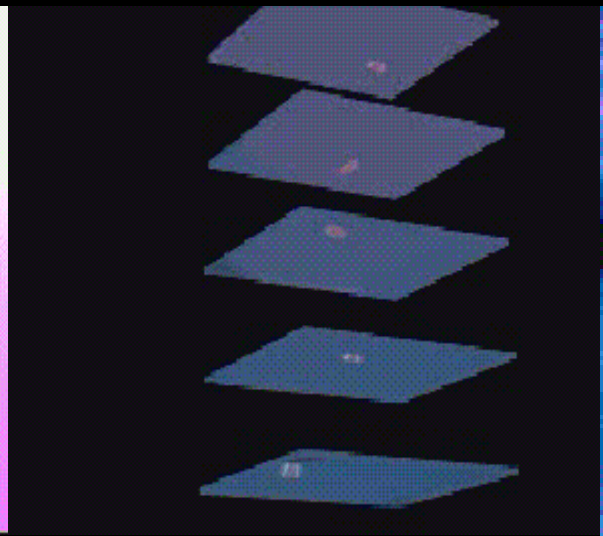


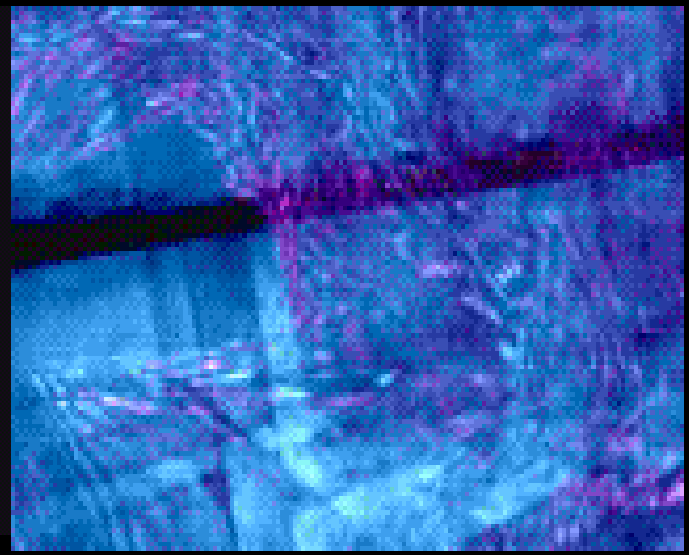


Convergence Outcome - Life is Redefined

- Biological Metaphors in Computing
- Immersion into the Ubiquitous Fabric
- Bioengineering - Life Itself Redefined







The Big Picture