# CogSpace

## A Collective Mind Map of Cognitive Science and Consciousness Studies

AUTHOR: Michael Gaio
www.michaelgaio.com

VERSION: 1.1
MEDIUM: Interactive Vision-Logic Interface
WEB SITE: www.cogspace.net

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### Brief Description:

CogSpace is an interactive, multimodal, and collectively formulated 3D visual mind map of Cognitive Science and Consciousness Studies. The model can help orient to a unified view of our collective approaches toward understanding mind and consciousness.

### ABSTRACT:

*This model is an examination of consciousness through an interactive visual representation of the interdisciplinary knowledge domains of Cognitive Science and Consciousness Studies. As a visualization of the various scientific and academic approaches toward understanding mind and consciousness, a unified and comprehensive overview is achieved that orients our collective approach in the field of consciousness research as a whole.*

*The model is based on a 3-dimensional axiomatic conceptual framework that assigns six (6) formally established primary knowledge domains of interdisciplinary Cognitive Science (namely: Psychology, Anthropology, Neuroscience, Computer Science, Philosophy, and Linguistics) as dual pair terminal points to the geometric polar axis (x+, x-, y+, y-, z+, z-) of the Cartesian coordinate system. Within this general axiomatic conceptual framework, many more specific knowledge areas are plotted as sub-domains (such as Artificial Intelligence, Cognitive Semantics, Language Processing, Psychophysics, Sociolinguistics, Game Theory, Symbolic Systems, Human-Computer Interaction, etc). The position of each sub-domain point is correspondent to it's relative magnitude of association to the six primary terminal points of the framework. Each sub-domain's relative metric of associations is derived by collective consensus, the averaging of variable determinations provided by a diverse group of people (and is, therefore, also a representation of a collective perspective of consciousness research, not merely the perspective of a single individual or isolated disciplinary field). All points are assigned a color value that is in direct correlation to position: the primary red, green, and blue color values are derived from a proportionate correlation to the x, y, z coordinate values (x+, x-, y+, y-, z+, z- = r+, r-, g+, g-, b+, b-). Thus, topical groupings of points will tend to be placed in similar areas of color, and correspondingly, topic areas and color fields will naturally overlap. This represents perfect correlation between semantic context, spacial position, and color value ... delivering a type of synesthetic representation of the entire model.*

*With this dynamic arrangement of organizational factors, the model renders a unique integral perspective and comprehensive cartography of the "terrain", and provides a "navigational instrument" for our explorative traversing across the frontiers of consciousness research. By plotting each sub-domain in scope of the relative positions of all other domains, areas of knowledge and research concentration and lack of concentration ("unexplored regions") become apparent. When referencing any particular disciplinary sub-domain within the manifold model, where it is at and what color it is can suggest something about it's qualitative proximity to either more discrete and concrete or more continuous and abstract types of knowledge and research. For example, a sub-domain that is extremely neurobiological will be far less philosophical, and is placed on an extreme exterior boundary of the model (color saturation is more additive toward extreme hues). Inversely, a sub-domain that is a hybrid, somewhat balanced in interdisciplinary collaboration between linguistics and computer science, psychology and anthropology, and philosophy and neuroscience, is placed closer to the center of the model (color saturation is subtractive toward gray). The exterior of the model therefore represents the diverse and distributed areas of the more discrete and concrete knowledge domains--portrayed as the bright "rainbow" spectrum of colors. The interior of the model represents the hybrid and cross-disciplinary areas of the more continuous and abstract knowledge domains--portrayed figuratively and literally as the "gray area". As the exact center of the model represents an absolute and unified knowledge of consciousness, the closer a disciplinary sub-domain is to the center, the closer it may be to an actual experiential and holistic "knowing" of consciousness, yet it may also loose degrees of specificity and applicability found with the more phenomenological approaches of the exterior domains . This trend is representative of our collective approach from "the exterior" toward the frontier of "the interior", as well as a transdisciplinary approach toward the coalescent amalgamation of the unified whole.*

**Overview:**

CogSpace is an interactive, multimodal, and collectively formulated 3D visual mind map of Cognitive Science and Consciousness Studies. The model can help orient to a unified view of our collective approaches toward understanding mind and consciousness.

The model is based on a 3-dimensional axiomatic conceptual framework that assigns six (6) formally established primary knowledge domains of interdisciplinary Cognitive Science (namely: Psychology, Anthropology, Neuroscience, Computer Science, Philosophy, and Linguistics) as dual pair terminal points to the geometric polar axis (x+, x-, y+, y-, z+, z-) of the Cartesian coordinate system. Within this general axiomatic conceptual framework, many more specific knowledge areas are plotted as sub-domains (such as Artificial Intelligence, Cognitive Semantics, Language Processing, Psychophysics, Sociolinguistics, Game Theory, Symbolic Systems, Human-Computer Interaction, etc). The position of each sub-domain point is correspondent to it's relative magnitude of association to the six primary terminal points of the framework. Each sub-domain's relative metric of associations is derived by collective consensus, the averaging of variable determinations provided by a diverse group of people (and is,

therefore, also a representation of a collective perspective of consciousness research, not merely the perspective of a single individual or isolated disciplinary field).

**Ontological Color-Space Matrix:**

The six primary knowledge domains are naturally matched as dual sets, placed in diametric polar positions, and associated as complimentary field gradients with correlative spacial and color quantities :

| | | | |
|---|---|---|---|
| **Psychology** | < --------- > | **Anthropology** | +/- y : red |
| **Computer Science** | < --------- > | **Linguistics** | +/- x : blue |
| **Neuroscience** | < --------- > | **Philosophy** | +/- z : green |

This arrangement creates a multi-dimensional semantic-color-space matrix and axiomatic framework for manifold data representation.

The result is that all points are assigned a color value that is in direct correlation to the point's position: the primary red, green, and blue color values are derived from a proportionate correlation to the x, y, z coordinate values (x+, x-, y+, y-, z+, z- = r+, r-, g +, g-, b+, b-) or (xr+, xr-, yg+, yg-, zb+, zb-). Thus, topical groupings of points will tend to be placed in similar areas of color, and correspondingly, topic areas and color fields will naturally overlap. This represents perfect correlation between semantic context, spacial position, and color value ... delivering a type of synesthetic representation of the entire model.

**Collective Formulation:**

The evaluation of the metric positioning of each sub-domain is determined by a process of collective consensus. A diverse group of people (including scientists, artists, scholars, independent thinkers, laypersons, and others) are invited to participate in "voting" for the placement of each specific knowledge sub-domain within the model. Participants can also introduce new knowledge sub-domains into the field for collective review and placement. On-going consensus results will determine the representation of the model: a continuously evolving "democratic" or "collectively intelligent" cartography of our collective approach to understanding mind and consciousness.

**Perspective Orientation**:

The overall arrangement of the model renders an interesting orientation and perspective around our collective approach into the frontier of Cognitive Science and Consciousness research. When referencing any particular disciplinary sub-domain of knowledge, *where it is at* and *what color it is* can suggest something about it's proximity to *an absolute comprehension of consciousness*. For example, a sub-domain that is extremely *neurobiological* will be far less (if not absent of) *philosophical* content, and will be placed on an extreme exterior fringe of the model (color saturation will be more additive toward extreme hues). Inversely, as another example, a sub-domain that is in somewhat of a balanced interdisciplinary collaboration or hybrid between *linguistics* and *computer science*, *psychology* and *anthropology*, and *philosophy* and *neuroscience* will be placed closer to the center of the model (color saturation will be subtractive toward grey). The exterior of the model therefore represents the diverse and distributed areas of the more discrete and concrete knowledge domains--portrayed as the bright “rainbow” spectrum of colors. The interior of the model represents the hybrid and cross-disciplinary areas of the more continuous and abstract knowledge domains--portrayed figuratively and literally as the “grey area”. As the exact center of the model represents an absolute and unified knowledge of consciousness, the closer a disciplinary sub-domain is to the center, the closer it may be to an actual experiential and holistic “knowing” of consciousness, yet it may also loose degrees of specificity and applicability found with the more phenomenological approaches of the exterior domains . This trend is representative of our collective approach from “the exterior” toward the frontier of "the interior”, as well as a trend of a transdisciplinary approach toward the coalescent amalgamation of the whole.

**Multimodality:**

• As *a mind map of the study of mind upon itself*, it is a uniquely expressive compound symbol of the epistemological aspects of cognitive methods (i.e., mental processes of knowing) and of consciousness itself in form, function, and content--with significant emphasis on the iteratively reflexive qualities of "mind" in the form of computation and multi-media representation.

• As the representational formulation is determined in part by group participation and consensus via the internet, it is *a mind map constructed by a collective mind* (as opposed to just a singular individual mind).

• As a model resulting in synesthetic representation by the semantic-color-space framework, it is *a mind map that plots new territory between and around both rational and phenomenological ways of knowing and perceiving.*

**Model Features:**

• a conceptual framework based on the primary axiomatic knowledge domains of interdisciplinary Cognitive Science.

• placement of knowledge sub-domains are determined by a collective consensus process, portraying a unified and dynamic representation of a pluralistic perspective.

• an extensive and synesthetic "mind map", an instance of a type of "vision-logic interface", that represents a complex system of associations into a more comprehensible form.

• an interface for navigating and accessing actual information and knowledge about Cognitive Science: each knowledge domain is represented as a discrete visual node that can be interactively selected ("clicked") to then unfold with more information on the content of that knowledge domain (data extracted from Wikipedia).

**Presentation:**

CogSpace is presented here in it's current stage of development (not all features are yet available):

http://www.cogspace.net

**Development:**

CogSpace is being developed in Flash ActionScript 3.0. Considerations are also being made to transition to either the Processing (Java) or openFrameworks (C++) languages for even greater processing speed and granular visual effects.

For pubic installation, CogSpace will be represented as a print poster and on an interactive touch-screen display.

**Author's Bio:**

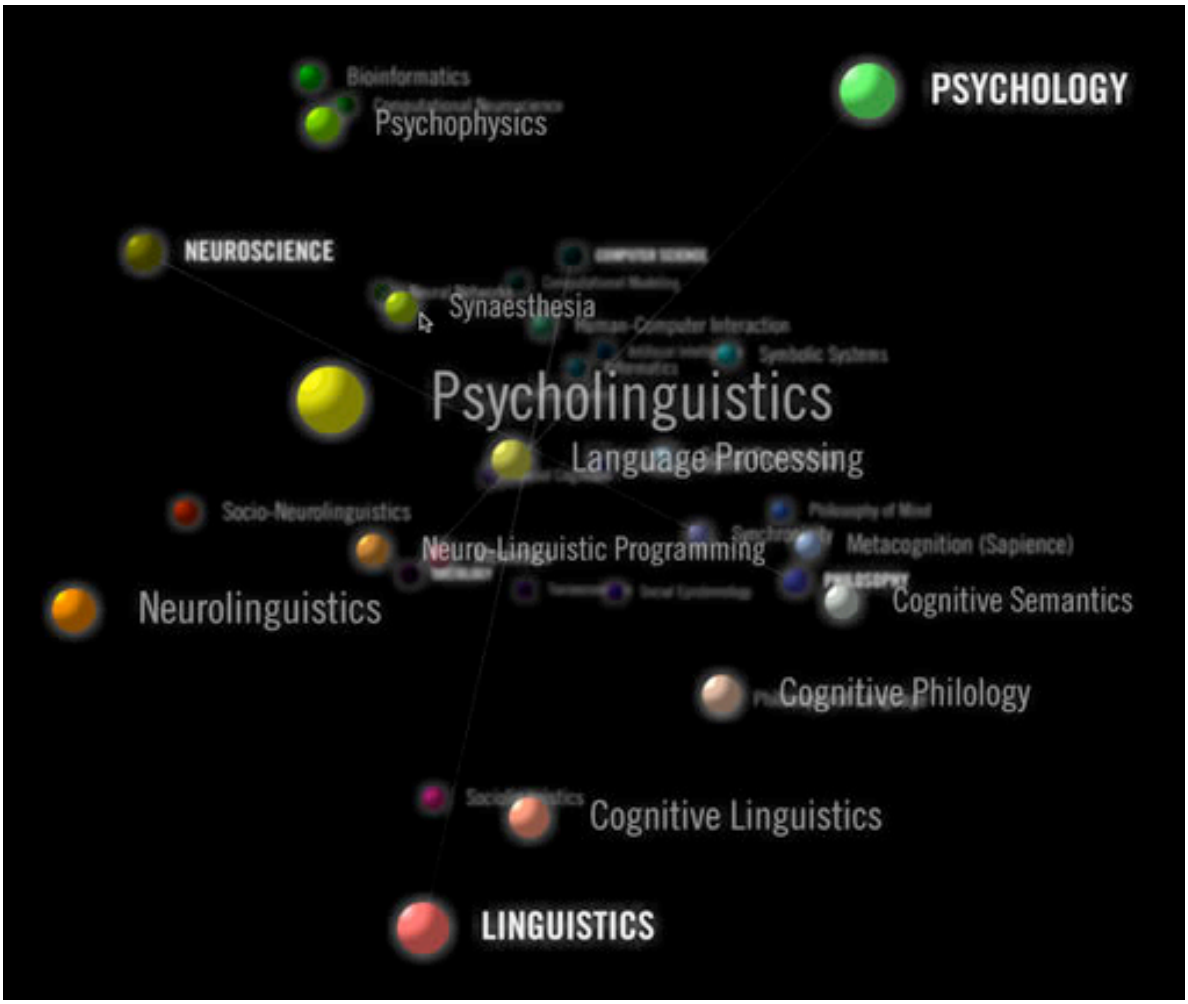
Michael Gaio is a multi-disciplinary social entrepreneur, experience designer, interaction designer, information architect, ontological engineer, philosopher, archetypal cosmologist, noospheric researcher, inventor, and multimedia artist.

He has worked in interactive media primarily within the Lifestyles of Health and Sustainability (LOHAS) market for the past eleven (11) years honing multiple talents in Flash Visual Design, Animation, Interaction Design, User Interface Design, Information Architecture, ActionScript Programming, Web Development, and Innovation for social evolution. He has produced over 100 projects primarily in support of ecological, sociological, or culturally creative organizations and initiatives, such as: Harvard

University's Center for Health and the Global Environment (CHGE), the California Institute of Integral Studies, the Institute of Noetic Sciences, the Buckminster Fuller Institute, United Nations World Environment Day, Julia Butterfly's Hill's Circle of Life, EarthDance International, PlanetWork, Species Alliance, Duane Elgin's Awakening Earth, Dave Ellis' Leadership Training, Richard Tarnas' Cosmos and Psyche, Ken Wilber's Core Integral, and AutoDesk. He has conducted classes on Virtual Reality development to grade-school children, and instructed a full series of Flash design and programming courses at the Center for Electronic Arts in San Francisco. He has initiated multiple innovative entrepreneurial projects that combine principles in Information Technology, Transpersonal Psychology, and Archetypal Cosmology to promote social evolution.

Michael holds an M.A. in Philosophy, Cosmology, and Consciousness from the California Institute of Integral Studies (2006).

Personal website: www.michaelgaio.com
CogSpace website: www.cogspace.net




CogSpace model view