
Constructing Poiesis [1]

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We believe that the resolving of these matters requires the construction of complex measuring and tracking devices, constructions by which to gain perspective on human functioning and separate out its component factors (Madeline Gins and Arakawa, 2002: 13).

I. Overview and Call

These storyboards are calling for the development of a handy but advanced graphicalization shorthand for diagramming what we observe of our experience. All of it.

The graphicalization scheme I am calling for, and here sketchily suggesting/suggestively sketching, would serve as a conceptual/technical aide for biotopological observation and reporting. [2]

Such a graphicalization scheme would help us capture the things we are aware of at any given moment, and support the orderly and elegant mapping of what we might make of that and why.

A biotopologist produces ongoingly organized and redistributing gatherings of all that pertains to that organism that persons who happens to be the biotopologist herself, including the slightest of slight urges and what only faintly indicates itself as being operative

as an organizing principle; she calls these ongoingly and redistributing gatherings of her making “diagrams.” (Madeline Gins and Arakawa, 2006: 56)

It would support high-end approximative/rigorous diagramming of any experience – whether the fine focus and sensitive/critical attentions of reading; the implicated, massive and impactful impressions of an encounter with another person, or the vast, dispersive and vanishing backgroundedness of a person’s having a world, or understanding hir life. In other words, it would help you sort out the factors and operations by which the meaning you make of things is made, both when you’re trying to carry out a thought, and when you’re trying to lead a meaningful life.



Fig. 1.

Biotopologically seen, experience *is* reading, so a good theory of reading should at least get you half way to a good psychology. And if nothing else, this kind of graphicalization scheme should produce a good theory of reading. Everything.

Poeisis: Poeisis is the ability to pull spacetime-mass-energy together as meaning. And doing this to spacetime-mass-energy has been seen to improve and extend human lives. So, it is an important ability to train.

If the discovery of the psychological nature of meaning were completely successful, it might put an end to psychology altogether. (Professor Pear, epigraph to Ogden and Richards 1923)



Fig. 2.

A person pulling spacetime mass energy together as meaning who has trained himself in doing this, can be called a coordinologist, or said to be doing coordinology. Coordinology and poetics would be the same word, only coordinology is more explicit about the intelligence, concentration and dexterity required of one who handles the threads of life's, and the universe's, meanings themselves.

If you study hard and always strive to know the full range of the body's capabilities, you will in all probability not have to die.
(Madeline Gins and Arakawa, 2006: cover)

Biotopology and coordinology would be the same word, did not the difference between a field and an activity within it still deserve some emphasis. To construct poesis is the same as to construct coordinology; only if it weren't for the promise of biotopology, there would be no need to do so. And the promise of biotopology, of course, is how not to die.

The call: To help train coordinological capacity, and advance biotopology as the art-science of emphasis, I am calling for research and development on a

graphicalization scheme that could respond to the need to get things of this sort (phenomena) down, and with the dynamic nuance and rigorous approximations required of a good reporting.

In the name of all those who would more approximative-rigorously observe and more efficaciously understand their own experience, I want a graphicalization scheme that will allow me maximum expressivity and articulation in recording and reporting on the many dimensions of my experience, but with an extreme ease of handling, and an extreme low barrier-to-entry, made possible by a highly intuitive interface that minimizes the effort required to think and perceive with it meticulously. Easy to use as a pencil, spreadsheet or your mother tongue.



Fig. 3.

What this calls for is tantamount to a language, yes, but embodied in a scalable diagramming ontology (dots, lines, circles, frames) and that ontology's graphical/gestural mark-up syntax for, in essence, saying everything.

Digital versions: The optimal feasible implementation for such a graphicalization scheme would be for it to take the form of an interactive digital application (e.g.

in Flash, Flex or Air), a sketch and notation tool, possibly online, that would take a detailed, site-precise and time-keyed biotopological report from you like a phenomenologist stenographer; easy, like going out to a fun park and filling in a user survey. Either as a blank notepad (or wall) to touch/write the immediate awareness onto, or in overlay mode, marking up image, sound, video or other media material with the report of your experience of it.

Such a tool would be a boon to biotopologists and art observers alike, making the process of “getting it all down” easier and more articulately inflexible. It would empower the sensorium to explain “in its own words” what it went through in constructing a given passage of meaning, and what a certain passage of experience seems to consist of. Laying out the landing site configuration of the moment, and laying out the landing site configurations of sequential moments over an extended passage, biotopologists will be better able to observe the micro- or infra-procedurality involved in an organism’s organisming or personing, as such.



Fig. 4.

The sketch: What I try, ever proleptic, to sketch out in the accompanying slides, is a rough, speculative skeleton of a conceivable graphicalization scheme that could possibly be implemented in a wide range of media and at many different scales.

It is language-like in this sense too. It can easily adapt to new channels, and shrink or expand to fit and optimally functionalize the available constraints (here using InDesign and Microsoft Word). In other words, this scheme would work well in short-hand as a quick back-of-the-envelope jotting habit, in Flash-coded interactive graphics for a web-based diagramming application on your computer, or as something larger, like an immersive motion-sensing holographic projection environment [3], or a purpose-built architecture like memory theaters, a powerloom or the abacus.

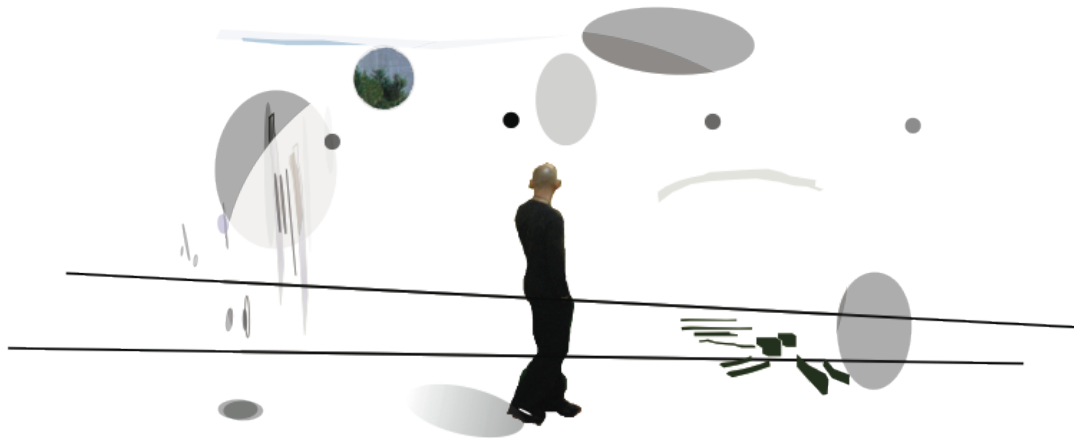


Fig. 5.

If we think in digital media, and we do increasingly, what I'm picturing here, and plausibly proposing, is at the middle scale, an interactive notation tool, like google maps for an emergent geo-meteorology of anything happening or taken into consideration. Both extensively and intensively far more than what is commonly called a mind-map is required, supplying thorough charts of landing and the implications.

As we take, in fact, a general view of the wonderful stream of our consciousness, what strikes us first is this different pace of its parts. Like a bird's life, it seems to be made of an alternation of flights and perchings. (James 1950: 243)

It will presumably take a diagram the size of a good wind tunnel or a large, elaborate playground climbing structure, to work the mind into shape for pulling spacetime-mass-energy together as meaning reliably, or reconfiguratively, or unendingly.

Jottings and memos having to do with what anything in the world consists of should be made large, even enterable. (Gins 1994: 89)

Built, enterable jotting schemes should also be built. [4] But we start where we start. The 2D graphics of this version produce a useful abstraction for boiling biotopology down; but like everything else, doing it for real takes fat, and guts.



Fig. 6: *Tubular Loom Bioscleave House* – Biotopological Diagramming Assistant and Don't Fall Trainer – un non-tombeau pour Arakawa - built July 2011 East Hampton, NY.

II. Tentative Constructing

The scheme: The graphicalization scheme we develop will have to rely on the establishment of a basic ontology, a reference vocabulary of marks and meanings, that will allow us to link basic items of biotopological observation to clear shorthand signs, easily manipulated to produce further and more precise, or calculatedly vaguer, meanings.

This involves the creation of a minimum modular set of markers in a visual notation scheme adequate both to the complexity and concreteness of things and

events, and to their vanishing approximateness, their tentativeness, reversibility and spin.



Fig. 7.

Tentativeness and the foundational isomorphism.

Developing this set of markers, both vocabulary and ontology, we face certain serious challenges, challenges that come with any commitment to not sell the tentativeness of anything short. A similar challenge was behind David Bohm's coinage of the "rheomode" as a language reform that involved remaking every noun as a verb in gerund form, like running (Bohm 1980: ch. 2). What serves as an ontology in the functional sense (permitting the construction of a modeling system) requires/inspires an upgraded ontology in the philosophical sense; a revision of the assumption that non-tentativeness exists. This set of markers, and the graphicalization scheme they are used in must therefore be designed carefully. The graphical object must function in a *non-objective* semantics, to use Malevich's term, facts obsessively caveated with the refrain "no stable state," "no-inherent-existence" (Malevich 1944).

Staying current with bioscleave, remaining alive as part of it, involves keeping pace with the tentativeness it brings to bear. (Gins and Arakawa 2002: 49)

This is not easy to do in graphics, on the same principle that it is hard not to think of an elephant. What's there cannot say absence. Fortunately, through certain graphical tricks and creative liberties in the way we take visual marks to mean things, a graphicalization scheme might in fact fare better in avoiding the trip-up reifications than words usually do. Digital graphics in particular have special advantages over other scriptural modes, technical specialties that make it easier to manage statements stating both a fact and the non-existence of its frame

reality at the same time, or a truth and its whole panoramic spread of alternate-reality contradictions in a single breath. This capacity comes from the spatial simultaneity available to elements in the expression, multiplied by the sequentiality available there for inflecting phase and shifting emphasis. Like language in the first place, this graphicalization scheme gains us the advantage of a vast intensive adjacency in mental space, unprecedented parallel track. Like back then, the evolutionary gains are bound to amaze.



Fig. 8.

The foundational isomorphism: The question of tentativeness leads us to a first specification for this vocabulary/ontology/set of markers, namely the foundational isomorphism: “phenomenal : visual”. How or the degree to which something/anything shows up to sentience, must find its metaphor in visual marks and attributes, aided by verbal naming and construction. Vision with words must stand for the whole of happening. While this limits the channel unspeakably, it also supplies a challenge and the constraints that are the source of the language’s expressivity.

This isomorphism on the one hand supplies the angle of semantic anchoring for our graphicalization scheme, and on the other it builds in just the ontological

caveating that we need. For example, a scalable variable like graphic “weight” (i.e. ink density, opacity, resolution) can be set to mark the degree of phenomenal/material reality we should ascribe to it in the uptake. The materiality of digital graphic display technologies is particularly apt for showing/suggesting a full range of shadings in anything’s or everything’s being, and for keeping clear that every concrete has its dissolve. By pinning pixel density (luminosity) to ontological density (degree of being) in this way we can agilely correlate between scaleless metaphysical measures and precise electromagnetic values in the display technology. Very fine philosophical distinctions, or accounting with great sensitivity for subtle shadings of biotopological emphasis, become as easy as setting stroke weight or transparency in Photoshop, even easier.



Fig. 9.

In our common vocabulary, or in semantic laws we have taken on without much question, wording on the question of anything or everything’s being tends to be binary and black-and-white-ish. It takes some insistence to say otherwise. Standard semantics needs the work-around of a metaphor from other sense modalities to sketch any shades of gray into “to be or not to be” or its grammar of am and am not. Like imaging in the first place, the “phenomenal : visual” isomorphism helps language out of its jam, by offering a parallel modelling realm where gradations, dynamics and vagaries can be expressed without losing the traction of a rigorous grasp and keeping track.

This isomorphism, pegging a graphical ontology of opacity gradients (or flicker, or blur, or...?, ...) to a tentativeness-enabled ontology of the real world, underwrites the articulation of tentativeness with the visual expressive range of that variable, semantically invested. Whatever a particular statement in this

language might express, the user/reader knows that the stuff itself of this expression is totally subject to vanishing.



Fig. 10.

This understanding is learned as a wariness in the course of acquainting oneself with the graphicalization scheme, a familiarity with the fact that facts are provisional assemblies of tentative element/events. This knowledge comes in the course of acquainting oneself with anything, by definition, deeply enough, but sometimes it takes a long time. This graphicalization scheme, and the visualizations it produces, might help.

The dim switch: The basic gist of this language's self- and thing-undercutting semantics can be taught and demonstrated to new users with the help of a simple ontological dim-switch. In the user's manual, readers will be made aware that the graphicalization scheme is opacity-specific with respect to ontology or phenomenality, so that * has a higher phenomenality than *, even though it is smaller or farther away. In the online version of the user's manual, interactive demo graphics will show readers a dot, and next to it a dim-switch. On the knob of the switch it reads "EXISTS" and on the edge of the dial is an arrow, which when turned aligns with points on a scale arc between 0 and 100%. Readers are invited to turn the knob, dimming or darkening the dot. At 0 it fades to total blank. At 100 it goes black with saturation and density. Next they are shown pictures of a loved one, the milky-way galaxy and God, and are invited to do the same with each. This brief demonstration ends with the reminder: whenever you're facing new percepts or terminology, remember the ontological dim-switch. It goes to 0 on everything.

A biotopological report will be considered to be definitive, which, by definition it is required to be, if it succeeds in never closing down on the issue it raises. (Gins and Arakawa 2006: 79)

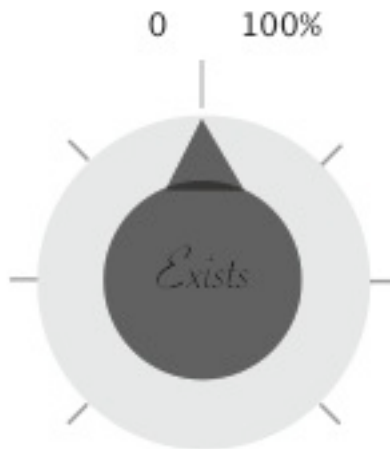


Fig. 11: Ontological dim-switch.

A functioning dim-switch will then be available in one corner of the graphical display, permitting users at any moment to easily select and dim elements of the described experience up or down in ontological degree, phenomenal intensity or elocutionary force.



Fig. 12.

III. Holding in Place

Termino-topology and the first word.

Biotopology, as what this graphicalization scheme would be helping its users to do, is an art-science already very rich in terminology and the tentative-corrective syntax that sustains its usefulness. A graphicalization scheme that would do it well would certainly have terms translating the most basic concepts in its lexicon, and these would no doubt play an originating role in the elaboration of further terms. Indeed, the unique lexicon and performance history of naming and

phrasing that we get from Arakawa and Madeline Gins as vocabulary provides a tremendous resource for thinking out an adequate graphic language for talking biotopology.

In brief, the new field of biotopology arrives on the scene with terms that show promise of being able to jockey or slip into place, in diagrams and reports, levels of abstraction necessary to its stated purpose. *Biotopology's initial lexicon*: allowing tendency; architectural surround; architectural body; as-if-woven breathing web of landing sites; axis of possibility; bioscleave; bioscleavic atmospheric surround; cleaving; coordinated cleaving; coordinating skill; dawning factors; event-fabric; farfarground; farground; farmiddleground; farnearground; farnearmiddleground; interactively diagrammatic situation; landing site; landing-site configuration; meadow; middlefarground; middleground; middlemiddleground; middlenearfarground; middlenearground; middlenearmiddleground; multi-dimensional interactive diagram/dia-gramming; multiscape; nearfarground; nearfarmiddleground; near-ground; near-middlefarground; nearmiddleground; nearnearground; omniscap; organizing principle(s); reversible destiny; scale(s) of action; self-diagram; swift consideration(s); tactically posed surround; tissues of density; thas; thit; tutelary abode; ubiquitous site. (Gins and Arakawa 2006: 67-68, emphasis added)

The essential test of any language's usability in saying anything is its word for saying thing. It's obvious that this would be the critical term for assessing any language's viability, because it is at once the pinnacle of that language's abstraction capacity (everything is a thing, so the term had better cast wide) and the buck-stop knuckle-crunch down-to-earthness of its contact with concrete landing (*this* thing). Reality (as that which invites/receives/requires object-izing) is greeted with a certain first name, and the name you use will shape the whole encounter.

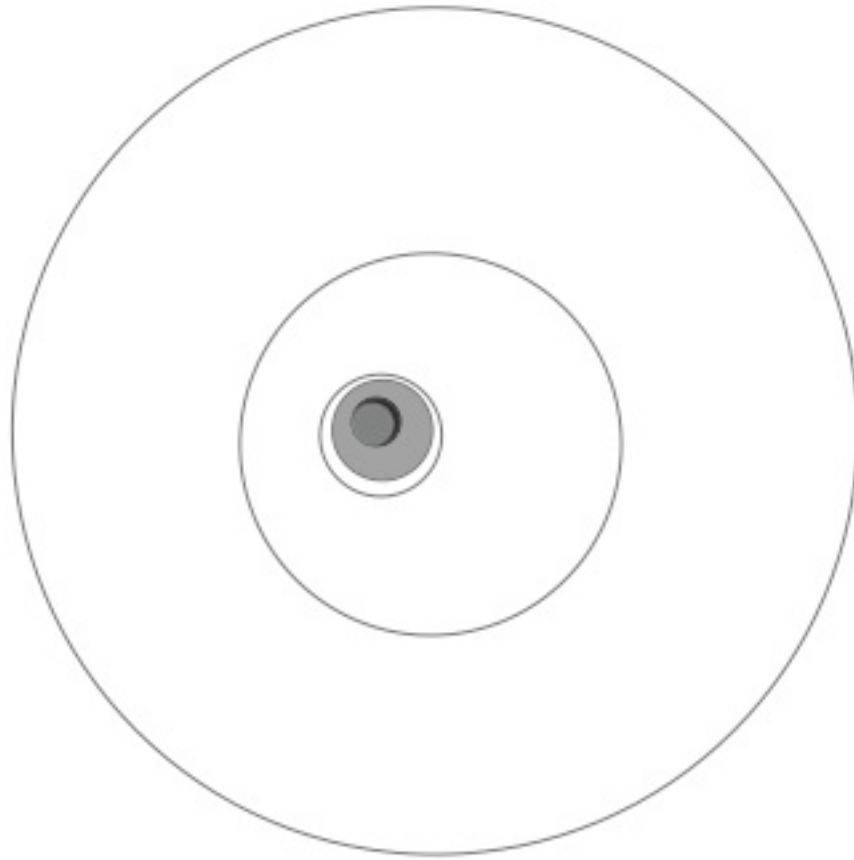


Fig. 13.

In verbal language, an articulatory system is not troubled much by the contradiction that comes of naming something in that thing's absence. Its users may be, but the language as a device couldn't care less. In a visual scheme however, where visibility maps to phenomenal existence or presence, the contradiction is more apparent. A graphical thing standing for thought (e.g. a dot) cannot be used in a formulation stating that that there is no thought there, or that thoughts are not things, without employing some intelligent kind of corrective inflection.

The terminology of biotopology is all about inflection, and striving to design graphical equivalents for its foundational (un)terminology is a good development strategy for our graphicalization scheme.

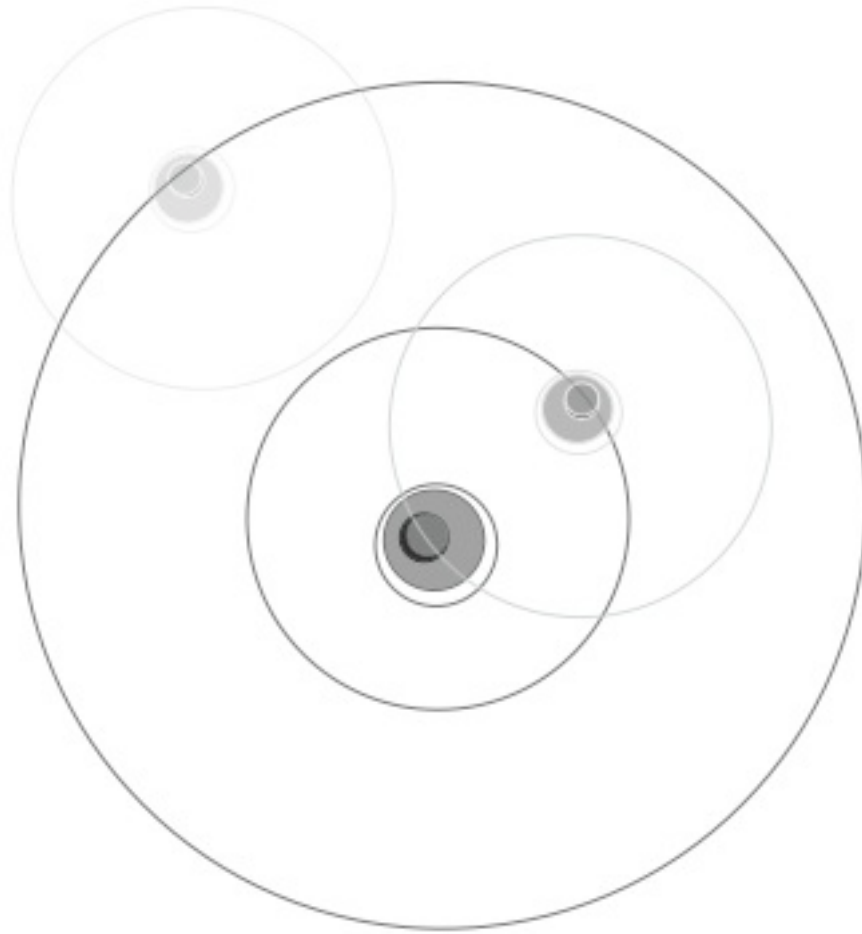


Fig. 14.

And the first word of biotopology, the word Arakawa and Gins came up with for thing, for un-thinging things and restoring the blank, is landing. Landing site. The term is landing site, but the first word was landing.

The language.

So, in undertaking to think a scheme for showing thinking (et al.), let us start where starting starts, with landing.

Landing site is the term Arakawa and Gins boil things down to in their attempt to not sell the tentativeness of anything short. The virtues of this term, which are

beginning to be appreciated, are virtues that must be built into any visual equivalent for use in a graphicalization scheme like ours.



Fig. 15.

These virtues have been praised by others familiar with the hazards of grappling with tentativeness in language. Malevich with his “non-objectivism”, Moholy-Nagy with his “vision-in-motion” philosophy (1947), Kepes warning of the perniciousness of “object-concepts” (1945: 14), and David Bohm, who proposed the “rheomode” as a physicist’s solution to a positivist’s lexicon, all campaigned with a certain species-redemptive rigor for just these virtues. And in a number of other places we find words that form a kind of family with landing sites, each committed in its own way to non- or minimum foreclosure on the things they denote. “Chunk,” as a term in Wolfgang Iser’s phenomenological theory of literary reception (1978: 109-110), and Fernande St. Martin’s “coloreme” (1990: 5-10), replacing point and object as base terms for a visual semiotics, are both good examples, not to mention the good word “thing” itself.



Fig. 16.

Dots: The most basic of our visual terms must serve the articulatory urgencies of tentativeness and specification with equal ability. Landing site, translated into visual terms, inseminates a graphic space with the potential articulation range that is biotopology. Since this term must serve recordings and reportings at the pinnacle of the language's (approximative-rigorous) abstraction capacity, the most likely graphic candidate would be a dot, even more approximative-rigorous than a point, whose mathematical definition already suits our purposes very well; metaphysical and full of blank. But dot or point modified by the insight of the foundational(un) isomorphism, i.e self-destabilizing, subject to the ontological dim switch, and non-siftable from out of the current of actual landing. Nearly best-formulated in the class of self-erasing substantives is St. Martin's term "coloreme", cut to serve as the basic unit of visual language, without the usual vices of basic units.

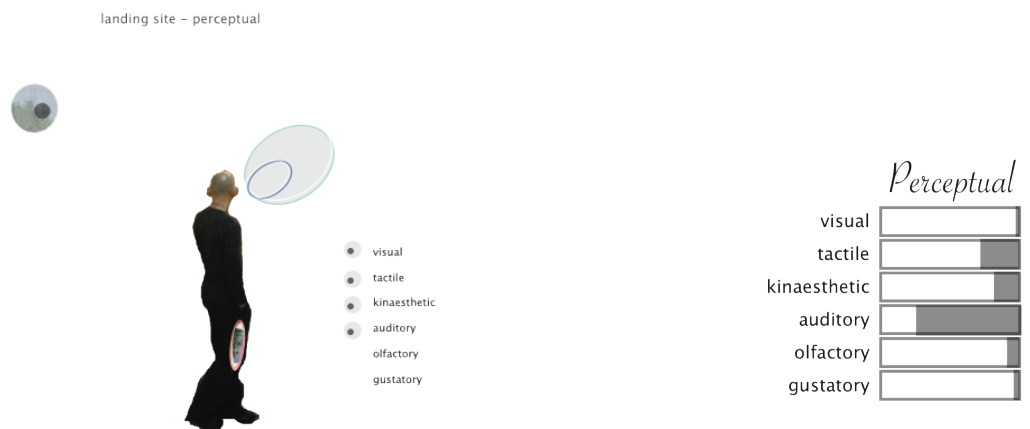


Fig. 17.

Matching the approximative rigor of the word landing site in a visual marker is not easy, but fortunately the visualization capacities of contemporary digital media give us good resources and half a chance of fulfilling these cleaven (clinging/cloven; pronounced like leaven or heaven) functions. For one thing the rheomodic nature of the term (tentatively objectified but really verby) is easy to embody. Landing site adds to the specificity of site the range and tentativeness of landing. And in visual terms this simultaneity is easy to make apparent. Thing, in this semantics, can be inflected as event, and the substantiality of site shown for a function of landing.

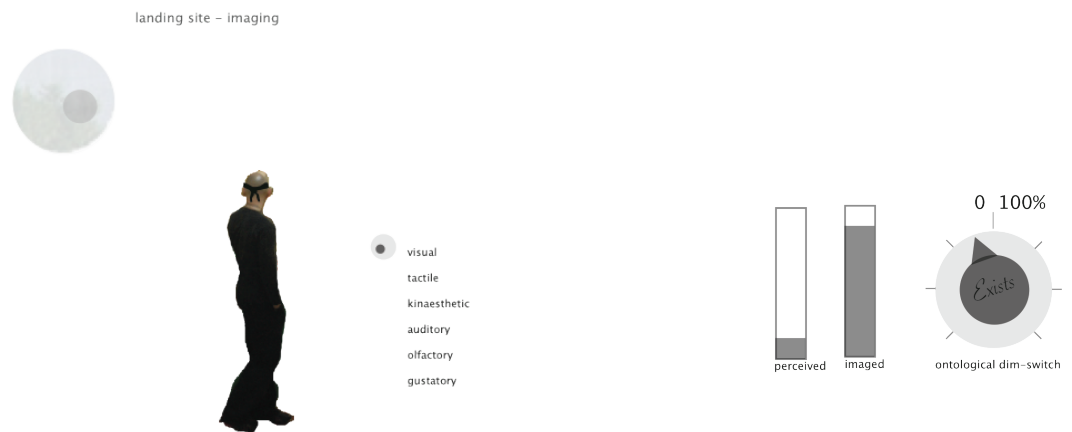


Fig. 18.

Finally, as perhaps the last argument for trusting that a graphical vocabulary could provide useful terms for a landing site theory is the realization that, inevitably, the graphic ontology in use would constitute a world as relevant to the current articulation as the one being reported on. In fact the language of a graphicalization scheme like this ensures the validity of its expressions precisely by situating itself in the world of the landing objects and landing operations described. It is enactive in this sense, not representational, thereby qualifying it all the more for biotopological service. As Arakawa and Gins put it, loosely paraphrased, not a field of facts about, but a meadow of knowing among.

landing site

perceptual landing site

visual
tactile
kinaesthetic
auditory
olfactory
gustatory

imaging landing site

visual
tactile
kinaesthetic
auditory
olfactory
gustatory

dimensionalizing landing site

landing/imaging
imaging/imaging

Already landing site, as a first word, and as a first word should, gives us good reach into a nearly blank but already articulable world. The eventuality of landing pre-articulates the fore-called-for lexicon with a few thin but mighty distinctions. Landing happens either electric with current afferent input (perceptual landing), or, direct perception paused, more or less without afferent/external reference (imaging), and the difference decides so much about what happens, and how it will be taken into account. With the short list above, do we not already have an extremely valuable set of basic(ish) elements, half-able on their own to call into existence the kind of graphicalization scheme we need? How much of all we are waiting for, to begin assembling a language/graphicalization scheme for what we want it for: puzzling ourselves out?

Jottings and memos having to do with what anything in the world consists of should be made large, even enterable. (Gins and Arakawa)

I believe that to be truly human, nature thinking, you must think with your whole body. (Mallarmé)

If the discovery of the psychological nature of meaning were completely successful, it might put an end to psychology altogether. (Professor Pear)



Fig. 19.

A graphicalization scheme that could adequately utter landing, shedding ontological insinuations like water off a seal's skin and sketching fine shades of emphasis relevant to the perceiving, imaging and dimensionalizing going on, could hope to do articulatory justice to this going on like no scheme before it. A scheme that furthermore could offer to support full biotopological reporting of a given passage of experience, that could enable an organism that persons to get that much (or close enough) down about what goes on, might instrumentalize insight into broad new efficacies. The ability to catch and reenter that which happens, as it happens, is clearly a skill headed in the direction of greater reconfigurative capacity within the *dynamis quo* of world-constituting, better chances and more agile mastery at heading off facts before they reach the pass. "Destiny, hold on, reverse thyself." No magic once you've managed it; just a slight training of handling landing to other the world as it is happening/landing.

A graphicalization scheme that could help us with this would certainly help – us, soft, clue-lacking, endangered species.

Fig. 20.

A handy toolset of schemas, frameworks, concepts and graphical systems for diagramming current awareness:

Fig. 21.

and are able to anchor a more robust matching between visual marking systems and the cognitive dynamics they are trying to articulate.

As an example, James' "Stream of Thought" chapter includes very interesting attempts to diagram how a thought flows along the sequence of words in a simple sentence (James 1950: 257, 269, 272, 282-3), and his chapter on association presents compelling field/force diagrams of association pulling differentially between an item and others it might call to mind. Then there is the more vital underlying schemata James offers for thinking current awareness diagrammatically – as a current or stream. Dozens of other examples come to mind: including Varela's 4-Fold structure of nowness, Husserl's structure of internal time-consciousness, landing sites in Arakawa and Gins' theory, biograms as Erin Manning and Brian Massumi use the term, and many more.



Fig. 22.

Scanning the available literature, we find we have handfuls of useable elements, modules or schemas for going further with the enterprise of visualizing awareness. Here I would like to present a targeted and specific collection of these

resources as a sort of toolbox or set of blueprints for getting started. And invite others to pitch in more.

If the examples that follow are unfamiliar, the list of tools it gives may seem random and jumbled, a batch of non-aligning systems for expressing non-coinciding dimensions of experience. Even as such, the batch would be of great use to us.

But I propose that the terminologies, systems and schemes I am proposing form (or could be made to form) a larger whole, something that by uniting all the key levels of description in a layered rendering might begin to approach an adequate graphical language for articulating the infinite dimensions, scales, features and factors of awareness.

I recommend seeing these different contributions as a stacked set, progressing from the most primary and general to the most complex and specific. Nothing definitive about the stack, but stacked.



Fig. 23.

References. For each term or set of terms I try to point to a few pages, a chapter, in some cases a book, where the scheme or system can be located, learned or referred to. The source cited is not in every case the original or definitive source; useability has been a factor in choosing. Most references are to sections with diagrams, or to structural descriptions that would be easy to diagram. In many cases the terms/concepts given are just the tip of that author's iceberg. Each represents an articulatory resource that can be applied concretely to the task of visualizing some aspect or another of awareness.

Taken as a whole and added to and enhanced, I suggest that a batch of resources like this gives us the promise of a comprehensive graphic linguistics for depicting current awareness diagrammatically, implementable in a range of media, and additional to our human capacities for tracking, thought and action. I hope some of those reading this will be involved in making it happen.

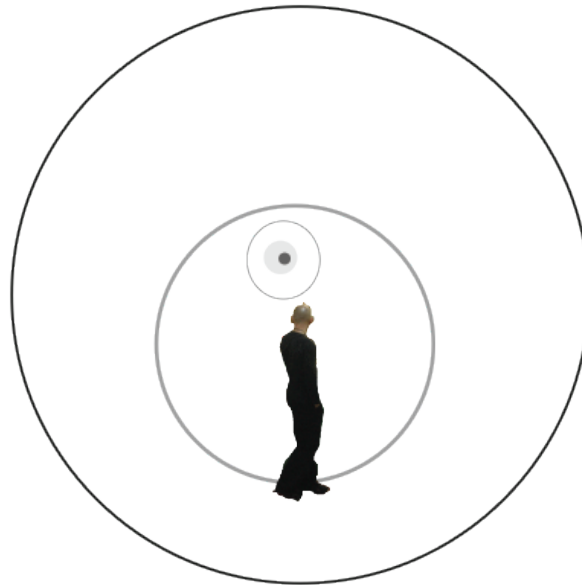


Fig. 24.

Resources for a diagramming of awareness:

layers of a way of seeing what you think/sense/mean/feel/know/do/etc.

Basic divisions of the phenomenological field:

noema

noeisis

ego

Edmund Husserl, via Don Ihde, *Experimental Phenomenology*, p.65, 47-50

Structure of intentionality:

core

field

horizon

Done Ihde, *Experimental Phenomenology*, p.60

Structure of Awareness:

focus fringe

non-feature awareness

James "Talks to Teachers", via David Galin "The structure of awareness: contemporary applications of William James' forgotten concept of 'The Fringe'"



Fig. 25.

Landing sites:

perceptual imaging dimensionalizing

Gins and Arakawa, *Architectural Body*, Ch. 2

The whole perceptual sphere:

orienting auditory haptic-somatic tasting smelling visual

J. J. Gibson, *The Senses Considered as Perceptual Systems*, Ch. 4-9

Structure of time consciousness:

primal impression retention protention

Edmund Husserl, *The Phenomenology of Internal Time Consciousness*, or, via Shaun Gallagher, *How the Body Shapes the Mind*, p.191

retention/protention objective emergence affective disposition

Eduardo Varela, "The Specious Present : A Neurophenomenology of Time Consciousness" ("The 4-Fold structure of Nowness", and "The dynamics of retention")

Stream of thought / consciousness / awareness:

stream flights/ fringe perchings/ focus

William James, *Principles of Psychology*, Ch.9, p.243, 257, 269, 279, 282-283.

mind moments stage of presence sense doors cognitive processes

Bikkhu Bodhi ed. *A Comprehensive Manual of Abhidhamma*, p.149-155 ("The six senses" and the "5-door process")

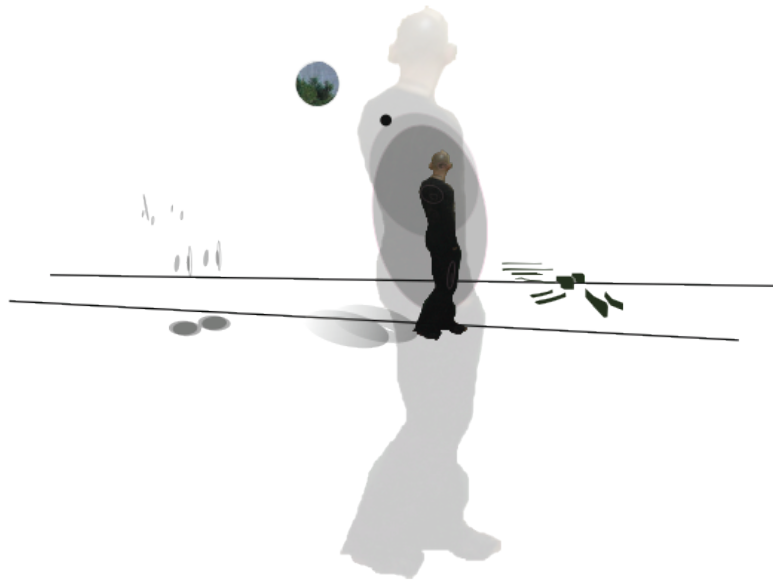


Fig. 26.

Somatic markers:

somatic markers

Antonio Damasio *Descartes' Error*, Ch.8 ("The Somatic Marker Hypothesis")

Biograms:

biograms headings maps bearing

Brian Massumi *Parables of the Virtual*, Ch.8 ("Strange Horizon: Buildings, Biograms, and the Body Topologic")

biograms

Erin Manning *Relationscapes*, pp.5-8 and Ch.6 ("biagrammatic movement", "becoming-body")



Fig. 27.

Body-schemas:

body schemas

Shaun Gallagher *How the Body Shapes the Mind*, p.176-177, 180, 187, ("Complex Structure and Common Dynamics of Self-Awareness")

Alain Berthoz *The Brain's Sense of Movement*, p.18, 23 ("Perception is Simulated Action", p.111 ("Relative Frames of Reference"))

Conceptual spaces:

quality dimensions symbolic conceptual non-conceptual level

Peter Gärdenfors *Conceptual Spaces*, Ch.1 (“Dimensions”)

Mental space builders:

**spaces base viewpoint focus access lattice of spaces elements roles
connectors time paths**

Gilles Fauconnier *Mappings in Thought and Language*, p.37 – 48 (“Space Building”)

Image schemas:

image schemas balance path force etc.

Mark Johnson *The Body in the Mind*, Ch.5

Cognitive frames:

frames

Erving Goffman *Frame Analysis: An essay on the organization of experience*.

Phenomenology of reception:

chunks perspectives objects segments horizons syntheses

the wandering viewpoint

Wolfgang Iser *The Act of Reading*, p.107-114 ("Grasping a text")



Fig. 28.
States of Consciousness:

states of consciousness

Tart *States of Consciousness*, p.49, 53, 56-57, 73, 90, 112, 115 (“The Complexity of Consciousness”)

mind moments stage of presence sense doors cognitive processes

A Comprehensive Manual of Abhidhamma. Ed. Bikkhu Bodhi. 149-155 (“The six sixes” and the “5-door process”).

The Endogram:

endogram attentional oscillation double-stranded reentrance

Zoltan Torey. *The Crucible of Consciousness*, Ch.2, Ch.6 (“The Mechanism of Reflective Awareness”)

Global Workspace Theory:

stage fringe players spotlight contextual operators audience

Bernard Baars. *In the Theater of Consciousness: The Workspace of the Mind*, Ch.2-4

Notes

[1] The Title of this talk is indebted to the title of a paper by Martin Rosenberg, “Constructing AutoPoiesis: The Architectural Body in Light of Contemporary Cognitive Science” in *Interfaces* no. 21/22 vol. 1, Paris, 2003. The idea and any possible realization is of course indebted to the researches of Arakawa and Madeline Gins, and to their own extensive diagramming, in particular in *Constructing the Perceiver – Arakawa : Experimental Works*, The National Museum Of Modern Art, Tokyo, 1991.

[2] Biotopology, as Arakawa and Gins explain it, has to do with the vital spatiality of sited awareness, awareness of the fielding forming the basis of world-constituting and experience; - “As much a meadow of knowing as a field of study”, as Madeline Gins and Arakawa put it in “An Introduction to Elementary Biotopology”, from *Making Dying Illegal*, p.56.

[3] On a recent visit to the Société des arts technologiques (SAT) in Montreal, participants in the Senselab event.

[4] Since these storyboards were first drafted, I have had the opportunity to build a large-scale physical construction on the site of Arakawa and Gins’ Bioscleave House in East Hampton, NY. A diagramming structure for volumetric sensing, projection and discernment, it is compatible with the kind of graphicalization scheme envisioned in this paper, and brings in a universe of materiality that will magnify its efficacies. I call it the Tubular Loom.

[5] To fully appreciate the approximative-rigorous potentials of our friendly word, dot, we must include its sanskrit translation, *bindu*, as the fundamental particle of a grainless cosmos having no inherent existence, as well as Charles Laughlin and colleagues’ use of “dot” as a term in their Abhidhamma-friendly neuro-phenomenology (Laughlin, McManus and D’Aquili 1990).

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