LOGICAL PATTERNS

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Like *ROME*, *LOGICAL PATTERNS* was also extracted from the book *SPACE*, on which I worked between 1981 and 1989.

SPACE is a book on spatial perception, spatial meaning, virtual reality and neuronal networks.

LOGICAL PATTERNS is a fragment of SPACE, dealing with logical *diagrams* created by *crossing-over* ideas.

This is a text on the problem of symmetry in systems.

Taking architecture as multi-sensorial projection of synaptic patterns.

LOGICAL PATTERNS is, in some sense, what we could call *fractal*, a common phenomenon in poetry and still uncommon in scientific methodology, because scientific methodology has been – in the majority of cases – addicted to old *manners*, that is to say, addicted to old technologies.

The main question is: how *logical patterns* work inside a plastic constellation of connections?

LOGICAL PATTERNS is also a text-game.

Combinatory explosions inside *LOGICAL PATTERNS* are microcosmic mirror of the system on which it works: synaptic galaxies – in the same way architecture itself is a non-linear diagram of what we call *intelligence*.

LOGICAL PATTERNS is a non-linear text-diagram about its own subject: metatext working on a synergetic structure.

The method used to create *LOGICAL PATTERNS* is based on the distribution of knots of ideas inside a framework of self-references of words, phonemes and concepts.

Self-similarity.

A mathematical text.

New iconologies don't work inside old structures.

New iconologies implicate new technologies.

Thought as technology.

Technology wile *language* in its large sense: not restricted by the verbal code.

Architecture is the most efficient non-linear diagram of synaptic patterns: a powerful multidimensional *yantra*.

Architecture as a powerful diagram of *mentality*: picture of the unconscious as a mathematical process.

The cut – the real separation between science and that which we could call mythological thought – takes place during the 17th and 18th Centuries. In that period (with Bacon, Descartes, Newton and others) science needed to rise up and affirm itself against the old generations of mystical and mythical thought; therefore, it was thought that it could only exist if it turned its back on the world of the senses, the world we see, hear, taste and perceive. It was also thought that the sensorial world was an illusory world compared to the real world and it would be one of the mathematical properties which could only be discovered by intellect and which is in total contradiction with respect to the testimony of the senses.

Claude Levy-Strauss

To Alfred North Whitehead, the great discovery of the 19th Century was the discovery of the technique of discovery.

Marshall McLuhan shows how to walk *backwards* towards the object to be discovered, step-by-step, proceeding gradually like an assembly line.

To walk *backwards* towards something to be discovered is the same process made by *concrete poetry*.

Vision.

Perception tests on reading, texts and words, show that our senses work in this way, without exact principle or end.

Visual perception work in *wholes* – an aspiration of all perception: something we could call *transperception*.

Much of our formal *vision* in West has its roots in such process of *adirectional* contamination.

In Zen – definitively embedded in Japanese culture and vice-versa – formal equilibrium is established through three dynamic components: the sky, the earth and the human: *ten*, *chi*, *jin*.

Each one of these structural paradigms organizes itself as a true mirror microcosm of the system to which it belongs, producing a dynamic environment like a labyrinth: an almost kaleidoscopic process in its logical sense: a fractal system.

In such system, bigger the break of symmetry between internal constellations, larger the informational diversity is.

This is the only way to decode a Japanese traditional architecture, an *ikebana* or a *hai-ku*.

In this way, Zen produces a break of symmetry not only in relation to one system, but also *vertically* in *systems inside systems*.

The *game* consists in discovering links between different formal *dimensions*: like a *logical game*.

This *logical game* also works in other Eastern systems, like cities or Tibetan paintings.

Ernest Fenollosa, one hundred years ago, made – among others – two important observations on Japanese painting tradition. The first: the most important and *real* are not *things* in themselves but *relations*. Second: Nature gives us its own keys of decoding and, then, everything works by self-similarity.

Fenollosa anticipated Marshall McLuhan, Benoit Mandelbrot and other people in several decades.

John Cage: « ...no proportion. The disorder of the virgin forest. (Your music gave me the same experience: it was one single sound, amplified and recorded on tape, resulting from the action of two people rubbing two metal ashtrays on glass plates for twenty unusual minutes). This is one of the forms. There are as many other forms as people, and now there are more people than ever in History. Now, population increase is geometrical, but could go back to being simple addition. Consequently, there are no ideas that we haven't had yet. So,

why do some people have ideas before others? A short-circuit? Let them change their ways; starting from wherever they are, always starting from nothing. (...) Let's make a list of the reasons as to why we have despised every thought about proportion: 1) we aren't working with number 2, but with number 1; ...».

Gerald Edelman shows how plastic neuronal clusters form basic unities of sensorial data inside our brains.

I ask *myself*: *inside* our brains?

Real galactic maps of perception.

Edelman, Leif Finkel and John Pearson have used computer simulations and natural selection principles to show how plastic formation of neuronal patterns happens.

Result: multi-dimensional and synergetic data graphics.

In terms of synapses we could have synergetic gravitational complexes in fast mutation.

The whole process of civilization consists on paradoxical open and simultaneously closed mirror systems working in loops through the whole *sensorial palette* and in all directions.

This is the Freudian concept of *repetition*: a strange mathematical attractor.

An efficient version of History focused on effects hasn't been done yet.

John Wheeler: «No space, no time. We will not feed time into any deep-reaching account of existence. We must derive time - and time only in the continuum idealization - out of it. Likewise with space».

Cage: «Changing the subject. What do I mean when I say this: doesn't he have no sense of time? Doesn't he know how to jump from one situation to another one at the right moment? For this reason we did our experimental work (unpredictable). a) we used chance operations; b) we used indeterminate composition - without score; c) we used indeterminate execution itself».

Spatial perception – involving vision, hearing and touch – produces powerful galaxies of synaptic clusters: real patterns of meaning that establish logical models which are, simultaneously, icons of logical models: systems *inside* and *outside* our brains.

Mirroring of mirroring in multi-dimensional labyrinths.

Leonardo da Vinci remarked: «you must look at certain walls stained by humidity or stones of unequal colours. If you want to imagine backgrounds for pictures, you will be able to see – on the walls and stones – a similarity to

heavenly landscapes adorned with mountains, ruins, cliffs, forests, wide plans, hills and valleys of every variety. You will also be able to see battles and strange figures in violent action, physiognomies, clothes and infinity of other things that will be able to complete or reduce them to their own forms. It happens with halls in the same way as the sound of bells: it is possible to hear in each clang the world you imagine».

The genius American logic designer, Charles Sanders Peirce, elaborated a methodological system of meaning. A *cool* logical model articulated in three bases he called *categories*.

A powerful meta-system of thought that is, in itself, a complete logical galaxy: a clone of its own subject.

In Peirce's universe each *category* is a kind of relation: special link between things. Three synthetic types of association: *quality*, *existence* and *symbol*.

Three continuous and synergetic species of relations interacting and interpenetrating each other: generating sub-systems in all directions.

Each one of those relational *categories* has its own mathematical nature: *firstness*, *secondness* and *thirdness*.

The concept of *sign* for Peirce is the implosion and simultaneous fusion of those three relations in Nature.

However, the process of sign decoding operates through the explosion of that system of relations and through the identification of links which, until them, had been unsuspected: a paradox.

In this way, Peirce's theory creates a paradoxical axiom in cognition: more the internal symmetries are broken, greater the operational complexity emerges.

Discontinuity is the only common trace of our senses.

Discontinuity is the fundament of all logics.

Eckhart: «All things are as little unto God as the drop is to the wild sea; and so the soul, indrinking God, is deified, losing her name and her own powers, but not her essence».

Perhaps the main difference between Zen, the Peircean logical diagrams and their followers is the fact that for the later there is the premise according to which those systems of connections exist as a thing *outside*.

For both Zen and Peirce, the system of relations is just an exercise, like Nature.

To give an idea of the complexity in Peirce's cosmos it is enough to remind that a sign always refers to another one of a different nature.

Self-similarity.

Cage again: «In any epoch there is a tendency, when one 'thinks' of a global society, to 'think' that things are fixed and can't change. This immutability is imaginary, invented by the 'mind' to simplify our 'thinking' process».

Taking *History* as a teleological technology, the establishment of formal Cartesian principles gave our world a good stock of *hot* illusions, and turned possible – through the intensification and acceleration of such method – a profound reversion to a more integral *view*, or perception through our senses in daily life.

Going beyond: its intensification turns possible to throw all us into a post-Historic world, similar – in some aspects – to a pre-Historic one, but this time in function of an excess of data information.

Now, imagine a diagram of three points, three categories.

Then, imagine how this diagram could make consistent sets with other ones… and so on. After this, imagine such process in three-dimension. You will never find a tetrahedron, but an octahedral strategy.

Tetrahedron is the smallest figure in two-dimensional nature.

Octahedron is the smallest consistent logical figure in three-dimensional structures.

As René Berger says: being part of the satellite environment we are inside a transdisciplinary system: a virtual world.

Acoustic civilizations project integral models and establish specialized probabilistic patterns. Visual civilizations project teleological models and establish their specialized patterns.

Each model refers to a specialized logical system.

Following Marshall McLuhan, the only possible strategy is to build an *anti-environment*, which is the cognition process itself. Isolating specialised links between things West discovered its own techniques of discovery.

Discovery is a very interesting and curious invention.

Inside an integral world an *anti-environment* can be built only by imitation.

Space as a form of thought.

Jacques Lacan understood Descartes' famous *cogito* through the concept of *doubt*. He characterized the unconscious as the environment of everything, that is: the unconscious while a global environment of intelligence.

Lacan thought the unconscious as the *ground* of the figure.

After all, inside our virtual mass media environment, through individual interfaces, *figure* and *ground* are exactly a single thing – depending only on our sensorial filters, which are many, mutable and ephemeral.

So, each act of language nothing more is than an active fragment of our process of thought.

Herbert Read brilliantly described art and crime in Tolstoy, explaining it as a biological meaning of art.

Crime and discovery.

Tradition and rupture.

Repetition.

Rudolph Arnheim shows perception as thought and thought as perception.

«Stop! Stop a moment the gesture without finality and the reasoning without control. What do I think of all this? Why should I have to think of anything? How do you stop in the middle of a competition?» – Daisetz Suzuki said.

«God is the unconscious»: Jaques Lacan.