WHAT IS CONSCIOUSNESS(-RAISING)?

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To Emilia ROS. In memory of Francisco VARELA and all those who have not had time to read it.
To anyone who respects the wisdom of Orient without giving up the scientific knowledge of the Occident.

SUMMARY (2025)

I decided to write this article in 2007*, surprised by the conjectures that were appearing in the scientific field to explain the acquisition of consciousness. First, its quantum origin (another phenomenon that has eluded science for more than a century, which facilitates all kinds of lucubrations). And later, their supposed biological bases. As is also the case with other psychic faculties, "Consciousness" (strictly "Consciousness-raising", as we shall see) it is also **undefined**, **without being clearly differentiated or correctly related to the other faculties**. Unlike in the material natural sciences, where concepts are clearly defined (molecule, mammal, ...), in psychology the first problem is definitional ambiguity. From this point on, the rigorousness of the whole of psychology is seriously limited. The physicist Heinrich Rudolf HERTZ wisely said 'When in science conceptual contradictions are eliminated, our mind, free from bewilderment, will cease to formulate spurious/false questions'. Knowing how to speak is prior to trying to reason.

'**Nor do we** [scientists] **know what consciousness is**. We say that we are conscious beings **but we cannot determine exactly what that is**' (S. ZEKI). Despite the omnipresence of consciousness —as manifested by any persona— it is, therefore, one of **the most elusive phenomenon for science**.

In addition, there is the current **attempt to simulate it by means of the misnamed 'AI'** (I have said 'misnamed' because also lacks an **unequivocal** definition of 'Intelligence'), so that it would even less daring to try to simulate emotions such as love, a phenomenon that is structurally simpler than consciousness. It is surprising **when the explanation starts from something as well known and homonymous as "Bodily consciousness"**, but —unfortunately— the virtual psyche is a domain traditionally annoying to material science. This is the problem.

Consciousness-raising is, very briefly, '**a self-applying complexification** (or complexation) **of feelings**', which, among many other applications, supports the subsequent structural levels of thought. The reader will be able to read the first paper that explains it in detail. But first it will be necessary to begin by addressing the above misunderstandings.

The article also explains:
- the **faculties that enable the development of mathematics** —for many, another of the most important questions to be resolved in the scientific field—, and
- the functioning of **foot reflexology**, another phenomenon that is already accepted, but has not been explained until now.

With this faculty is understood, it will be easier to read "The kerygma of Thought" (on their structure), from 2008, along with the most recents articles of the Representation of Knowledge.

After 18 years, I do not consider it necessary to modify the original text, only to add the necessary additions relating to other subsequent articles of mine.

* On 28 September 2007, it was registered with the **Intellectual Property Registry of Barcelona** (Spain) under number **B-5113-07**.

KEY WORDS: Consciousness-raising. Consciousness. Awareness. Body consciousness. Psychomotricity. Senses. Feelings. Thinking. Representation of knowledge. Global model of the psyche. Self-applications. Information and methodology transfers. Mathematic. Positional number systems. Foot reflexology. Versatility. Synapse. Conceptual system. Sport. GINDLER. PIKLER. HENGSTENBERG.

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WHAT IS CONSCIOUSNESS(-RAISING)?

PART I: INTRODUCTION

MOTIVATION [.00]

A year ago I learned that a well-known scientific journal* raised "What is the Biological Basis of Consciousness?" as one of the 25 most important questions that science has yet to solve.

* "Science" 309 (5731) 2005 july "25-125 questions".

For the respect he had for scientific journals, I was doubly shocked. Doubly so to see some other questions on the list, equally poorly worded. If done by a student in a school, it might elicit from a grumpy teacher a response like "If you don't know what the basis is, how do you claim it has to be biological?"

I turned to one of their managers* suggesting politely —and justifiably— that the answer is not in biology. Not receiving any answer I thought that, as soon as I could, I was absolutely obliged to clarify that is consciousness, because it was not the first time.

* See "Letter to Alan LESHNER".

The first time, several years ago, was when I read that Roger PENROSE —a well-known physicist— proposed to justify consciousness with quantum phenomena ("The emperor's new mind"). As I was then already writing over the Representation of knowledge, its structure, that of thought, and the psyche in general (it must have been around 1995), my impulsive and well-intentioned reaction was to contact him to explain what it is, and how it works.

It occurred to me to find his address through a professor of quantum mechanics, like him, whom I knew from my student years. When I asked him for the address he was indignant at my claim: "Who are you [who do not know about quantum mechanics like me] to address PENROSE?". Then I thing that it wasn't worth trying.

Quantum mechanics has become an area of increasingly inexplicable phenomena —a situation recognized by its own experts*— and at the same time the psyche is one of the great black holes of science and culture. For this reason, bringing together quantum mechanics and psychic processes makes it possible to say any kind of nonsense, knowing that it will hardly be able to be refuted and it will give you to talk as much as you want.

* "We need a theory that today we can't even imagine" (Anthony J. LEGGETT, in "El País", 2005-06-18, Nobel prize in physics 2005). "Le mystère des origines de l'Univers est loin d'être résolu" (George SMOOT, Sciences et Avenir, 2007 May, Nobel Prize in Physics 2006).

ADDENDUM 2015-08-08. The quantum conjectures of consciousness have been refuted by Jeffrey R. REIMERS, Laura K. McKEMMISH, Ross H. McKENZIE, Alan E. MARK, Noel S. HUSH, in "Weak, strong, and coherent regimes of Fröhlich condensation and their applications to terahertz medicine and quantum consciousness" PNAS 106: 4219-4224, March 17, 2009. So today, thousands of 'believers' justify any nonsense (alternative therapies, etc.) with quantum phenomena.

DIFFERENCE BETWEEN CONSCIOUSNESS(-RAISING) AND CONSCIOUSNESS [.01]

First of all what we need to define is "Consciousness-raising", and not "Consciousness". "Consciousness" is only the final states resulting from "Consciousness-raising" process. Consciousness is only the effect that is stored in conscious memory.

"Consciousness-raising" is the whole process: the set of sensations and experiences, both unconscious and conscious, that are integrated into the process, and its effect. In other words, it is the entire process, and the effect of the new sensation/conscious experience that results.

Scheme 1. Difference between Consciousness-raising and Consciousness

It is a precision —as we will see necessary— to a confusion between a complex process ("Consciousness-raising") and a simpler effect ("Consciousness"). It would be like confusing an "Oven" where the "Croissants" are baked, with the "Croissants" that result. It would also be like confusing a powerful "Method" with a simple "Skill" to execute it, or like confusing Intelligence with Erudition.

To better understand the difference between "Consciousness-raising" and "Consciousness", " Consciousness-raising " can neither be computerized nor transmitted. It is a "**personal and non-transferable" experience**. On the contrary, "Consciousness", the effects of " Consciousness-raising ", can be transmitted in words, in a book and even in a "diskette" (well, today in a "memory pen"). For example, "Concepts" and "Knowledge" are effects of small Consciousness-raising, which can be memorized and transmitted (we will see this further in "Relationship between Consciousness-raising and Thought" [.160]).

Accuracy aside, when we say "what is consciousness?" —like when we say "what are feelings?"— we don't mean that the answer is "what we exercise from time to time". We already know that. We mean to give a scientific description —precise, correct and useful— of the process.

So that the reader does not get impatient, let us advance that **Consciousness-raising is a Feeling**, **a complex processing of Feelings**. And **Consciousness is also a feeling**, but stored and recoverable from memory. What else could it be, if not? Is Consciousness an instinct, a perception, a simple reasoning, ...?, of course not! Everyone will agree that Consciousness is much more powerful. Is Consciousness a spiritual manifestation?, a manifestation of the soul?, even less so!

In Catalan (and also in Castilian Spanish), there is a distinction between the terms "Conscienciació" (process) and "Consciencia" (effect), and both are used, but not in English. In English there is a freqüent **polysemy that must necessarily be broken** (hence "-raising"). But, in both cases:

Consciousness/-raising∈Feelings

(which reads "Consciousness-raisingAndConsciousness**ItBelongsTo**Feelings", that is, Consciousness/-raising**is**ATypeOfFeeling). A Feeling is also a process, an **extraordinarily complex** psychic process as we shall see, but a process.

A trivial "triadic formula", based on a type of relationship ("**ItBelongsTo**") which is managed by a small child, but which the reader will hardly have encountered before. At least I haven't seen it in one place yet. It is spoken of consciousness in many places and at great length, but it always ends without knowing what it is strictly. We must begin by making this clear: Consciousness/-raising is a feeling, albeit a very special feeling in case of "Consciousness-raising", as we shall see in detail.

We note Consciousness ends with termination "-ness", characteristic of the state, **not** to a proces.

As a first consequence, since feelings are a psychic faculty, it is obvious that consciousness-raising is as well. And precisely one of the most powerful faculties that the psyche can exercise.

Consciousness-raising∈Psychic faculty

ADDENDUM 2025-05-15

1) Through his work with patients, FREUD did not treat the process of Consciousness in a generic way, but rather applied it to therapy. However, it is obvious that FREUD he explicitly considered the process of Consciousness-raising, as it is one of his most basic contributions, only calling it by a phrase (in fact, most German words are implicit phrases, i.e., compound words):

> "das Unbewusste bewusst machen" (=Bewusstseinbildung) =making the unconscious conscious =Consciousness-raising, acquisition of consciousness

and with "das" implying the indefiniteness/inscrutability that characterizes the unconscious. In this field studied by FREUD, the useful and therapeutic effect associated/implied fits in:

> "auffüllen der mnemotechnischen Lücken im Gedächtnis" =filling the mnemonic gaps in memory

I insist, with other words, already in FREUD, **"Consciousness-raising" is a process** that originates from the inscrutable unconscious memory and has a **permanent** effect on the conscious memory, a **complex** process that is attempted with the help of a psychoanalyst or psychotherapist. But **the permanent, already conscious memory, "Consciousness,"** is something concrete and trivial, describable, simple information, something quite **different** from the difficulty/complexity of the process of Consciousness-raising that gives rise to it.

All this was already described in 1914. It is surprising that, more than a century later, it has not been understood beyond the original literal meaning. Furthermore, how can a process continue to be confused with its effect? It is the most basic phenomenology, from the very definition of "Phenomenon" (=**dynamic process** of change, which from an initial state [origin] leads to a **final state** [effect]). And a "state" is something static. It is like confusing the use of an adaptable "English" wrench, with the nut.
NOTE: I also understand the state "Awareness" as something more cognitive, **not** introspective.

Psychosomatization —an unquestionable and repeated phenomenon, despite the fact that it is not usually analyzed by medical diagnoses— is similar process to "Consciousness-raising", given that it is a process also originating from the unconscious, but instead of consciouning and allowing "resolution," its resulting effect is directly harmful to health.

The article "Children's knowledge at the age of 3 years. …" deals with a multitude of behavioral (cognitive, linguistic, etc.) and neurological (synapses, etc.) phenomena that are explained on the basis of Freudian contributions from the late 19th century. It should not be forgotten that the transcendental concept of the unconscious would be unimaginable without Freud's contribution. The scientific community's traditional contempt for Freud, calling him a pseudo-scientist, has had the effect of slowing down scientific progress in many fields such as education, cognitive science, and health.

2) Theoretical physics captivated me as a young man at university, but I found it frustrating and abandoned it because of the lack of seriousness with which both "relativity" and the misnamed "quantum mechanics" (it is simply "quantum," nothing to do with material "mechanics") were treated. It took almost half a century for me to understand both, as well as their intimate relationship (quite the opposite of their supposed confrontation), which recently (2023) led me to the articles in the viXra preprint (https://vixra.org/author/carles_udina_i_cobo), and even the most compelling of them ("Uncovering the Numerous Manifestations..." in English and Spanish-Castilian https://vixra.org/abs/2309.0089), published in the Journal of Physics & Astronomy (TSPA) 2023 Vol11(8). Information and its different ways of being processed **is at the basis of any dynamic**, whether material (quantum information), vital (genetic information), or behavioral (psychic information), something that in the 21st century is already anachronistic to deny. What may surprise the reader most is that these discoveries and cited syntheses of physics came to me from many years of studying psychic phenomena such as thought, knowledge, and consciousness, precisely because of the informational virtuality of all of them.

Regarding the unfortunate association between quantum and consciousness, the fact that consciousness is a virtual-informational phenomenon does not allow us to directly relate consciousness to the information that characterizes quantum physics as correctly understood, since there are countless intermediate processes between the two, including all genetic information. They are at the two structural extremes of information. The same can be said of "universal consciousness," which, assuming it could be defined unequivocally, would be in another distant realm, and we already have much more appropriate concepts such as GAIA or Leibniz's Mathesis Universalis. The lack of scientific innovation is concealed by juggling word games.

A PREVIOUS PROBLEM: A BIG CHAOS, A BIG "BLACK HOLE" [.02]

One thinks one knows what a sense, a perception or a feeling is, basic elements of the process of Consciouness-raising. But, as I have already said, it is one thing, for example, to have the faculty of sight (=seen) and quite another to know in detail why and how we see. Thus, it is one thing '**sensing**' and quite another to define unequivocally or accurately what sense is (and differentiate it from other clearly different faculties such as perception and feelings).

Let's start because the reader will have already thought "there is a mistake, he meant 'to feel' instead of 'sensing'. In other words, I should have put: "it's one thing to feel and another to define unequivocally/ exactly what a sense is."

Well, **no, it's not a mistake**, because a feeling is very different from a sense. Between senses and feelings there are still other things in the middle and quite different from both (structurally, senses and feelings are not even contiguous faculties). Senses and feelings are two clearly differentiated structural levels of the psyche. And in between there are still the structural levels of sensory impressions/images and the structural level of perception.

Many animals have senses. Of these, only a few have feelings. These are two very different faculties. Structurally, feelings result from the senses through complex processes. Feelings are a 'higher,' more complexation faculty.

In English, 'to have senses' is also usually expressed as 'to feel.' In English language there is not usual 'sens**ing**' (=to have senses) as distinct from feel**ing**. Is there not analogous as 'see**ing**', and different to looking? Sense, feel, perceive, are **confuses**. Not even in common speech is the word "sensing" used, when usually refer to have senses, not "feelings", because 'sensing' (to have senses) is a reflexive and therefore **unconscious** process, of which we are not conscious until perception intervenes. But feelings are conscious. It would be like confusing "Matter" instead of "Molecule" in scientific writings. For this reason, I insist on Heinrich Rudolf Hertz's criterion. Polysemy and polynomination* are an unconscious trap for thought.

* Polysemy: use of the same linguistic expression for two different concepts. Polynomination is the opposite, giving different names to the same concept. Worse still, when both coincide, as in this case.

In Catalan (and Spanish-castillian) there are different but analogous confusions, as we see below.

NOTE: Polysemy is specific to each language; a polysemy of one language is not necessarily present in another, such as, for example, the two common different concepts of "Consciousness" in English. The following multiple example from the Catalan language, in English language may not be so in all cases (therefore the translation is literal).

- Sense;
- **Feeling** (many sensations it is common to be considered feelings, as we just saw);
- Sensitivity ["Joan is very sense"];
- Common sense [strictly it is a feeling];
- Consciousness/unconsciousness [being unconscious, or without "sense"];
- Semantic interpretation [the "sense" of a word or a sentence];
- Direction/orientation [the "sense" of motion];
- Listen ["Did you "sense" what I told you?"], ...).
- Justification ["it doesn't make sense for me to do that"]

Nine different interpretations and some I still have to leave. Any mental process or faculty can be called "feeling" without anyone being surprised. And in each case, more derivative polysemys arise such as between Consciousness and Beliefs [**Consciousness** Objector].

It is easy to imagine the conflicts and misunderstandings that would result from replacing "Physical particle", "Atom", "Molecule", "Alloy", "Solute", "Object", ... with "Matter" in all articles and scientific books, although it would not be a mistake, it is only an inaccuracy. We only need to remember the crash, on 09-23-1999, of the $125 million "Mars Climate Observer" interplanetary probe, due to a simple polysemy between scientists.

Polysemy is a serious trap for thinking (most jokes are based on polysemy, on **doubles** meanings), because it prevents thinking correctly and generates serious misunderstandings. A well-known case in another, more structurally basic area, is that of the diseases that can be generated by prions, as they are **polysemies between proteins**. Although it is not the place here to expand on this matter* it should be noted as another limitation when dealing with Consciousness, which is ignored: the **nefarious** associated linguistic terminology.

* See many other examples of polysemy at "El kerigma del pensament", and "Polisemia" in "L'exactitud a les ciències".

Today it is unthinkable to express material phenomena in terms of "Earth", "Air", "Water", "Fire", "Phlogiston", ... Today we speak very differently in the field of material. But in 2000 years we have hardly changed the terminology of our mind, of the psyche. Concepts as ancient —and imprecise— as "Ethics", "Morality", "Spirit" or "Soul" are still in use.

With this I want to note, at the outset, the chaos of our culture —like a "Black Hole" of the Universe— when faced with any manifestation of the psyche. Even more so if it is "Intelligence" or "Consciousness".

Is the reader able to answer —and justify— whether intuition is, or is not, a feeling? If it is, or is not, an emotion? Furthermore, what is the relationship between emotion and feeling? As this does not belong here, so as not to leave the reader in doubt, the answer is that intuition is a cognitive feeling but **not** an emotional one.

Likewise about intelligence: is it, or isn't it, a feeling? As this does not belong here either, so as not to leave the reader in doubt, the answer is that it is a cognitive and intuitive feeling, but **not at all** emotional. Even more, what is the relationship between intuition and intelligence? And, between thought and consciousness? This will be seen in[.160].

Did the reader know that "Emotional Intelligence"* or "Multiple Intelligences" are absurd names —they do not represent anything that exists in our psyche— no matter how many millions of books have been sold on these supposed concepts?

* One thing is that with motivation (a type of emotion) the development of intelligence is stimulated, especially in children. The other that "Intelligence" and "Emotion" have a intersection. Non-empty intersection is a condition to be able to make the linguistic combination. "Intelligence" and "Emotion" are disjoint concepts, that is, they have an empty intersection. Consequently, the combination "Emotional Intelligence" does not represent anything. It would be like confusing "Purpose" (the development of intelligence) and "Means" (the stimulation to achieve it). I insist on the criterion of H. R. HERTZ.

We regularly and repeatedly talk about twenty faculties of the psyche, "sense", "sensation", "abstraction", "perception", "memory", "feeling", "unconscious", "impulse/ compulsion", "emotion", "affect", "idea", "concept", "knowledge", "thought", "understanding", "comprehension", "awareness", "intuition", "intelligence", "reasoning", "mind", "intellect", "consciousness-raising", "consciousness", ..., but no one will be able to unequivocally establish the relationships between them. Relationships like those between a proton, an electron, an atom or a molecule and that any high school student knows and is able to explain at any time. Worse still, we won't find it in any book either: a valid model —comparable and applicable— of the psyche has not yet been published.

If I make these strong statements above —which must be done— it is for two reasons:

- because twelve years ago I had to occupy myself for several months in defining structurally, unequivocally and exactly more than a hundred concepts relating to the psyche, or what is equivalent, establishing a "**Global model of the psyche**", for the simple reason that it did not exist (**CONDITION 1A**);

- one cannot speak seriously about a single faculty of the psyche if it cannot be unequivocally differentiated from all other faculty and the relationships between them can be established (**CONDITION 1B**);

otherwise it turns out to be a dialogue of the deaf. To speak without prior definition is to make fools of ourselves, and we must remember what SHAKESPEARE said that inspired GOYA: "Dreams of reason produce monsters". Having solved the two previous conditions (strictly speaking they are almost equivalent), at the very least, one can start to say: "!damn it!, then what you call "Consciousness" (or "Intelligence" or whatever) is not you have nothing to do with what I tell him". It's a first step*.

* Jaume BALMES criterion: "Define and you will not argue"

THE SCIENTIFIC COMMUNITY, AND CONSCIOUSNESS [.03]

IGNORANCE [.030]

Benoît MANDELBROT (1924-) is a distinguished member of a line of mathematicians. It has become world-famous for the discovery of the amazing set that bears its name, characterized by its shapes called "Fractals". It is his poignant statement"... because we only consider the phenomena that they allow us to explain as scientists!" ("...given that we only consider the phenomena that we are able to explain to be scientists!!"). In other words, what we are not yet able to explain, science, strictly its "Scientific Community", takes it out of the way —one less problem— saying that it is not scientific. It is the same attitude that is popularly expressed with"who can't have them says they're green", taken from J. de la FONTAINE ("*The fox and the raisins*").

This is what has happened with many Oriental knowledge and practices —acupuncture, foot reflexology, ...— or others even more irrefutable, such as **telepathy**. These unquestionable but misunderstood phenomena are given the ominous label of "para-" (as in parapsychology) which is like a death sentence, a esoteric sentence.

Even conscience has been a victim of this attitude. FREUD is still despised by a very significant and very influential part of the scientific community when, without his contributions:

- of the unconscious,
- of his method of raising consciousness of the unconscious (the discussed psychoanalysis), and
- more specifically the interpretation of dreams (deciphering the outermost coding of the unconscious);

today we could not even talk lightly about conscience. We couldn't even talk about it. Like it or not, it is.

Here appears another "sine qua non" condition for talking about consciousness: understanding the Freudian contribution and knowing how to relate it correctly within the '*mechanisms*' that make consciousness possible. Of course, this creates serious problems, due to the great distance between psychology (and above all psychoanalysis) and official science. Well, it will be one of the servitudes to be resolved*. There is no other way. There is no shortcut. Whoever does it, is totally wrong and will not get anywhere.

* Strictly speaking, it is no longer necessary because it is already solved: it is "**Intrinsic Semantics**", the natural nexus between psychology and mathematics that manifests itself through human language. The reader will be able to find various explanations of this concept —strictly speaking it is a new scientific discipline— in "El kerigma del pensament", "La Teoria holística (resum)", etc.

INTRINSICITY OF KNOWLEDGE VERSUS CENSORSHIP [.031]

The authority of science, orthodoxy properly understood, does not rest on the scientific community or on any one person. Conversely, people in the Institutions of the scientific community do not always use science correctly. More so, the scientific community and/or its Institutions* they have very often been an obstacle for the development of science, a censorship. You only need to remember ORLAC, ..., GALILEI, ..., FIBONACCI, ..., SERVET, ..., CHAMPOLLION, ..., SEMMELWEIS, ..., MENDEL , ..., SUTTON, ... FREUD, ...

* Understanding as such the Institutions or people who are considered depositories of knowledge, today markedly secular, but initially religious (may be this heritage explains this phenomenon and its permanence).

The authority of science is given, **uniquely and exclusively**, by the practical/useful application of its discoveries and its theories, by the prediction and reasoned explanation that allows correctly represented phenomena.

A knowledge is a valid/correct/certain representation of what already exists, consequently its existence is intrinsic, independent of whether it is accepted or not, of whether it is understood or not. It does not depend on votes or people who defend it: "E pur se muove".

Even worse, **discovery** a knowledge is **intrinsically anti-democratic**: when something is discovered, it's one (the discoverer) against the rest of humanity (those still ignorant). It is like the **radical opposite of the "ad hominem" and "ad populum" fallacies**.

The authority of science emanates from the intrinsic nature of the knowledge provided, not from any person or persons, people who limit themselves, in some exceptional cases, to discovering and applying them.

RASHNESS [.032]

Another reaction totally contrary to the previous one of ignorance —that which the extremes touch—, but equally absurd, is found in the "Theories of Chaos". The etymological definition, "Chaos" is what we still do not understand. If it is not understood, one can make a guess, at most a risky hypothesis, but never a theory. Many theories can be made about many things, but never about "Chaos". It is as absurd as relating "Consciousness" and "Quantum Mechanics".

An event analogous to the previous one of the "Chaos Theories" —trying to develop something that is not known to be— has been the "Artificial Intelligence", predicted in 1992*.

* The first criterion of the current software engineering paradigmis that any computerization process must begin with a well-defined "what" we want to computerize. A criterion of the most elementary common sense. But even so, thousands of programmers and scientists —with the subsequent financial and institutional resources expended— were trying to computerize during the 80's a concept that no one bothered to even define: intelligence. It is therefore understood the famous failure of 1992, and that in order to disguise it the interpretation of the word "Intelligence" has been changed, understood today in the computer field as simple automatisms, a faculty that has nothing to do with intelligence, quite the opposite, because automatisms are a completely common faculty, so much so that they have been present in all living beings for almost 4 000 million years.

The example of "Intelligence" brings us closer to "Consciousness" (both are high-level mental faculties). Unlike "Intelligence", "Consciousness" has not been attempted to be computerized, but an attempt is made to know what exactly this universally accepted faculty is and how it is possible*. So far, let's go. The problem is in attitudes, in the so-called "Inertial Elements"** which are being explained to know what it is: the whole series of formal and methodological errors that I am trying to expose, and which, as you can see, are all too common in science.

* And when you know exactly what it is, like intelligence, you see that you have to give up computerizing it. Not so much because it is impossible to do it ("never say about this water...") but because it is absurd and not economically profitable from the start, as will be seen in [.312].
** Environmental and behavioral circumstances that can either speed up a process ("Positive inertial element"), or slow it down and make it difficult until it becomes unviable ("Negative inertial element"). The "Inertial Elements" generalize the concepts of "Catalyst"/"Activator" and "Slower"/"Moderator" of chemical/nuclear reactions, ...

In view of these historical facts, scandals such as those that arose, first from an article by SOKAL —exposing a prestigious magazine that published an absurd article should not be surprising*, done so consciously— and then SOKAL himself with BRICKMONT, highlighting the mathematical absurdities wielded by several intellectuals of recognized worldwide prestige**.

* "Transgressing the frontiers: towards a transformative hermeneutic of quantum gravitation"; "Social text", April 1996.
** "Intellectual impostures". Ed. Odile JACOB, 1997.

Two attempts to explain the foundations of consciousness (from biology and from quantum mechanics) have already been mentioned at the beginning. Following these same attitudes, geologists should consider finding a justification for consciousness based on the force of gravity and terrestrial magnetism. Why not? Etc.

ORIENT AND OCCIDENT [.033]

"Occident" science and technology has often led to the current **rift** with ancestral "Oriental" wisdom. A **wrong** attitude and at the same time **ungrateful**. Ungrateful because discoveries such as the wheel (5 000 years ago, basis of technology), gunpowder (9th century, basis of chemistry), positional numerical systems (9th century, basis of mathematics and therefore of all modern science , and of the economy) are from the "Orient". And the most difficult are always the beginnings.

As the poignant sentence of MANDELBROT already mentioned referred to [.030], today much of the "Oriental" wisdom is still ignored, or accepted with reluctance (like acupuncture today). A rare exception was the Chilean biologist Francisco VARELA. His approach to disciplines such as Buddhism and his attempts to

establish a scientific dialogue with the "orient" are known. And for the study of consciousness, where despite his correct intuitions, his exclusively biological approach did not allow him to progress.

But within the scientific community, VARELA was perceived as a "rare bug", if not as a ghost, precisely because of what MANDELBROT highlighted, in an attempt to modify the scope of scientific knowledge. And this has always been harshly punished by the scientific community, both in the time of the Church and today.

At the end of 1996, once I had finished a first description, of 300 dense pages, of the processes of knowledge and thought, I sent VARELA a selection of pages, half in Catalan and some translated into Spanish-castillian (the Spanish language, to be the official language of this State). We spoke at the beginning of 1997 and he asked me for time to be able to read them. I forgot, until 4 years later I found out he was dead.

Consciousness is a meeting point of these two historical perspectives, oriental and occidental. But to get there, occidental scientific knowledge needs a step with which to complement biology. They are the "Symbolic Systems" whether "Symbolic Systems with material support" (such as those of genetics) or "Symbolic Systems with symbolic support" (such as the structures of the psyche and in general all languages). Without this step in between, nothing is understood, neither Consciousness nor Genetics as we will see later. This step gives rise to "Intrinsic Semiology", a discipline that intersects all the phenomena of a symbolic base "+S" (where symbolic processes are involved, such as psychic languages, bodily languages, proteins, hormones, genetics, ... and in which quantum mechanics could be included in the future*).

* See " Els simbolismes pre-materials. …".

*SYMBOLIC SYSTEMS WITH MATERIAL SUPPORT AND SYMBOLIC SYSTEMS WITH SYMBOLIC SUPPORT

Although it is repeatedly explained in other writings, in summary, in "**Symbolic systems**" what works is the **interpretation** that is made of a pre-established and/or agreed-upon coding system or language. The action of matter is **replaced** by the interpretation of the sign. Matter is a **marginal and inoperative** medium.

"Symbolic systems" also enable another characteristic, and therefore exclusive: **identity** regardless of the material support (a person is the same even though when he dies he has almost none of the molecules from when he was born, a book is still the same that a million different copies are made, ...).

In addition to interpretability and identity, all "Symbolic systems" have the characteristic of **duplicability** (genes, transmission of knowledge, computer copy), characteristics impossible in non-symbolic material systems.

I call "Symbolic systems" I call "**with material support**" when the interpretable signs are **tangible material forms** (like hormones/proteins, like the carbon bases in DNA, ...) and already existing that acquire this new function.

Symbolic systems I call "**with symbolic support**", when the sign is not tangible in isolation and/or is a symbolic convention. For example the intensity of an electrical signal (analog signals), the simple existence and even the absence of signals ("digital"/binary signals), letters/phonemes (which are images not necessarily material), ...

I call "Symbolic systems" with "symbolic support" when they are not supported directly in matter, but in interpretable, virtual symbols. For this reason, they can add another characteristic: **versatility**, that is, the possibility of managing coding/information systems different from those that generated them, but as long as there is **semiological compatibility** between them. This allows the psyche to indifferently manage sensory signals, senses, perceptions, feelings, knowledge, reasoning, ... Symbolic systems with material support do not have this characteristic: they are **dedicated/specific** systems (no other function of DNA is known, proteins are specific and even have to mutate only to adapt to new situations, ...). The nervous system as such could not manage absolutely any of the human behavioral faculties, such as those already mentioned.

I don't know if FREUD was aware that his work is the starting point for the concurrence of "Orient" and "Occident". Not only for his discovery of the processes of consciousness, but for having introduced to science the first "Symbolic systems with symbolic support" (those that characterize dreams and in general all "languages"). And this long before genetics discovered from 1953 the "Symbolic systems with material support" (the structure of DNA and/or proteins and hormones), symbolic systems, that are older and much less "prolific "* that the "Symbolic systems with symbolic support".

* For the "**versatility**" of the "Symbolic systems with symbolic support", which we will see, a very powerful characteristic impossible in the "Symbolic systems with material support".

Intrinsic Semiology is one of the pillars of universal Science as advocated by LEIBNITZ (a science that has as elements of study all other sciences, an equally scientific and predictive study, little to see with current linguistics), and previously LLULL with the tree of science.

The other pillar of Universal Science is the Intrinsic Semantics already discussed in a note. See "La Teoria holística (resum)".

I say this to make the reader aware of the scientific gaps that exist in the field of information and its symbolic systems. For example, what is structural genomics?, the structural genomics is the intrinsic semantics but restricted to genetic information. I have no doubt that the reader has never read this before. So, what would be the "semiology" of genetic information?, the semiology of genetic information is the biochemistry. Is not genetic "information" called? Language, with its corresponding semiology and linguistic semantics, is not it an information system? All as clear as a "rule of three", but not with numbers but with concepts.

The unconscious is an immense storehouse of information, of hidden memories. Can we talk about its semantics? Yes, although rarely and not when we want, they are what dreams manifest. This is one of Freud's great contributions.

For 50 years, genetics has been the mainstay, the battle horse or Trojan horse, of almost all attempts to discredit Freud's contributions. The "killer genes" sought to evade the social responsibility of the illness of crime.

Ignoring such basic knowledge of neonatology, as the already hundred-year-old rescued children, or today's kidnapped children, aberrations such as:

> "Let's imagine that you have a child with a low IQ and that you can modify it through a genetic alteration. … you are allowing parents to choose how their children will be… Perhaps it is a more sophisticated and civilized way of choosing how we want our children to be."

Just today, with the emergence of epigenetics (which was silenced for almost a century) geneticists have had to modify their expectations*. To have more useful criteria for interpreting the genetic code, because it is a language, the best thing to do is to study other symbolic systems, such as, for example, those that allow the interpretation of dreams. Or get inspired by studying what the symbolic structure of knowledge, thought and the psyche in general is**.

* See the "Annex" of 2007-06-14 and 15, in "L'exactitud a les ciències".
** See "El kerigma del pensament"

Why such a strong and surprising statement? For two reasons.

- The first due to a currently ignored phenomenon, the "Transfer of methodological elements between structural levels", so that any high-level methodology (for example psychic) is predictable to derive from some compatible, more basic, already existing methodology in previous levels (such as genetics). Consequently, if done correctly, it is possible to infer genetic behaviors and properties based on behaviors and properties of the psyche. A sufficiently clear case can be found in the already mentioned writing "L'exactitud a les ciències", obviously advancing behaviors "discovered" very recently by the vanguard of genome researchers (see of this writing the Annex of 2007-06-14 and 15, which explains it).

- The second because they are more "prolific"* the "Symbolic systems with symbolic support" than the "Symbolic systems with material support". Any genetic behavior is, without a doubt, easily representable from the "Symbolic systems with symbolic support".

* Strictly "**versatile**", characteristic that will be seen in [.12] and [.130]. "Versatile" should **not be confused** with "plastic/plasticity", a common but incorrect term.

Moral apriorisms and arrogance already slowed down the beginning of genetics for more than 50 years, from SUTTON (1902) who already proposed the chromosomal hypothesis of inheritance (that chromosomes carry hereditary information) until 50 years later it had to be accepted by the irrefutable conclusions of WATSON, CRICK and WILKINS* (1953).

* It seems clearer every day that Rosalind FRANKLIN was the key to the discovery, but because of the unauthorized copying of her work, the masculinity of the time and her sudden death (supposedly from cancer due to ionizing radiation received in her own experiments), the discovery —and the Nobel Prize— is associated with three. And Rosalind should also be preceded by CHARGAFF and followed by GAMOV.

Luckily, not everyone thinks the same:

"The scientific community is going to have to rethink some entrenched views on what genes are and what they do" (Francis COLLINS, referenced in "La Vanguardia" 2007-06-14).

One day, traveling through France towards Deutschland, I read a long article"Freud demolished by science" ("Courier international", n. 819). Despite the "demolishing" title, the only argument provided by the article was that psychoanalysis sessions are more expensive in the pocket —private or of the public health, French in that case— than a round of injections or tranquilizers to keep pulling... So applying the same reasoning, you will have to consider curing cancer or "AIDS"* (="AIDS") with "Aspirin Bayer", because even if it doesn't cure, it reduces the pain and above all it's much cheaper...

* Without going into the scientific questions that this virus and its effects still pose.

BODY CONSCIOUSNESS [.034]

Any computer program begins by defining variables. Just like any work in mathematics, physics (the system of units used, ...) or chemistry (stoichiometry, ...). But in approaching Consciousness "scientifically", we have already said that no "scientist" has worried about the terminology used (see CONDITIONS 1 at [.00]).

FREUD, the person who introduced and analyzed the concept of Consciousness as we understand it today, is also ignored in the "scientific" study of Consciousness (see CONDITION 2 at [.00]).

But they are not the only serious shortcomings. There is another equal or worse. When talking about "Consciousness", it is strictly being abused (back to the problem of terminology) and it is understood that it is only "Factual (or experiential, or mental, or intellectual, or virtual, or human) Consciousness , or whatever you want to call it)". As if only Man had that consciousness. "Factual" refers to "Fact", to experiences, to what results from the person's external circumstances. "Intellectual" refers to the fact that the scientific community often considers consciousness from this unique perspective, which as we will see is not the only one. It seems as if there is no other consciousness than this.

So it is clear enough that when "scientists" talk about "Consciousness" they are not taking into account "Body Consciousness", our own, internal and most immediate consciousness. In addition, bodily consciousness is the previous stage, condition "sine qua non", to achieve what I have just called "Factual Consciousness" or "Experiential Consciousness" or "Intellectual Consciousness".

But even more, because in order to mature "Body Consciousness", the previous stage is the correct maturation of "Psychomotricity". The progression is:

Psychomotricity → Body consciousness → Consciousness (factual)

Consciousness (factual/intellectual) implies beforehand bodily consciousness. In other words, bodily consciousness is a condition for the development/existence of (factual/intellectual) consciousness. "Implication" and "Condition" are two inverse relationators, relationators that characterize cognitive faculties (see "El kerigma del pensament").

And body consciousness implies before psychomotricity, that is to say, psychomotricity is a condition for the development/existence of body consciousness.

Without psychomotricity, body consciousness cannot be developed. Without bodily consciousness, experiential/factual/intellectual consciousness cannot develop. It is an evolutionary, progressive and natural process.

Without first talking about psychomotricity and body consciousness, nothing can be understood about consciousness.

Schematically:

Consciousness (factual) ⇒ Body consciousness ⇒ Psychomotricity

* The sign "⇒" is agreed to represent the relation "implies to", inverse of "condition for the existence of".

From the shortcomings discussed it is understood that "What is the Biological Basis of Consciousness?") is still one of the 25 most important questions that "science" has yet to solve. And it will remain unsolved, eternally, for all the people who insist on approaching the subject with formal and methodological shortcomings such as those exposed. Cleared everything this, I can go on, and explain right away ("PART II") what, exactly, Consciousness is.

THE DELAY IN THE APPEARANCE OF CONSCIOUSNESS [.035]

In "PART III: What is NOT consciousness?" we will see many conjunctures that are not conducive to consciousness, as well as some of its ambiguous and/or wrong definitions. It will be inevitable that someone will not share, or will not like, what is exposed. But there is one characteristic of consciousness that everyone agrees on. That's why it will be good to expose it right away.

The most perceptible characteristic of consciousness is the **unequivocal delay** between the process of consciousness, with respect to the facts or realities that have produced it, which are the **initial state or origin** of the consciousness-raising process.

Suppose we experience extremely intense events, for example a serious accident. During the same we do all kinds of mental processes, but always with the aim of guaranteeing our safety or that of those around us: the instinct of conservation, a sense that takes precedence over any other more complex/superior process.

Everyone has experienced that it is not until everything is over and the accident or danger is resolved that we enter a period of relaxation after that. We even get dizzy. From here we begin to be aware of what has happened, we begin to "rewind". Even days later we can repeat the same process and increase even more the first consciousness that resulted from the accident, because we integrate new facts and new relationships initially unnoticed. It is the evolution of the "state"-consciousness commented on [.01], like the states of the elements of any system (see [.201]).

If the accident is traumatic enough, consciousness can even be blocked and not allow consciousness of the events and/or all previous events even if they are unrelated: these are the cases of post-traumatic amnesia.

It seems as if consciousness-raising necessarily requires **time and "perspective**" on the facts that make it up.

The definition of consciousness must **unequivocally explain** this characteristic. It will be a good selective criterion within the chaos of definitions of consciousness.

EMPIRICISM AND CONSCIOUSNESS [.036]

Science requires empiricism, experimentation. You couldn't try to do theoretical physics without physical particle accelerators. Experimenting is necessary to do science, it is a condition, but not the only one. Just by experimenting there is no guarantee of obtaining any results, you also need to know how to experiment and, above all, you **need to know how to obtain correct conclusions**. The problem is even greater when dealing with consciousness-raising: how to do empiricism with consciousness-raising? Here Occidental science falls into its own trap of denying the "Orient", and even of denying one of its own most eminent doctors, FREUD.

The answer is that to seriously study consciousness, the person would first need to:

- spend a few years **psychoanalyzing yourself deeply** (if you are able and/or still have time to do so) to "experience" what a process of consciousness-raising is like; or
- at the very least, go for a good season to some Buddhist sanctuary, or better Zen, to "experience" your **own bodily consciousness**;

because consciousness belongs to our "inner world" and is **non-transferable**, it cannot be experienced in test tubes or with any other apparatus external to the experimenter.

But if FREUD is a character marginalized by the scientific community (why would he be?), or the few attempts to integrate Oriental wisdom into the knowledge of Occidental science and technology are rejected, how can we pretend that a scientist interested in finding out how of consciousness consider starting to psychoanalyze yourself or to increase your body consciousness?

This writing is motivated precisely by all this, by the current **lack of knowledge** of the "mechanisms" of this basic human faculty. For the lack of empiricism, for the lack of seriousness and/or the intellectual **childishness** with which it is treated. And what's more, because of the **serious misunderstandings and prejudices** there are.

DEFINITION OF CONSCIOUSNESS-RAISING [.10]

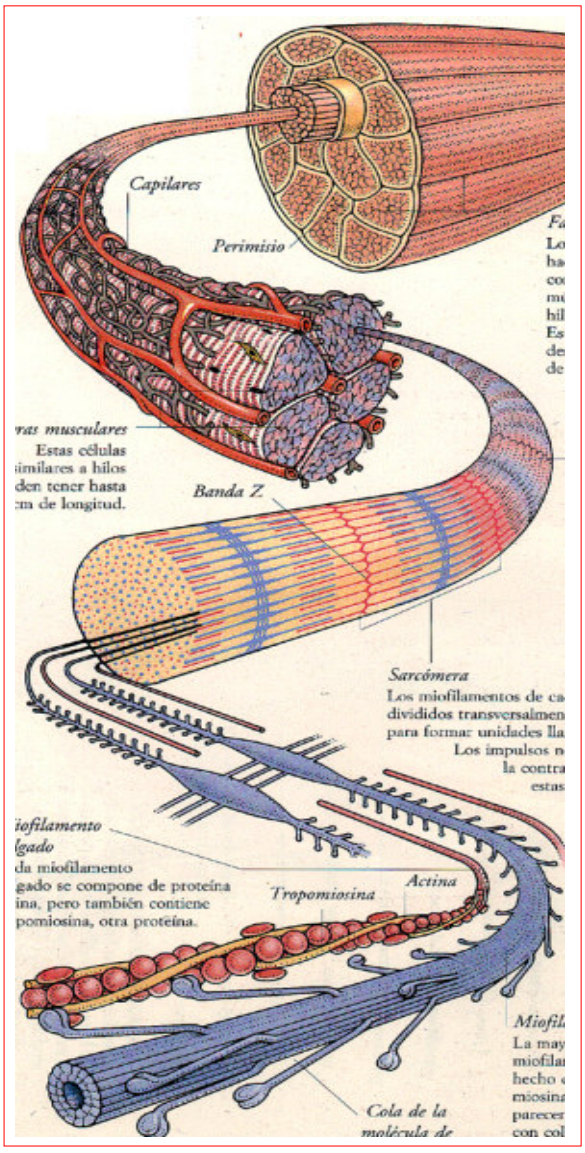
"Consciousness" is one **self-applicative and integrative process of sensations and feelings**. But put this way, even if it is a completely precise and exact definition, there is a disproportion between the brevity of the definition and the extraordinary power of this faculty, so that knowing the definition is not understanding it, because only knowing **it is like saying nothing if you do not know in depth a series of previous concepts**, including obviously those that make up the literal definition ("self-applicative process", "integrator" and "feelings"), but above all **their relationships**, everything what is needed without exception to obtain the correct understanding of the composite concept that results from these component concepts. Nor is it enough to know the component concepts, although the "self-applicative process" will hardly be familiar to the reader. You need to know what "emerges" from the definition.

The journey we will have to take to properly understand what "Consciousness" is includes above all body consciousness and psychomotor skills. But also to other previous and/or related concepts such as Application, Impression, Perception, Introspection, Thinking, Complexation, System, Symbolic system with material support, Symbolic system with symbolic support, Versatility, Identity, Semiological compatibility, Transfer of methodological elements, Global Model of the Psyche, Method, ... Even others apparently alien such as Metadata, Interdisciplinarity, Solidarity, Foot Reflexology, Anthill, Coral reef, Polymerization, Algebraic matrix, Homology, Judicial appeal, ...

THE MUSCLE [.11]

A muscle, like the one that will serve as our model, is broken down into progressively smaller groups according to the spectacular diagram attached (from the "Atlas of the Human Body", Grijalbo Mondadori):

- The muscle is **divided** into dozens of muscle **bundles** (separated by envelopes called Perimisia);
- These bundles are divided into dozens of bundles of muscle fibers (separated by a nutritional vascular network);
- These bundles are **divided** again into a few **muscle fibre bundles** (which are the muscle cells, with their membrane)
- Each Fiber ... in thousands of muscle **Myofibers**
- These ... in thousands of pairs of **Myofilaments** (which are the contraction units) which at the same time:
  - longitudinally they are divided into equal parts, called **Sarcomere**
  - transversely, they are divided into **two** classes of **Myofilaments**, the thin and the thick.
- that combined, done in any order (multiple inheritance and at the same time commutativity), the two halves of the Sarcomere are reached, with the corresponding sarcomeric **fractions** of the thin and the thick Myofilament.



Scheme 2. Muscular structuring

The **partition criteria** that have structured this fractionation of the muscle are diverse: mechanical, alimentary, cellular, control, etc. We will immediately see what mathematical interpretation the partition criteria have.

The "base" is variable: for example 20 bundles for a given muscle, 50 bundles of fibers for each bundle, 5 ..., 1000 ..., 2000 ..., and 100000 ...

That is, a muscle forms an immense "tree" of 20 x 50 x 5 x 10000 x 2000 =**many millions of myofilaments and trillions of sarcomeres**, which are the **units of contraction** (and underlyingly, of motor information). It must be said that this basic structural perspective is almost **ignored** by anatomy treatises, which are merely **enumerative**. This is why medicine is **incapable of drawing the important methodological and mathematical consequences that will follow.**

Why do we talk about "base", referring to the "base" of a "positional numbering system"* (binary, octal, decimal, ...)? Why is methodologically the same, but in the case of muscle, it is more complex.

* The important thing is not that it is decimal, it can also be binary, etc., but **the interpretability of the position**, but that is precisely what is not said. "Interpretability" is the characteristic of languages. Consequently, the "Positional Numerical Systems" **are a language** like any other, but a language particularly suitable for representing quantitative concepts, numbers.

Since in positional systems the "base" is fixed, specifically 10 in the decimal system, with 8 digits we can make 10 x 10 x 10 x 10 x 10 x 10 x 10 x 10 = 100 000 000 different numbers. For exemple, the number 64 785 213 is one of them.

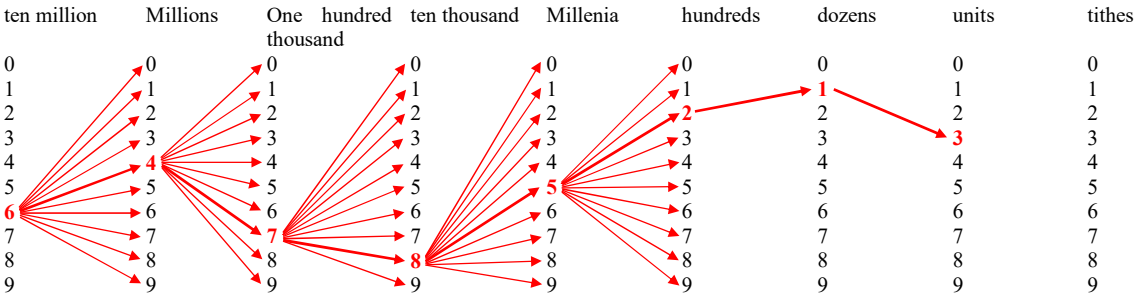


Diagram 3. Abstract tree associated with the number 64 785 213.

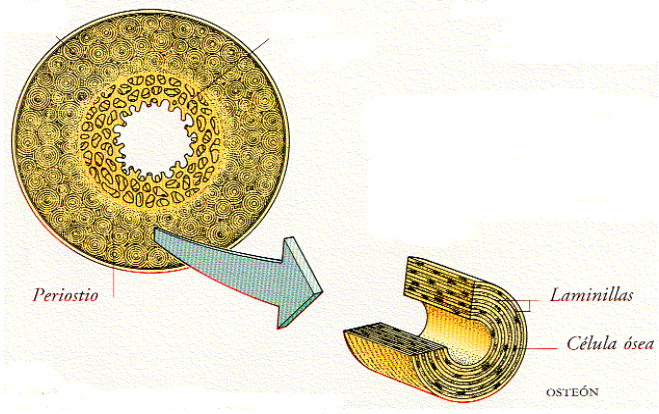
The positional numerical systems –the basis of the spectacular development of mathematics and therefore of all the current technological explosion and of globalization– **they are a trivial, very simple case** of this structuring into levels.

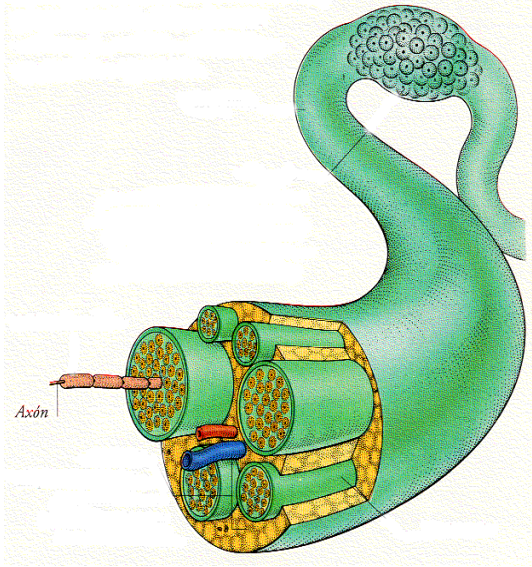
In muscle, each level (except in the last one with the thin and thick myofilaments), **its elements are all the same**. In numbers, in each level, each next one number is a little bigger. Each of the elements resulting from each fractionation/partition will be called "children" with respect to the higher level. Unlike muscle, in the decimal positional system, there are always 10 children in each level, and slightly different.

In the following table we will see that the only "complexity" of positional numerical systems is that the resulting "children"* they are not equal but inductive (the value of one more unit is added to each child).

* The "equivalence classes" that result from the partition criterion.

What's more, it's not just muscle tissue that follows this methodological structuring strategy: bones, nerves, ... too.





Diagrams 4 Structure of bones and nerves
("Atlas of the Human Body", Grijalbo Mondadori)

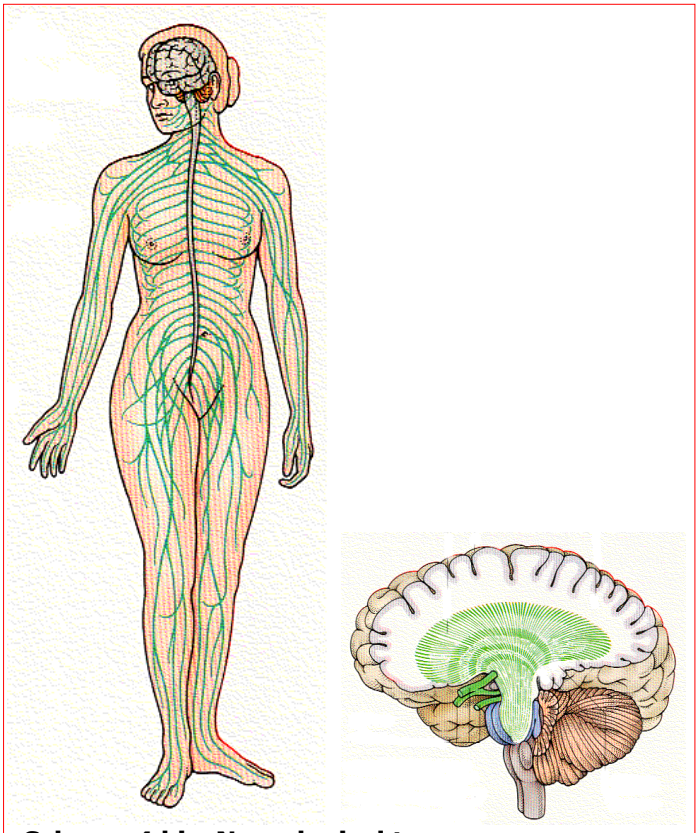
And what's more, the nerves end up grouping together in a strict tree. And finally in the brain, in other trees of opposite structure.

Trees, **trees, trees**, ... the **most universal structural and organizational resource that exists**. What is a "hierarchy"? the name given to the structural levels of abstract trees. That is why man always tends to hierarchize, it is difficult to clarify with other organizational strategies (for example relational like interdisciplinarity, etc.).

STRUCTURAL MATHEMATICAL INTERPRETATION [.110]

There is a mathematical concept that represents each of these fractions, the "**Short Exact Algebraic Succession**", of which I only leave a record*.

* ADDENDUM (2025). In 'Children's knowledge at age 2', it is explained that this not simple mathematical concept is already **surprisingly intuitive** in children of this early age, and furthermore, its **agile use** allows you to efficiently initiate the level of sensitive conceptuation, which is the first level of human knowledge.



Scheme 4 bis. Neurological trees
("Atlas of the Human Body", Grijalbo Mondadori)

As there is a **chained sequence** of fractions, so we have a sequence of short exact algebraic sequences. A succession of successions is a **self-applicative process**, a type of process also characteristic of consciousness as just defined. So it seems that we are on the right track. We will discuss these processes "self-applicative" at length again.

The partition criteria mentioned in the case of the muscle partitions, determine in each partition the so-called "kernel" (=nucleus) and "cokernel" (=co-nucleus or attachment of the nucleus) of the "Short Exact Algebraic Succession", which it is what defines and characterizes it. In the usual algebraic cases the criteria are abstract/virtual and agreed upon, such as for example "classes of remainders modulo two" (which breaks whole numbers into even and odd). Here we find real criteria, derived from the reality of the available molecular materials. Consequently, the "exactness" is guaranteed as in the abstract algebraic successions: A fiber can never be composed of 12.5 myofibrils. See "L'exactitud a les ciències".

What is also important to note is a table that summarizes the differences in the fractionation/partition criteria —and in general the different structuring methodologies— within this common representation of nature in "Short Exact Algebraic Succession".

	Exclusivity of the Base ("monogamy" or not)	**Variability of the Base Criterion**	**Number of Children**	**Types of Children**
Muscular structuring	**Exclusive** (each partition, a single family of descendants)	**Variable criteria**, predictably depending on molecular and cellular "availabilities"	**Variable and changeable** according to Level: about 1000, 2, about 500, about 60, about 6, about 60, about 24.	**Always the same**(all Sarcomeres are the same, all MyoFibrates are the same, ...)
Nerve	**Exclusive** (ditto)	**Variables** (as in "Muscular Structure")	**Variable and changeable** according to the Level	**Always the same**
Bone structure	**Exclusive** (ditto)	**Variables** (as in "Muscular Structure")	**Variable and changeable** according to the Level	**Almost the same** (small differences only in Form)
Positional numerical systems	**Exclusive** (only one, and moreover, fixed, always the same "father")	Criterion **fixed** (or 2, or 6, or 8, or 10, ..., but always the same)	**Fixed** (and matching with the value of the Base: 2, 6, 8, 10, ...)	**All different** among them (0, 1, 2, 3, ... in the case of Base 10), inductive (+1)

Scheme 5. Constructive strategies (=methodologies) of some complexation structures

The table is even more interesting if the analogous genetic and protein structure is attached, as well as that of the "Intrinsic and exact conceptual system" that we will see later, in [.170]. If you understand this table in its entirety, you begin to understand that is "Intrinsic Semiology", that is LEIBNIZ's "Universal Science", and its importance. And, ¿why is it intuitive in young children? And, ¿why can we do mathematics?

For the full table and for more information, see the Memo "in extenso" corresponding to the patent "WO2003054835A2", or "The kerygma of thought".

"Intrinsic Semiology", is a discipline common to many sciences (psychology, the study of hormones and proteins, genetics, all natural or human languages, ... and possibly also quantum mechanics and some molecular superstructures like those of water, still unknow) but which we do not need to enter to deal with the subject of consciousness.

It should be added that the entire table is **a paradigm of interdisciplinarity**: mathematics, genetics, anatomy, psychology, intrinsic semiology, linguistics, computer science, ... and as we just mentioned, possibly physics. It may be because of this same interdisciplinarity —and for the reasons that will be explained later in "Interdisciplinarity" [.162]— be a table still unknown.

MUSCLE MANAGEMENT. THE RUPTURE WITH TRADITIONAL MATERIAL SCIENCE [.12]

Let's go back to the muscle because the only thing we are interested in now is the **management** of this trillion fractions of sarcomeres. And it must be clear that when we talk about management we are entering another area that is completely independent of the material. We enter the field of **languages**, the field of **information**, the field of **organization**. We enter the domain of **virtuality**.

This management represents a methodological **rupture** in traditional material science. A rupture that FREUD already established a **hundred years** ago and consolidated genetics **fifty years ago**, but which has not yet been accepted/digested by science (that is, the scientific community), which often despises the Freudian contribution and/or , erroneously, treats genetics as an extension of traditional material.

It is known that each myo-filament receives a specific nerve ending, the ending through which contraction commands arrive ↔ relaxation. Not simple orders but complex ones, according to the required intensity/power and modulating their speed. That is to say, there is not a single nerve ending, common to all myo-filaments, but one for each one. Billions of "modulated" signals are needed. And if some don't arrive, the muscle starts to "make a fuss".

The sarcomeres of the myo-filaments have no merit, they do what they are told, they are automatons (as long as they have enough "fuel"). The merit lies in the signs that manage them, that govern them.

EXISTING, REAL AND VIRTUAL

Today functional illiteracy —knowing how to read or write but not understanding what is read or written— is an increasingly frequent reality, contrary to what would be expected from the increase in well-being.

Who hasn't heard expressions like "virtual reality"? Well, it's a demagogic, absurd expression. "Reality" and "Virtuality" are disjoint concepts, more precisely they are **complementary**. Consequently they do **not intersect**. Its intersection is said to be **empty**:

$$\text{Reality} \cap \text{Virtuality} = \varnothing$$

and consequently the combination "virtual reality" does **not represent anything**, it is only a set of letters as any scribble can be. Only the sign exists as such, nothing more. Language is not just a set of signs, but interpretable/representative signs. See in "The kerygma of thought" how compound concepts are formed.

Either one thing or the other, and the combination of both is all that exists.

Existence = Reality +Virtuality

There is as much a mirror image as the object that produces it. But objects are always real, never virtual. And the images are always virtual, never real. Concepts, knowledge, thoughts, ... are also virtual.

Can we imagine what it would cost to make a choreography with the same number of people, much more than the entire population today, moving in unison without a single mistake? How is it possible to manage this coordinated action of so many mobile elements? This is the wonder, because such brutal management would be totally **unthinkable** with a material/real system, even through structures as complex as proteins. A virtual system is needed, that is, informational.

Why did mechanical machines stop computing as soon as virtual computers reached a few "k" of memory capacity? Because they couldn't compete. It is totally unthinkable to have a mechanical/material widget of dimensions equivalent to the "Gigues" that any computer can achieve today.

That is why life has had to develop a system of signals independent of biological structures, signals that are structured according to "Symbolic systems with symbolic support" which have been mentioned before. It is the psyche. Obviously, these signals of psyche circulate on some biological/material support, the nervous system, just as the software works on the support of the hardware (="hardware").

It is clear that this management system is supported by another system, the nervous system, but the reader must also understand that both systems —the nervous system and the communication system required to send the signals— are completely different. Of course, they are two closely related systems, as much as the first is the support of the second. Without the nervous system the communication system could not exist.

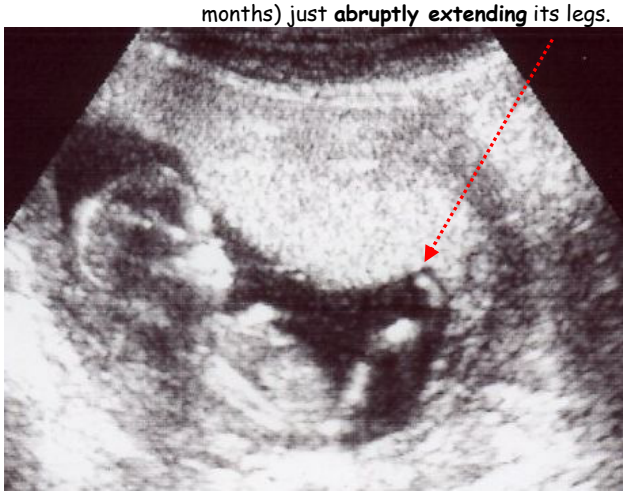
This system of signals, in man is known as "Psyche", although it should be extended to many other species. As we will repeatedly see, it is a "symbolic system with symbolic support".

The relationship psyche – nervous system (and in general the whole body) is like the relationship between hardware ("hardware") and computer programs ("software"). Like the cable for a traditional telephone: the cable is one thing, the signal that travels through it is another. In cordless phones the signal is also supported, but in radio waves or microwaves (as is expected to happen with telepathy).

This difference —obvious on the other hand and which we will discuss again because it is unfortunately too often ignored— is also fundamental. If it is not taken into account, absolutely nothing is understood. Neither consciousness nor the whole psyche, thought and knowledge included, because they are faculties that appear as an evolution and complex of this management system.

A three-month-old fetus has already structured some muscles and, moreover, its psyche is already capable of managing trillions of signals in a coordinated way to move them. Seeing how it moves –for example in an ultrasound scan– is a double wonder. Because of the pregnancy in itself and also because of the extraordinary power of organization and coordination it entails. If the coordination was not perfect, the fetus, child or adult would not move, it would only have imperceptible spasms (that is, it would not be able to move, nor reach a child, let alone an adult).

Ultrasound of a fetus of **only 11 weeks** (less than three months) just **abruptly extending** its legs.



From now on we need to leave all the material, the tangible, the biological, the real and enter the signs, the virtual, the **interpretable symbols**. **The information**. A full "registration change" is required. But I am not referring to esoteric symbologies, nor to stupidities: interpretability excludes the irreal, the absurd, the demagogic.

THE FIRST CALCULATION. COMPUTER SIMILE. [.120]

To specify and illustrate, an analogy with computing will be good. Not only do we need the signals to move a single muscle for an instant, but we need to add two more characteristics to move it: intensity and speed. In other words, we need a few more signals to support the characteristic intensity and speed of the motor action. So we can talk about an amount of signals in the order of a billion signals, which our management/information system manages.

In computer analogy, a signal is a "Byte" (not a "bit"), so we will need **!!thousands of "GigaBytes"!!*** to shake the muscle for a few moments. That is, **some "TeraByte**"

* A trillion is 10 raised to 12, a thousand times more than a "Giga" (which is only 10 raised to 9), or like a "Tera" (which is precisely, 10 raised to 12, a trillion).

And without a doubt it is necessary to add the continuity of this set of signals, because the motor reaction of the fractions of sarcomeres is of limited time and must be renewed. In other words, for each muscle the signals must be renewed continuously, like a repeated flow of signal packets of some TeraBytes.

The reader will have to be patient because this is nothing compared to what is to come. This is only the beginning and to reach consciousness we still need to see many behaviors equally or more extraordinary than this incredible synchronization.

In other words, if this is done by a fetus of a few months, how many "Gigues" will put into action a faculty as high as consciousness? This "Bytes" analogy will be useful to help us understand the power of consciousness.

It must be remembered that nearly 40 years ago computers were not even seen by the very few users that existed. We just punched cards and received the result of the calculations. I don't know exactly its dimensions, the processing memory was some "k". Today, everyone's laptops already have 2GB of processing memory. To process them "TeraByte" (not simply store them), they are dimensions more typical of large computers. In any case, still ridiculous with respect to the amount of signals that the psyche can handle at any given moment! for a single muscle!.

MATHEMATICAL REPRESENTATION OF THE RUPTURE [.121]

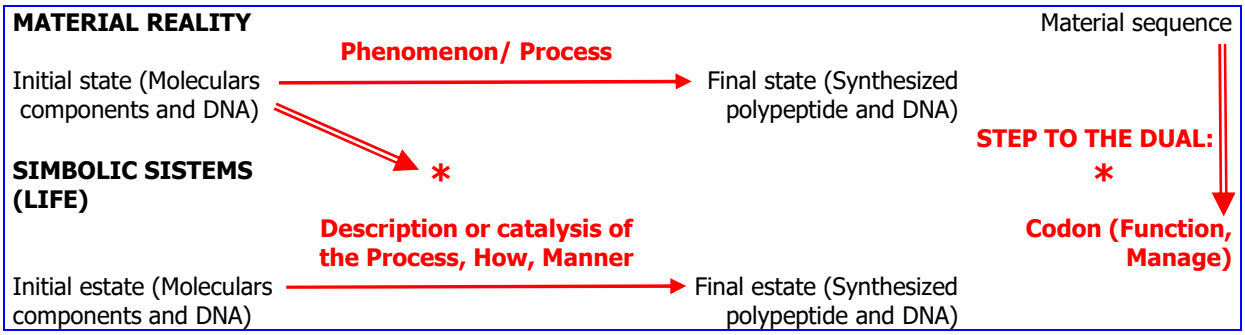
The difficulty of perceiving – and then understanding – this break between the science of traditional material structures (physics, chemistry, ..., biology, ...) and the science of symbolic structures (genetics, psyche, language, ...) is understood by the cognitive limitations of the man himself. Starting with apriorisms and prejudices.

In addition, there is another limitation that will be discussed further due to its direct relationship with the consciousness process: the difficulty of relational and interdisciplinary attitudes (see [.162]).

It is only about a priorisms and prejudices because there are no intrinsic reasons that justify this difficulty, that is to say, it is not at all because it is difficult to understand this break by itself. Two strong arguments prove it:

- There is even a mathematical concept that **represents exactly this break**. It is "Algebraic Duality", a basic concept of algebra without which neither tensor algebra nor differential geometry would exist, nor, consequently, physics as it is currently formulated. I don't go into it here because it has already been explained enough in "El kerigma del pensament" [section.310], to "L'Exactitud a les ciències", to the "Memòria in extenso de la patent WO2003054835A2", or "La construcció del Pensament i del Llenguatge" from 1997).

It is only necessary to say that "Algebraic Duality" was fully formalized in mathematics and physics more than 50 years ago (with the "Transpose to the Dual space", $E \longrightarrow E^*$ $[x \rightarrow f_x]$) , mainly thanks to the BOURBAKI collective, but it corresponds to a behavior that appears in nature almost **4 billion years ago years —with the appearance of life*—** and from here on in **all** its manifestations.



Esquema 3. Dualitat algebraica (from "L'exactitud a les ciències", 2007)

* It is therefore understandable the difficulty of giving a precise and unequivocal definition of "Life", since current science still does not perceive some of its basic characteristics such as that of duality, nor is its symbolic nature. For example, it is ignored that the transition from a simple DNA **material sequence** (point) to the concept of "Codon", the information that **manage** (function) of amino acid synthesis, is strictly a "Step to the Dual", and was the decisive contribution of GAMOV (because he was a physicist and a mathematician, not biologist).

- In addition, this concept of "Algebraic duality" is intuitively managed by children, both for speaking and for maturing the level of knowledge, the third structural level of thinking (see "El kerigma del pensament").

A brief pedagogical reflection [.1210]

Despite this ubiquitous presence and intuitiveness, "Algebraic Duality" is a study concept restricted to the mathematics degree. Physicists and engineers make repeated use of it, but without knowing it, let alone understanding it. If anyone is curious about understanding this concept -or refreshing it- recommend first of all reading the references mentioned. If someone looks for it directly in an algebra book, it will be difficult for them to relate it to this exposition, precisely because of the usual, exclusively abstract and formal perspective, or at most applied to theoretical physics.

From this situation it is inevitable to comment on the inconsistency of the current education systems, and even perversion by repressing a large part of the child's intuitive faculties. More specifically, mathematics —the hardest bone of teaching— is not a particularly difficult discipline for two reasons:

- it is **intuitive** because as we will see later with positional numbering systems [.170], mathematics only **externalizes and applies** through thought the **methodologies already present** in the human body; mathematics comes from within and is used outwards.
- serve to **represent the reality** that surrounds us.

The problem is not mathematics itself, only how it is taught.

The reconciliation of "Orient" and "Occident" [.1211]

On the other hand, understanding this rupture is the door to begin to understand the wisdom of the "Orient" from the science and technology of the "Occident". The beginning of their mutual "reconciliation".

MANAGEMENT IS NOT MATERIAL, BUT IS A SYMBOLIC REPLICATION OF MATERIAL STRUCTURES [.122]

Algebraic duality clearly formalizes the difference between the space called "Base-Space" (that of material structures) and that of its "Dual-Space" (that of **management** structures, such as the psyche).

But at the same time it also establishes relationships between them. The most useful relation is that the dual space is in certain respects a **replica** of the features of the base space. Thus, for example, the dual space of our usual three-dimensional space that surrounds us ($\mathbf{R}^3$), is neither two-dimensional nor four-dimensional, but is also three-dimensional.

A practical example is illustrative enough. A company, especially if it is a multinational, can be distributed in the most apparently arbitrary ways: direction and management in one country, fractional production in many other countries, assembly in another and storage in another also different . But distribution and technical service, what is related to the customer, can only respond to real territorial criteria. No one imagines the "US Postal" (the US postal service) delivering French letters. Not even the Mataró office distributing those in Vilassar de Mar despite the proximity of these two towns in the Maresma. There is a mandatory "algebraic duality" between the territory and the postal service.

Here is what interests us: the motor management system must necessarily adapt and be structured as muscles are structured. Everyone will understand: it is of overwhelming logic, of common sense, of ergonomic economy. It could never work even a single muscle that had parts of bundles managed by the brain, parts by the cerebellum, parts by the spinal bulb, ...

The psyche must be able to generate and send packets of signals, simultaneous and identical, grouped with **the same structure** of its "clients", clients which are nothing more than the structure of the sarcomere fractions of the muscles. The organizational structure of the information must be a fully exact replica of the structure in "Successions of short exact algebraic successions" of muscle tissue.

In short, the methodology of the structuring of the new system must be similar to that of the originator, and moreover **compatible** with the support of the new system.

An excellent example that any biochemist will understand is the **structural analogy** between proteins and the corresponding DNA sequences that synthesize them, remembering that codon groups are strictly the algebraic dual of peptides, polypeptides and proteins. See "Les proteïnes".

We also note that this replica is an extraordinary example, due to its magnitude, of "Methodological transfer between structural levels", a concept so commented on here for its transcendence, as it is currently **unknown** in the scientific field.

The structures of the psyche must be, organizationally, a replica of the histological structures. This is the extraordinary thing, but it is not the most difficult thing. The really difficult thing is to have arrived over millions of years and by natural selection –due to Darwinian evolution– to structure tissues such as muscle or any other:

- First it was necessary to develop very complex protein structures, synthesized in the cell by very long DNA sequences. They are structures that reach the fourth structural level ("Quaternary structure"), according to similar methodologies to those already seen. That is, with the order of

  A x **B** x **C** x **D** (where **A**, **B, C**, and **D** are the "base" of each protein structural complexation)

  so each protein (like each fraction of the sarcomere) can involve up to millions of peptide components.

- Then these proteins continued to complex according to the already seen structure of the muscle. In other words, if the muscle can incorporate up to a billion fractions of sarcomeres (the most elementary motor unit) and each of these units is composed of up to a million peptides, the number of peptides

involved in a single muscle can be on the order of 10 raised to sixteen. A number so large that I didn't even bother to check exactly: it doesn't change anything if it's ten to the power of fourteen or ten to the power of seventeen. And, remember, this is described by the codons of the DNA of any cell of the individual in question, codons which are another manifestation, one of the most spectacular, of the already mentioned algebraic duality.

But for the psyche it is much easier. If it took a biochemical development of billions of years to structure a muscle, the psyche only needs a few months or at most a few years to be able to manage these million-dollar structures. It is the **psychomotor learning** period of any child, which we will see below.

Why is it easier? Well, first of all because, as has been said, the psyche does not manage the component peptides of the sarcomere fractions but only the sarcomere fractions. So we have an order of one million fewer components.

Secondly, because of what has already been said about symbolic systems with symbolic support (such as those of the psyche): they are **infinitely more versatile** than symbolic systems with material support (such as DNA codons). Better said, the latter do not have the characteristic of versatility, they are not versatile at all. They are exclusively **specific**. This does not contradict completely fortuitous and very unusual coincidences such as those raised by Stephen Jay GOULD and Richard LEWONTIN, with the 1979 article "The spandrels of Sant Marco and the Panglossion paradigm". Precisely, the versatility of symbolic systems with symbolic support make them a **paradigm** of this possibility of the emergence of new functionalities, initially neither foreseen nor necessary.

On the contrary, in material support systems, this is why there are so many rejection problems in transplants. This is why proteins and/or viruses must mutate. If the basis of consciousness could be biological, then they would not have rejection problems in transplants, nor would viruses mutate, ..., nor would life be as it is.

PSYCHOMOTRICS: COMPOSITIONS AND OPERATIONS. MOTOR COORDINATION [.13]

All of the above just for a simple muscle. So what happens with an intentional body movement? Let's put an emblematic one: the pole vault. Of course, few exceed 6 meters in height (Sergei BUBKA's record of 6.14 m in 1994 remains unbeaten), but everyone could try to jump. The man has the psychomotor faculties to try.

To round off, let's assume that **100** muscles act in coordination. But multiplying by a 100 is not enough. Much more information needs to be added, many other interactive signals.

Apart from the strict motor signals that leave the brain are all the "reactive"/"**kinesthetic" sensations** that reach it:

- of ligaments and joints. How many nerve endings leave each ligament and joint? The calculation is analogous to that of the muscle.
- of equilibrium information (that bipedalism requires a much **higher development** as seen in [.144] and [.216]), the one sent by the ear, visual images and some tactile ones (of the hands), etc, etc, etc.

But that's not all. The problem is the coordination, the **relational information** between a hundred elements and the different "reactive"/"kinesthetic" sensations. How to calculate it? I will give an example: the "n-bodies". Physics finds it very easy to describe the interaction of two bodies. With three bodies, things are already more complex. With a few, the formulas are magnified. It is not a linear increment for each new element added (double, triple, ...) but could be quadratic or more, so the problem of "n-bodies" (hundred, thousand, ...) is intractable. See "L'exactitud a les ciències". Consequently we can venture any hypothesis of relational information requirements.

In addition, the changing dynamics of the process is added. In the cinema or on television, the images are renewed several tens of times per second (24 in the cinema, 25 on television), enough for the persistence of the images on the retina and the speed of reconstruction of the image by the psyche. Apart from the duration of the nerve signal in the fractions of sarcomeres, in our case we will have to anticipate a higher frequency, but not much more, because it would be useless to exceed the speed of our own reflexes.

In a video the file contains all the images. This is why compression techniques are used. Even so, they take up a lot (only recently has it been possible to replace tapes with DVDs), and otherwise they are of very low quality and/or the screen is very small ("YouTube"). This storage does not seem necessary in the automotor process: once all the information of an instant has been integrated (let's say, a few hundredths of a second), it seems reasonable to think that the psyche can forget the previous one.

There is one exception, which is stored in memory. Because apart from making a move, we remember what we have done. And we also learn. And we also become consciouness of what we have done. So some information remains from each instant. This memorizable effects –the conscious state that can result, discussed at the outset– is expected to be in some strongly "compressed" modality, occupying much less space than that required in the management through references to other similar previous sensations. As if they were "pointers" and/or indexes of a database of references. Otherwise, it would be impossible for the conscious memory to store "line by line", "literally", all the information of the movement.

In contrast to this economy, it is extraordinary that the psyche continuously renews, in just tenths and hundredths of a second, all motor information. That is, we are talking about "Processing Memory", not "Storage Memory" (hard disk, DVD, tape, ...) which is much simpler.

With the amount of doctoral theses that are started every day –a good part of them of dubious utility– it would be useful if someone tried to calculate all these magnitudes in an integrated way.

When will we have to multiply the trillions of signals that require a single instantaneous movement of a single, humble muscle, to be able to coordinately manage a hundred of them?

For a thousand? With all these considerations it does not seem exaggerated at all, rather we can be very short. Then following the computer simile we will be talking about **many many "TeraBytes**" of signals. An amount unthinkable in one of our current computers.

The reader will be able to tell that these are packets of signals that are all the same for each muscle and that it is only necessary to imagine a "multiplier" of signals. But it is not true, not all myo-fibrils are activated as stated, it depends on the intensity/power required by the movement. Let's imagine the entire world population watching the same television program following, not a gymnastics program (aerobics, ...) with identical movements for everyone, but a complex choreography. Apart from the fact that the signal will inevitably arrive with differences of a few seconds in one place or another, another problem.

How many planes are controlled in a whole day from a control tower and with the help of powerful computers? some thousands? Well, despite this ridiculous amount, how many air accidents are there each year related to deficiencies in this control?

And what would be even less imaginable is that the signals –remember, a few every second– were not of symbolic (electromagnetic) support, but of material support, that is to say, that they had **to arrive by material post...** It is fully implantable psychomotor management with any directly material, biochemical support system (such as proteins, DNA, ...).

If someone thinks that it was not necessary to go so little by little to explain such an obvious fact, I totally agree, but the reality is that thousands of scientists and researchers have not made this approach so obvious and common sense. As stated at the beginning, I recently tried to explain this more briefly to the editors of two important and influential journals, and they didn't even answer me. See the letter to LESHNER ("Science").

THE ABSOLUTELY NECESSARY VERSATILITY OF THE PSYCHE. THE SECOND RUPTURE [.130]

Unlike DNA, proteins and viruses, the psyche does not need to evolve or mutate to perform new functions. Being a symbolic system **based on signals**, you only need to **encode the signals in the way that suits you best in each case**. Like a computer that can indifferently process an image program or a text program. It is very simple, and of extraordinary efficiency, unthinkable in directly material support systems. I insist that this would also not be possible with a mechanical computer (because it would be of material support and not of symbolic support) as happened with the mechanical calculating machines already mentioned.

Of course, a basic condition is required. We need conditions of **semiological compatibility** which in this case depend on both the psychic structure and its support in the neurological structure. This is **the only relationship of dependence** that exists between both systems (apart from psychosomatization processes, which are something else). Exactly the same as the compatibility of hardware ("hardware") and software ("software") between computer systems: they require both hardware (voltage, speed, ...) and software (coding) compatibility.

The example of changing gears and/or proteins [.1300]

Changing the gears of a motor vehicle is illustrative of the differences. In a three-speed car, between second and third gear there was always another gear missing in between, or a fourth gear was missing for long trips and highways. The solution was necessarily to redesign and change the gear shift. Gears are not versatile at all.

That's why today cars already have six gears (or automatic). And the bicycles even more so, they also had three gears but today they already have a few dozen gears.

Proteins are like gears, they **have form**. Fortunately, in their case they are "living" elements, they can evolve and adapt. Mutate. But this "mutability" is slow (even its action and effects, nothing to do with the speeds required by psychic management). Because of this, its versatility is zero. No functionality or versatile

faculty can be directly based on biological elements. It is unthinkable, for example, that when we deal with a new intellectual problem, the brain would have to struggle to manufacture new proteins to solve it.

But if we make a change with less concrete technology, less "material", for example with a hydraulic motor where there are no shapes or gears but only a fluid, we will automatically have a continuous progression of gears. There are no marches because there are infinite marches. It only depends on the opening of a valve. We will only have the limitation of the dimensions of the engine -which will limit the maximum power managed- and the inaccuracy of the manual lever that manages it. This is the case of large hydraulic vehicles (tracks, ...).

Instead, a single computer program can allow us to automate the management of this hydraulic motor in such a way that it serves us for any motor, large or small, and moreover managing it exactly, without manual inaccuracy. We can program and control the **exact** power required.

What is the versatility of the psyche? [.1301]

Let's start with the nerves. All nerves are the same, according to the structure already seen in successions of short exact algebraic successions, but their functional polyvalence is today irrefutable. Today it is already known that neither images, nor smells, nor sounds, nor ... circulate through the nerves (see "Breve análisis a los comentarios sobre el pensamiento de EINSTEIN, von NEUMANN, y MARGULIS/ SAGAN, en 'Microcosmos'", 1998).

Only signals travel through the nerves, of course some coding that we still don't fully understand. Some Nobel Prizes are very recent and are beginning to approach this issue (Richard AXEL and Linda BUCK, medicine 2004). The signals that circulate through the nerves are versatile, unimaginable with any directly material support system (hormonal, protein, DNA, ...). In the "Appendices" ("Part Four") we will discuss "The trap of synapses and neurology" [.300].

Nerves are multipurpose but not versatile, because it is a material system. What is versatile is the signal system of the psyche –which circulates through the nerves– due to the versatility of symbolic systems with symbolic support.

Sensation, memory and perception [.13010]

We continue with what happens in the brain, the support of the psyche*. The most basic functions that it has to manage are those corresponding to the senses, the information that we have just discussed and that arrives through the nerves. There are **not** six different parts of the brain, with **different** neurons, one for each sense:

- touch,
- ear,
- smell,
- taste,
- view, i
- equilibrium

* Today, much of the scientific community has not assumed this substantial difference, another extraordinary example of algebraic duality, and continues to confuse them, searching in vain for impossible psychic functionalities in the material brain as such.

Size aside, the brain of a dolphin, a sperm whale or a bat is structurally very similar to that of man, there is not much evolutionary distance, but it has no problem managing senses not developed by the 'man (the ultrasonic RADAR). There are also other senses in sharks, etc.

If we still don't know what the **coding** is that circulates through the nerves, we are even further away from knowing what the **language** is that manages them to reconstruct sensory images. Everything that, for example, in his first months of life, the new born must learn to do with the images that come from his eyes.

Once the corresponding sensitive images are formed that result from the information received by the senses —what is called **sensations**— another different process begins: **perception**, which compares the formed

image with other previous ones stored in the **memories**, memories that it is **not known exactly** where they **located**, or even less **how they work** (it is only known that the **hippocampus** does a **remote** control).

We already manage eight or more different faculties:

- the six sensations (seven or more if we add the senses that other animal species have developed),
- perception and
- the corresponding memoirs (is there a single one? is there one for each faculty?).

But this is done by any chordate and even partially a fly. And without a doubt the cute squid, a simple Octopus of the Phylum of Molluscs.

The psychic transcription of instincts [.13011]

In all these cases a functionality must also be added that surprisingly I have not yet read anywhere: the psychic transcription of instincts.

For example, should we assume that an instinct as immediate and basic as survival must result every time it is activated from some mechanism that goes to read the genetic coding -the DNA- of some cell? Or does a crocodile, to decide to bite, have to wait for some biological process to read its ASDN? It seems clearly unlikely. The psyche must have some methodological transfer mechanism that transcribes –to replicate in its own language– all the information of the genetic code corresponding to the instincts. On instincts, an interesting supplement to this reasoning will be found by the reader in "L'exactitud a les ciències". Any computer expert will understand this immediately, because this replica would be the same strategic case of the computer memory called "cache".

Just a reasoned guess: it is possible that this replica -for obvious evolutionary reasons - is not strictly in the brain, but in some more basic part –cerebellum, spinal cord, ...? – of the nervous system, but in any case also encoded in psychic signals. That is to say, transcribed from the symbolic system to the material support of the DNA to the symbolic system to the symbolic support of the psyche.

I would be very happy not to have to ask so many questions/assumptions, but unfortunately, no neurology article and/or book answers these questions. And as in this case of "transferred instincts", they are often not even considered.

Psychomotricity [.13012]

The psychomotricity they have just seen has nothing to do with all the previous faculties, nor the sensitive images of the sensations, nor the comparative processes of the images of perception, nor the memorization of images that entails this comparison. It is another faculty/functionality and intrinsically different from all the previous ones, which reinforces the versatility of Psyche.

At the same time, psychomotor skills alone also strengthen versatility. The example of man is undoubtedly the most prolific. No animal has diversified its skills as much as modern man. Apart from his natural psychomotricity, man has developed countless specializations of motor skills, work, artistic, sports, ... The already seen pole vault is a good example, but there are many more, such as playing the piano which also integrates other faculties –very complex and totally different– such as musical interpretation*.

* Understood as the sentimental/affective complement contributed by the performer who does not contemplate the score, trying to bring out this same sentimental/affective charge that the composer cannot convey due to the limitations of the musical language (solfeig), and/or adding his own emotional/affective load as an interpreter.

Is it possible to imagine a biochemical element (protein, ...) specialized in two, three or four different functions? Of course not. Moving forward to the script, any material support is even less unthinkable in the basis of musical perception and interpretation. Is a musical support protein imaginable? One for each tune? One for each piece of music (song, symphony, opera)? Of course not. One for each note (something analogous to John NEWLANDS' octet theory)? So, how are they structured to make melodies and pieces? This is for the score exclusively, but what protein basis can the interpretation have? Music emanates from feelings, and we will talk about them and their countless structural levels in "Limits..." [.13020].

It might seem that in this case of psychomotor skills, at least we do know where it is managed. !In the cortex! we'll say right away Well, neither. We will see (in "Body consciousness..." [.14]) that this is not so clear, neither because of equilibrium (which is associated with the cerebellum), nor because of the "internalization" of psychomotricity (that is, gradually transforming it into reflex acts, which is also associated with the cerebellum), nor by certain supposedly reflexive actions (breathing, digestion, perineum, ...) that are associated with the spinal cord.

Feelings [.13013]

But we're not done yet. If we look at the last two hundred million years of evolution, birds and mammals appear, and with them feelings and culture. Nothing to do with sensations, perception, memory (and the memory of sensations, perceptions and feelings), psychomotor skills or the aforementioned transcription of instincts. Nor has any researcher found any part of the brain exclusive to feelings. Everything is managed almost anywhere.

We carry a dozen totally different functionalities but one brain. We do not have twelve brains, which is what would be needed if there were only symbolic systems with material support, if there were no psyche or symbolic systems with symbolic support.

Global model of the psyche. Consciousness and thought. Conclusions [.1302]

The reader will now understand the need I mentioned at the beginning at [.00], the need to establish –about twelve years ago– a global model of the psyche. It was necessary to order all this and at the same time harmonize it with the Freudian contribution. Otherwise it would hardly have been possible to establish a specific model of what still remains to be seen: consciousness and thought, with all its various functionalities (conceptions, knowledge, method, ..., reasoning, ...).

And the latter, consciousness and thought, is also managed in the same place, with the same neural structures and their interconnections: in the brain. Another versatility to add to everything else. But, I insist, it is not managed by these neural structures but by the management system they support: the psyche.

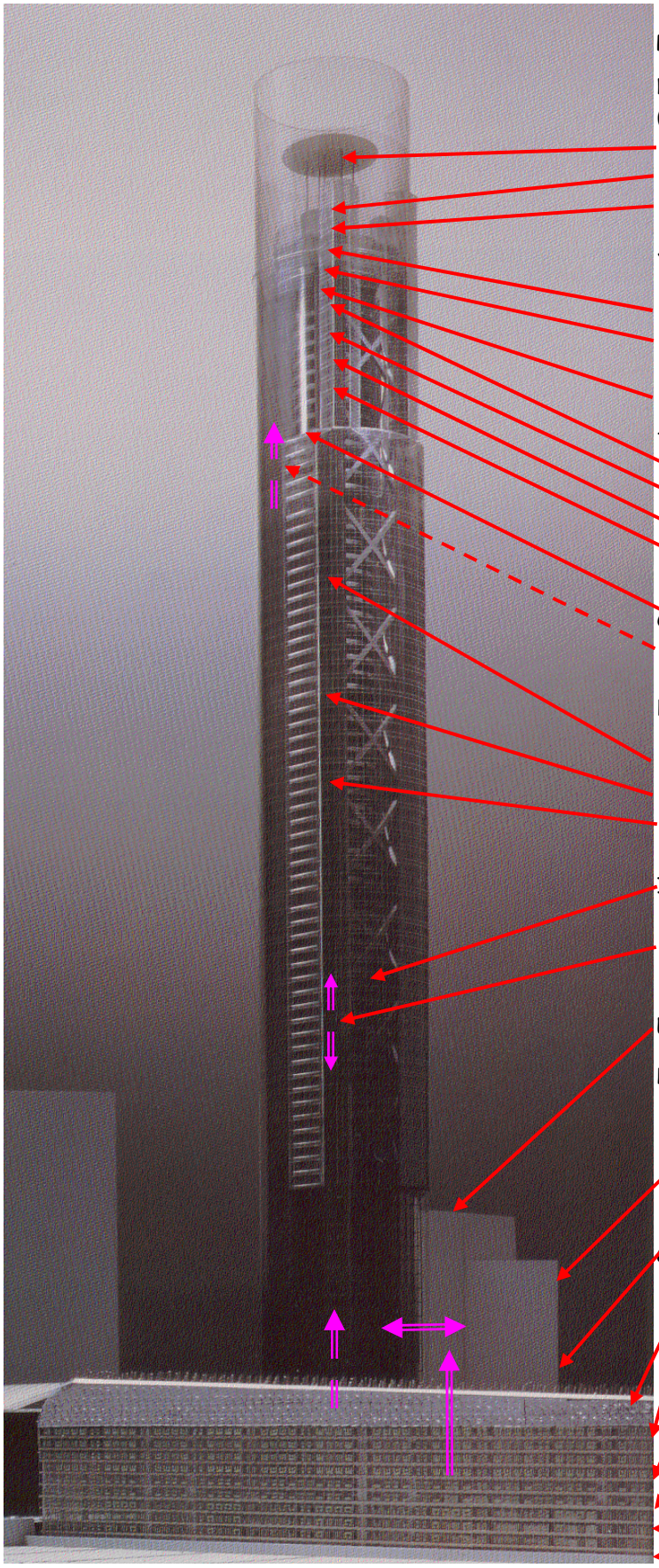
Can we think of some biochemical component –such as proteins or some other similar material structure– to manage addition or multiplication? And another for the concepts? And another to manage knowledge and reasoning? It would be a travesty, as are the genetic hypotheses of language (which today is no longer defended even by CHOMSKY himself, who proposed it).

In other words, all this neural networks (and also semantic networks) that are all the rage lately, and that occupy many thousands of researchers and scientists, are absolutely useless. At least, in the field of pedagogy. I don't know of any child that has helped him learn faster or better.

Years ago, in an architecture magazine, I found a building project by a French architect highly valued in Catalonia (Jean NOUVEL). Like any skyscraper, the building is not at all useful as a habitat –perhaps that is why it has not been built– but I was amazed at its usefulness in representing the symbolic structures of life, psyche included. I only needed to name the different modules (genetic, hormonal and psychic), the corresponding floors in each case and some arrows indicating the exchanges of information. Not even by commissioning the best illustrators or graphic artists can I imagine a better result. See it on the next page.

Years later, the usefulness of the model was confirmed to me with the growing trend of giving Nobel Prizes to work related to the aforementioned purple "arrows" (those already mentioned in [.1301], Günter BLOBEL in 1999, ...).

THE SYMBOLIC SYSTEMS OF LIFE
(The different Semiologies)



PSYCHICS

NOT INTRINSICS
(-M, +S, -N (no natural stability))
- Politics economy
- Current Logic and Reasoning.
- Linguistic grammar and syntax.

SEMI-INTRINSICS (-M, +S,±N (with increasing stability))
- Exact logic and reasoning
- Mathematics (Numerical systems, Geometrical and topological algebraic structures, ...)
- Intrinsic semantics ("Conceptual systems")

THOUGHT (-M, +S, +N)
- Level 4 (Method)
- Level 3 (Knowledge)
- Level 2 (Composite/abstract conceptuation)
- Level 1 (Simple/sensitive conceptuation)

CONSCIOUSNESS (-M, +S, +N) (Conscious Memory)

↑Consciousness(-raising) (Interpretation of dreams)

FEELINGS (-M, +S, +N) (Unconscious memory)

- Intuition
- Emotions/ Traumas
- Affections

INSTINCTS AND SENSATIONS (Reflex memory)
- Sensitive images
- Identification (=Thinking Level 0, Sign management level 00 (Artificial Intelligence "AI"))

EPIGENETICS

HORMONAL CODING (+M, +S, +N)
(Immune system, ...)
- Coding of **n**-Grouping of Proteins
- ...;
- Coding of cellular proteins

GENETIC CODING (+M, +S, +N)
- Gen
- **n**-Grouping of Codons (Instincts, ...; Hereditary Forms, ...)
- ...;
- Second grouping of Codons (="Phrases" =Interpretation of Proteins)
- First grouping of Codons ="Words" =Interpretation of Amino Acids)
- Codo (triad of carbon bases ="letters")
- Carbon bases of DNA (="parts of letters")

"Tour sans fin" project (Paris - La Defense) Architect: Jean NOUVEL. Photo: Georges FESSY ("El Croquis" 65/66)

Limits to complexation at structural levels [.13020]

What interests us now about the skyscraper is the slenderness of the tower, with countless floors. What does this mean?

We know that matter only gives rise to 5 levels (physical particle, nucleus-atom, molecule, substance and object, because today it cannot be said that quarks are a previous structural level). The increase in size is brutal: thousands of trillions (from 10-15 m particles, to millimeters or meters of objects). Above, we have the astral objects with the universe and the artificial objects that significantly extend this sequence. But in the first case they are repetitive complexities, always based **on the same evolutionary interaction***: gravity. And in the case of artificial objects (complexes of parts like a car, like a computer, ...), it was precisely the psyche that designed them!! acting of evolutionary interaction.

* In a system there are normal relationships/interactions between its elements. But sometimes, some of these relationships enable the structuring/**emergence** of new elements, elements corresponding to a level/system of higher complexity. For example, the interactions of the valence orbital of the atom is what makes possible –and only it– the structuring of the molecular level. I call these singular interactions that allow for complexation processes "**evolutionary interactions**". In the different most basic/microscopic material systems, the evolutionary interactions between levels are different in each case, strong and weak force, chemical bond, ..., but as has been said in all objects in the universe and regardless of their size, gravity it is always the same evolutionary interaction.

Another extension is proteins. 4 structural levels of proteins are already known, with the understanding that the said first and second structural levels are strictly the same, and strictly, that the second are the "structural motifs" (see "Les proteïnes").

The "non-symbolic material systems" have a clear limitation of complexation. There are a very limited number of possible structural levels. By the way, the complete opposite of "chaos". And in any case, each level assumes a very different size from the previous one (a scale hundreds of times larger each).

ADDENDUM 2025-06-31: At the beginning of the century, the great unknown of proteins was the form that this fourth structure adopted, according to the different possible folds. Folding is the "physical process by which a polypeptide folds into its characteristic and functional three-dimensional structure". It must be remembered that, ultimately, proteins are biological micro-tools. That is, with the same chemical formula, many different forms can result, ·and consequently different properties, most of them useless or even pathological ("Prions", ..., Alzheimer, ...). It was not until years later that it was possible to simulate the process using the so-called "AI", but strictly speaking, a gigantic data banks and countless automated "trial and error" tests, ·misnamed "deep learning" (supercomputers like DeepMind, ..., programs like "AlphaFold", ...)· but it is not known how the process works intelligible, which led to the 2024 Nobel Prize in Chemistry (HASSABIS, JUMPER).

The important thing about the above is that we have **had to completely leave the "material", the biological, and enter the "informational"**. When the "material" does not allow new strict complexities, the **versatility** of the "informational" explains the enormous proliferation of forms, and the requirement for **data processing** to study them. Another example of the "**ruptures**" that we are exposing. Today the term "disruption" has become fashionable, which is more impactful.

End of material systems and emergence of symbolic ones [.1303]

DNA is no longer a "**non**-symbolic material system" but a " symbolic system, materially supported". "Symbolic systems with material support" are characterized by enabling a large proliferation of structural levels. On a very small scale, with only a few thousand components (the carbon bases) DNA reaches at least 4 structural levels, in order to structure proteins (without Darwinian evolution and without DNA as a manager, it is difficult imagine that proteins existed by simple fortuitous molecular syntheses). But possibly there are a **few more** levels (for functional information, for growth, for instincts, ...) that genetics is still completely unaware of (see "Exactitud a les ciències"). We can expect one or a few dozen structural levels in the genome. This is also **not known**, **nor is it of much concern to geneticists** (see "Exactitud a les ciències"), obsessed with simple sequence, **not** structure.

In the case of the psyche, it has been seen that the symbolic systems have managed not to support themselves directly in material signs (the carbon bases) but by interspersing symbols as support (regardless of whether the support of the symbols may ultimately be material properties/effects). Those I cal "Symbolic systems with symbolic support". This enables an **unlimited** proliferation of structural levels of complexity, **impossible** in symbolic systems with material support. The example of computing is clear enough, more and more levels are added: bit, Byte, ..., machine language, assembler, ..., high-level language, ..., macro functions, ...

A hard disk is an object, of the fifth and last material level (an artificial object), but it can store digitized information, structured in **hundreds of information levels**.

Feelings are the most prolific example. How many structural levels are made up of the feelings of highly evolved mammals, such as man? To begin with, today science —better said, the scientific community— **has not even considered this issue yet**, it is still in a **preliminary stage** of knowledge.

In any case, there is no need to doubt that it can be dozens, it can be hundreds of levels. If in just 40 years computer programming can already have reached twenty levels, how many structural levels of feelings have been able to consolidate evolutionarily in 200 million years?

Mathematics, a product of the psyche and virtual like it, is another excellent example: mathematics is nothing more than an inverted pyramid, a structure with many floors/levels, levels which are the different algebraic geometric or topological structures that result one from the other simpler ones. More floors/levels/structural elements are being added every day. How many structural levels does mathematics currently have? Many.

If you understand all this, you can begin to understand that it is stupid to have tried to computerize intelligence, because, by the way, intelligence is nothing more than a type of feeling. It is explained in detail in "¿Que es la inteligencia?". A computer program that simulated the cognitive abilities of all mathematicians (I do not mean a simple calculator, however powerful), would be trivial compared to the simulation of a single feeling. But this is another matter, although it will be inevitable for me to insist on this again in the "Appendices" at the end ("Personal Reflections" [.31]).

Possibly the sixty-story skyscraper tower is still **too short** to illustrate the **many sentimental symbolic levels of the psyche**.

What is correct about the drawing of the skyscraper are the few "floors" corresponding to consciousness and thought: they are like penthouses, like the roof with a storage room and/or loft.

Hemispherectomy [.1304]

Fortunately, more than 20 years ago I was recommended the book "How to teach your baby to read" (today republished by EDAF), by Glenn DOMAN, a person very questioned by certain sections of the USA. His prologue is priceless.

The book talks about hemispherectomy (surgically removing half of the brain) in children with cerebral palsy. When some 40 years ago they decided to do it to some children whose hemispheres were paralyzed (as if it were a giant short-circuit), they managed to patiently re-educate them and in many cases ended up transforming them in totally normal people, indistinguishable from the rest. The reader would have to go to some special school and learn some extreme cases of this injury to understand that talking about normal people with severe cerebral palsy is like talking about a miracle.

It was very important information because it made me feel less alone, less "guilty" of being against so many people. In situations like this you come to think if you are not being paranoid, when, in fact, it was "everyone" who was wrong.

Later magazines such as "National Geographic" (June 1995), even provided specific cases (Jody MILLER)*. As I said, from a religious perspective it is like a miracle. From the perspective of traditional science, absolutely amazing, incomprehensible. From the perspective of symbolic systems to symbolic support, a no-brainer. But despite its importance and the public knowledge of this fact, it is, surprisingly, knowledge that is systematically underestimated, almost hidden.

* An analogous case is that of the "blind vision" of N. HUMPHREY's monkey, in "Nature".

What does this fact imply?

- What in the face of other much more important and transcendent questions is it a relative **waste of time** to determine in which parts of the brain certain functions are performed (speaking, reading, ...) because they obviously have to be done somewhere, but if they are not they can do it in this place, because it is already "occupied" or because it is not there (if it has been removed) then it is done in another place, and so happy. The "**where**" is secondary, irrelevant. It's just curiosity. What matters is the "**how**", but this is avoided by researchers and scientists, possibly because they do not know how to deal with it. Nor do they have the humility to accept it. And until you accept that something is being ignored, you can't try to figure it out.

- It is a waste of time to seek explanations for the functions that are generated in the brain based on traditional material structures. It is necessary to rely on other structures. The functions "**of**" the brain are indeed generated "**in**" the brain, but not directly by the neurological structures of the brain. This is the error. The system that directly manages these functions is missing: the psyche, for which the brain with its neurons is only the support. The "**language**" is missing.

If someone loses a kidney, as fortunately there are two, the other kidney hypertrophies to compensate. The affected person can live with dignity if he reduces his previous maximum body activity according to the new kidney function. If you lose the liver it is difficult —impossible— for any other organ to hypertrophy to compensate for the lack of liver. Proteins are not versatile.

By the same "rule of three", if it were decisive where in the brain certain functions are performed, it would mean that they are functions managed by a material support system —specialized and exclusive— and consequently hemispherectomy would be death. Like losing your liver or heart. I have to insist that if you don't understand this —the break mentioned and the one that follows— you don't understand anything.

Usually, when there is a problem, the problem is not the psyche, the problem is often that the nervous system cannot keep up with the psyche. Usually it is the nervous system that fails in the transmission of signals, precisely because it is material, hormonal/protein, specific (the opposite happens in the joke about the software ("software") in "The trap of synapses and neurology" [.300]). The psyche is much more "powerful", immeasurably more powerful as a manager of information than material structures as transmitters.

There is so much information to manage that when the person begins to have minimal impairment of their transmission/communications system —their nervous system— they become unable to transmit it.

The second break. The Freudian contribution [.1305]

Without the existence of the characteristic of the versatility of the psyche we could not follow this script with what is to come: consciousness. Consciousness is still a much more powerful faculty, more complex than psychomotor skills. Without versatility only lower plants and animals would exist. Nor chordate animals. Not even much earlier Phylum, like the octopods (the cute squids). Nor, least of all, would consciousness exist.

Symbolic systems allowed the appearance of a **differentiated individual identity, prolonged and independent** of material support, one of the characteristics of life. And at the same time others: self-management (not based on external and universal interactions as in the behavior of matter) and duplicability/**self-reproducibility**.

Versatility —which within symbolic systems is only possible and characteristic of **symbolic systems with symbolic support** (I insist, **not** symbolic systems with material support)— allows consciousness to appear, and as specific cases, **consciousness of one's own individual identity** and **consciousness of the reality that surrounds us**.

This makes many people claim —perhaps justifiably, perhaps just out of self-centeredness— that we are at the **highest stage** of evolution. Whether it is the highest or not, the only thing certain is that without versatility there would be no step.

Freud's contribution 100 years ago was to intuit and discover for science the existence of this double rupture. From the perspective of science this opened up the possibility of extending traditional science, that of non-symbolic material systems already mentioned, to a much larger area, the science of symbolic systems with material support (hormones, genetics, ...) and symbolic support (psyche, languages, ...)*. Of course, as long as you know how to treat each area with the scientific methodology that corresponds to it. But as this has not been the case, from the perspective of the scientific community, and even more so from the medical community, Freud's contribution has been seen as an intolerable attempt to put limits on science.

* As has already been said, the historical order was the reverse, which gives even more merit to the Freudian contribution.

PSYCHOMOTRICS OPERATING PSYCHOLOGY AND LEVEL 2 OF THOUGHT [.131]

The interdependence between psychomotor impairments and dyslexia is well known. This was obvious for many years —"Mens sana in corpore sano"—, but a few years ago it was even verified in detail by repeated scientific studies that started, already 100 years ago, with E. DUPRÉ (1907) and H. WALLON (1925).

Why? Because if the psyche has not developed one of its natural faculties for which it has evolved, as is the case of the composition/motor operation of complex and coordinated movements, it will hardly be able to exercise an unnatural faculty, adapted / derived from the natural

The operational psychology proposed by PIAGET, a cultural-intellectual functional manifestation, exists in support of man's prior and natural psychomotor coordination faculties. Without a correct maturation of psychomotor/kinesthetic coordination, **the evolution/psychological maturation of these faculties of the child is compromised**.

A concretion of this operational faculty is level 2 of thought, the level of "composite/non-sensitive concepts". With two simpler concepts, we operate them and the result is a new concept different from the initial two. How to make a molecule with two atoms. See among others "El kerigma del pensament". PIAGET sensed that all the processes he described had to have a **mathematical representation**, but he died **without finding** one. In this referenced writing on the functioning of thought, the reader will find where the mathematical representation of thought processes goes (conceptualization, knowledge, ..., operations, ...).

It is clear that an unstimulated baby in the first months/years of its life does not have a sufficiently developed psyche, psychomotor skills. Nor the neural interconnections, because they have not been required to develop/grow with sufficient exercise/stimulus. As if the psyche, the "computer program", did not have enough "memory expansion" to manage this powerful "computer program". This is discussed immediately in "Coordination, integration and neural interconnections" [.141].

This means the "**surprising" emergence of language in children**. Level 2 thinking simply appears. As with the operation of addition or multiplication, if we are taught the algorithm to do it, we can do any addition or multiplication, with any numbers and as large as we want. The secret is only in knowing the algorithm. No one is surprised that a child can do any multiplication, on the contrary, if he doesn't do it he is considered a failure. But in language we are surprised by each new "linguistic operation" that the child does. In the case of language, the basic algorithm is already there, provided by psychomotor, and it just needs to be applied to this other compatible language process. See in "Els simbolismes pre-materials. Una perspective holística..." the section [.351] "Nivell 2 del Pensament, part II", page 17.

MATHEMATICAL INTERPRETATION OF PSYCHOMOTOR COORDINATION [.132]

Arguably the two most basic concepts in mathematic, "Application" (an unequivocal correspondence between the elements of two sets) and "Function" (an application, but inclusive, and between two numerical sets), with which almost each and every one is built of simple or complex mathematical concepts, they are a blatant copy of the most basic and intuitive processes of knowledge. It is detailed in "El coneixement, el tercer nivell, del pensament" [.31] in "El kerigma del pensament"*.

*In the compilation I tell you "Triptic" (three writings and a long foreword between 1996 and 1998) adds, moreover, the analogy between these mathematical concepts and the most elementary linguistic process, that of naming.

The first derivative concept that "Application" and "Function" generate is "Composition of Applications" and "Composition of Functions", equally basic and ubiquitous concepts in mathematics, which generate important and useful mathematical structures. It is about applying one after the other, as if it were a single one that integrates and equals the two together. It's like an operation (like addition or multiplication between two numbers), but between applications and functions.

Psychomotor is the same thing, but with its elements —the muscles— not two by two but !one hundred and one hundred!, a brutality. How to do "Matrix Algebra"*. There is no prize, neither "Abel" nor "Fields" (as you know, there is no Nobel Prize in mathematics), which is up to him in this ability to operate. Also remember what I mentioned about "n-bodies" at [.13]. And in addition, with all kinds of different operations/compositions, and with all the already mentioned sensitive interactions in the middle. Any mathematical operation/composition is trivial in relation to the coordination of psychomotor management.

* "Algebra" understood as concrete algebraic structure, not as the homonymous branch of mathematics (there is a polysemy). "Matrix" understood as "Algebraic Matrix" (nothing to do with the matrix of the woman), a powerful algebraic tool that will be seen in "Self-applications" [.150].

The simple movement of picking up a cutlery or a pencil —let alone writing— is the simultaneous combination/composition of several simple movements. And we should never forget that the newborn does not know how to do it, it takes months to learn to faithfully perform this simple movement of grasping an object, because as we have seen, it is not that simple. Another thing is that the psyche is so powerful and has so many resources, that today it is irrelevant for us to do it.

All mathematics is almost nothing more than a structure of elements and operations that define mathematical structures, exactly the same as psychomotor skills. In relation to the concepts already discussed "Algebraic Duality" and "Short Exact Algebraic Succession", they are rather more elaborate and much more specialized concepts from the point of view of mathematical structure than those of "Application" and "Function", but surprisingly they are equally intuitive in the child.

BODY CONSCIOUSNESS. INTEGRATION [.14]

Let's try to move each of the fingers independently: no problem, everyone can do it. Even more, if the fingers of the hands are properly exercised, like for example a pianist, we will be able to make fascinating movements with them and play the piano. The psychomotor sensitivity, the bodily consciousness of a pianist in relatium to his fingers, is hundreds, thousands of times greater than in a normal person.

Well now with the foot. Here except the big toe and a few people the little finger, the others we can hardly make them independent, but we could do it exactly the same as with the hand, only we haven't exercised them since we were children, but the people who have stayed without hands, they can paint with their feet.

Here, too, we need to talk about consciousness as the resulting final state, and consciousness-raising as a global process to achieve it. The following case of Elsa GINDLER is doubly illustrative, because it will also serve us to talk about lung consciousness. Has anyone thought of breathing with only one lung? Well, this is what Elsa GINDLER (1885-1961) achieved to survive tuberculosis.

How can a person self-mummify themselves, as some Buddhist monks do, something that is difficult to explain in Occidental science? Well, through their digestive body consciousness. It is said that our intestines are not conscious, that they are 'involuntary', exclusively reflexes, but this is not true, it is simply that we have never tried.

What is the purpose of Zen or Yoga? It is not just another form of exercise, as is commonly believed, but rather a means of increasing our body consciousness.

Body consciousness is the ability to feel and manage/control the entire body at will, both in its smallest parts and as a whole.

It has been seen that a single muscle receives millions and millions of signals simultaneously but differentiated according to the intensity/power of the effort. Where do I want to go with this? You can show the extraordinary sensitivity that body consciousness could reach, differentiating so many millions and millions of signals, and for a single muscle!

That is to say, there is no limit to the practice of progressing in the sensitivity to recognize, to make our body aware. No matter how hard we try, we will only reach a very small part of what is possible.

This is how you understand the virtuosity that a pianist can achieve with his fingers, a pole vaulter coordinating so many muscles, a juggler, ... In their case they have developed specific bodily consciousness to enable their virtuosity.

PULMONARY/ RESPIRATORY CONSCIOUSNESS [.140]

Elsa GINDLER (1885-1961) was a Berliner who, in her early twenties, was evicted to death by doctors because of tuberculosis that completely affected one of her lungs. Antibiotics were not known then, nor even lung immobilization techniques (such as the "steel lung", ...). A bone or ligament injury necessarily requires immobilization to heal, no problem. But lung breathing, immobilization cannot be postponed beyond a few minutes because otherwise we would suffocate.

As has happened in other cases of diseases that cannot be cured —in which the patient is the one who ends up finding the means of healing— Elsa's survival instinct led her to do so.

How? With a **progressive consciousness-raising** of his breathing he managed to breathe only with her healthy lung. He convinced himself that his breathing had to become so sensitive that it could allow air to penetrate only the healthy side of his lungs, while the infected part remained at relative rest. And so he was cured. Because of the saying "*...car nous ne considérons comme scientifiques que les phénoménées qu'elles permettent d'expliquer!*" [.030], instead of accepting the simple reality, the doctors considered it a **miracle**.

How? With a progressive consciousness of his breathing he managed to breathe only with the healthy lung, and he became convinced that his breathing must become so sensitive that it could allow air to penetrate only the healthy side of his lungs, while the infected part remained at relative rest. And thus he was cured. For that said of "...because we only consider the phenomena that they allow us to explain as scientists!" [.030], and instead of accepting the simple fact, the doctors considered it a miracle.

Years later, Elsa would find out that she had done nothing but discover —on her own and quickly— **Zen** techniques.

Reflex or conscious movement? [.1400]

It has always been said that cardiac and pulmonary mobility is reflex/unconscious and is managed from the spinal bulb.

Faced with this consciousness, not of feelings (what FREUD preferred to study), but of a much more basic, vital function, such as breathing, what must be deduced? So what:

- either the bulbus rachidi may house conscious functions like the cortex, or if not,
- that the functions of the bulb can be controlled by the cortex, or even transferred to it.

So let's go back to the secondary nature of "where" versus "how". The approach with which science today studies these behaviors —knowing the "where"— is not the right one, no matter how many thousands of researchers are involved in the subject.

Consciousness-raising, or consciousness? [.1401]

Elsa's case also illustrates the already mentioned difference between consciousness-raising and consciousness. Initially, Elsa had no lung consciousness, then she did and without any effort: lung consciousness was already just another conscious ability from her memory. The difficulty was the previous consciousness process, the consciousness-raising.

Suggestion [.1402]

This fact changed her life —obviously— but also because she dedicated the rest of her life to body consciousness. Fortunately, she left us three portentous disciples, the doctor Emmi PIKLER (1902 – 1984), Elfriede HENGSTENBERG (1892-1992) and Charlotte SELVER (1901-2003).

The first has been so transcendent for neonatology that its contributions of more than 50 years ago have been almost ignored. Maybe her mistake was being a woman...

NOTE ON PSYCHOMOTOR LEARNING (2008-11-12, revised)

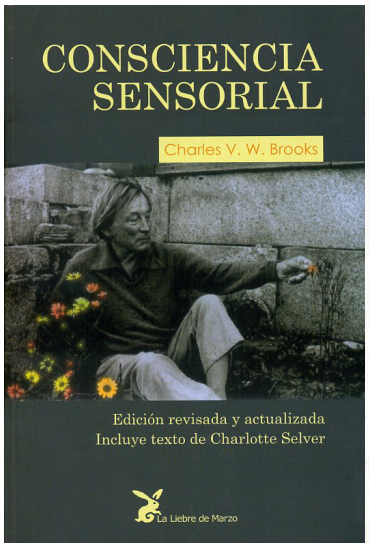
Another example of the complete ignorance of the basic faculties of consciousness is confirmed by the priceless book of the Hungarian pediatrician Emmi PIKLER (1902-1984) "Laβ mir Zeit" (="Leave me time"). It is the only existing book that treats with rigor and scientific seriousness this very important and critical period of the baby (from birth to 2 years). The title is eloquent enough.

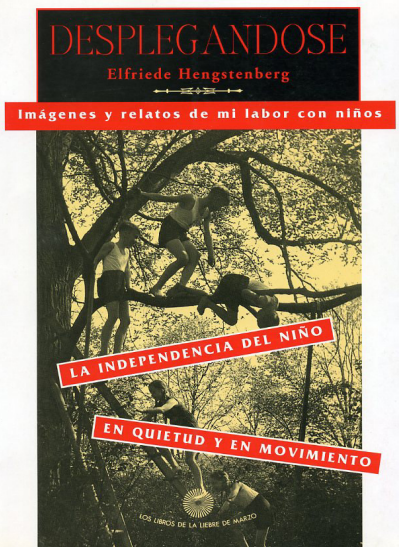
Her criterion is common sense (but as usual, very uncommon): if for millions of years a woman's instincts have made her capable —at twenty, thirty or forty— of carrying a pregnancy forward, and of doing something as extraordinary as it is to give birth satisfactorily, it must be even **more obvious** than twenty, thirty or forty years ago, when the mother was a baby, that her instincts **also worked just as well or better, to know how to begin to move**. A baby **knows instinctively and perfectly** how to progress in his psychomotor skills, but **adults are the ones who don't know**. That simple and blunt.

In short, the baby's **instinct** makes him know what to do and move in each phase of psychomotor learning. But adults, **repressing or altering this process of bodily consciousness**, cause psychomotor deficiencies and limitations at later ages and in adulthood. For more information read "Children's rights in BioCultura 2009" http://www.sistemaconceptual.org/mm/file/BioCultura2009.pdf (in Catalan) or http://www.sistemaconceptual.org/mm/file/BioCultura2009CAS.pdf (in Spanish-castillian).

On the contrary, it is full of books, of supposed "expert" practitioners on the subject, who treat it subjectively, without an empirical basis, and consequently reaching totally opposite and erroneous conclusions.

The second left the **priceless** book "Unfolding (=Desplegándose). Images and stories of my work with children". From the third, at least, we have a book by her husband ("Sensory Consciousness", by Charles VW BROOKS, from 1966, which according to Erich FROMM "is so well written and in such a penetrating way, that it grabs anyone's attention that is seriously interested in experiencing consciousness").





I propose the two books to help, not to understand the basics of consciousness —that's why the reader already has this writing— but with a **much more** useful purpose: to help people in the development and exercise of this faculty at the bodily level, which, as we shall see, facilitates both the development and exercise of consciousness (what should be called experiential/factual).

COORDINATION, INTEGRATION AND NEURONAL INTERCONNECTIONS [.141]

It is known, today everyone knows, that:

- the younger we learn, the faster and better we do it. But in the case of psychomotricity it is of transcendental consequences, due to the stimulation that we see immediately;

- neural interconnections are "functional". In other words, they appear depending on the needs of the body, depending on **sensory and psychomotor stimulation**. The same happens as in any organ: a muscle atrophies if it is not used, but if it is used it develops;

- the response of the nervous system generating neural interconnections **is not** the same at any age. Its development is spectacular in the newborn, but decreases with age.

This explains the irretrievability of unstimulated children in the first months/years of life (maltreated children, children tied up and imprisoned so they don't disturb, ...). This also explains such a sad fact as the **sudden death** of the newborn. It must be emphasized that the two sources of stimulation for the child are:

- **affection** (which, as he cannot speak, does not come from cultural language but from touch, tone of voice, ... in short, from the **body language** of the closest relatives), and
- **psychomotor stimulation**.

The most relevant characteristic of psychomotor is possibly the extraordinary coordination envolves, that is, the **integration** of such disparate, **heterogeneous** signals.

An appropriate psychomotor development develops this faculty of coordination/integration. And it **makes it available to other faculties** through the **versatility** of the psyche.

Transfer of psychomotor learning [.1410]

Transfer in learning is known. It is a very particular case - and very simple - of the "Methodological transfer between structural levels", repeatedly commented on. The well-known concept of "Example", is the basic pedagogical resource because it **exploits transfer to the maximum**. An "Example" is: "an already known reference case, to transfer knowledge to other new and different cases".

It has just been discussed ("Psychomotricity and Level 2 thinking" [.131]) of the interdependence between psychomotor impairments and dyslexia. It should be added that the first is a bodily faculty, and the other a intellectual one.

The dependence between psychomotor development and consciousness is much more direct. It takes a child many years to become aware of his own body. First it achieves the progressive coordination of certain movements, but it is characterized by its exclusive anthropocentrism. They are unable to position themselves with respect to the environment and they bump into anything, they are **clumsy**, they are **unconscious**, they are **unable to relate and integrate**.

Psychomotricity is complex enough to add/integrate references from the outermost environment. And possibly, the child does not yet have **enough neural interconnections** to achieve such a complex, powerful management.

The child has no problem perceiving and being aware of any pain, because it is an intense and local sensation. But the ability to integrate all the information from the sensations of one's own body —many of them extraordinarily subtle as has already been seen in the case of the lungs— requires an ability to manage the psyche only possible if psychomotor skills have been previously developed.

We adults remember so few things from when we were very young, due to the low level of consciousness of the child. The newborn or the child, generating few processes of consciousness, generates few conscious states, which are the ones that are memorized and therefore preserved.

Number of neural interconnections [.1411]

It is known that the brain contains about 100 billion neurons (10^{11}), of which each one in the cortex can establish more than 20 000 connections with other neurons, so the number of interconnections (that is, potentials "relationators") could reach a thousand trillion (10^{15}), or even much more related.

Following the computer simile, we will talk about a number less than a "Tera"* of neurons, and a thousand "Tera" or more interconnections.

* A "Tera" is 10^{12}, a billion.

About which almost nothing is known, as has already been said in "Psychomotricity" [.13], is the volume of signals, of information, that is managed (because as has also been said, the current scientific approach ignores this symbolic perspective). So we'll have to keep making reasonable assumptions.

It seems clear that the psyche must have some resource that multiplies the signals it sends to the fractions of sarcomeres because they must all be the same. Otherwise all the neurons would have to be required to activate a single muscle (500 000 000 000 signals, 5 times more than the number of neurons).

But in the case of information input, kinesthetic information, some process of information compression is not so easy. It is necessary to think about the referencing strategies with the "pointers" and "index" already commented on [.13] and [.160]. The sensations are absolutely **heterogeneous and unpredictable**.

The bottom line is that we are in information management orders of magnitude approaching neural capabilities (remembering that static storage capacity must also be reserved for all memories).

These reflections are therefore consistent with the difficulties of achieving integration processes as extraordinary as those of any consciousness process. At the very least, simultaneous with the moments of maximum psychomotor management.

Finally, they would also explain the importance of stimulation in the first years of life, generating enough neural interconnections. First for psychomotor management needs, then for body consciousness needs and finally for factual/experiential consciousness needs that we have yet to see.

Consciousness delay due to interconnection limitations [.14110]

Likewise, the need to relax psychomotor and perceptual activity is understood to initiate any process of consciousness. The **need for delay** –already mentioned at the beginning [.035]– between consciousness and the set of motor actions and facts that generate it. **Both operations cannot be done at the same time**, one must be done **one after the other**.

PERINEAL CONSCIOUSNESS [.142]

The perineum is one of the 150 muscles of the man, located in the pubic-genital area. It has relatively unimportant functions in the male-man, but very important in the female-man. And **transcendental in the birth of any new born**.

I have heard of an African tribe in which their women have trivially solved the problem of menstruation. Every few hours they go to the river and release the blood from the uterus. If everyone did it like that, a lot of TV commercials would disappear and the tampons manufacturers would go out of business.

An initially surprising but very reasonable fact. Don't newborns learn to control their urinary sphincters? Don't newborns learn to control their anal sphincter? Can we imagine adults still wearing diapers?

Another important fact. I remember a dead family member who still peed the bed when he was over twelve years old. He had a total lack of body consciousness in this role. In other words, we are dealing with a **cultural fact**. A properly stimulated and treated newborn can acquire this faculty in a few months, or vice versa, take years in another case like the one mentioned.

Although reliable information, I have not been able to find the name and location of this tribe. I wanted to do it because in scientific articles it is formally required to give specific references, even if it is to say any kind of banal (see the comment on the SOKAL article in "Rashness" [.032]).

As in this case I could not get it, I will give other references that are much more reliable than the traditional references of scientific articles: the sex ads in newspapers, which anyone can find everywhere. I am referring to the offers of the so-called "Thai massage", or in general to the reality of sex tourism within the sexual exploitation of women. Not only Thailand or Africa, certain countries and certain tribes, such as in the

Philippines, are recognized for their perineal "arts" (strict Thai massage is with movements of the vagina and acts on the inserted penis, not with the vulva and on the body).

Unfortunately, "Occidetal" civilization has not taken advantage of perineal consciousness for hygiene purposes (like the aforementioned African tribe), nor in obstetrics to **improve the birth of newborns**, as it would be logical to wait. It has been used for the sexual exploitation of the man-woman by the man-male.

Quite another thing would be to take into account these potential perineal faculties and develop them for self-gratification and/or for the normal and equal sexual relations of the partner. But not even that. The repression of the body in "Occidental" culture either ignores the body, or transforms it into a marginal, sexist and criminal fact.

In another area, an act as transcendent and important as childbirth has been **hijacked**/intervened by Occidental technology, transforming it into a surgical act. We train to pole vault, to score goals, to run faster, ..., to use any technology, but the perineal consciousness, necessary for any part of any woman to have **the dignity it deserves**, is not developed such a transcendent act.

Even worse, some of the so-called scientists —obviously male-men— that the future of the human species will go through "in vitro" pregnancies, to free the man-woman from the servitude of the pregnancy of "inferior" mammals. to see [.310] and [.311].

DIGESTIVE CONSCIOUSNESS [.143]

Digestion is also said to be a reflex, involuntary process, like all the muscles associated with the intestines. But as in the case of the lung or the perineum, it is not that simple either.

Cases of self-mummification of monks in Tibet have recently come to light (in the light of "occidental" ignorance). For example the video "Mystery of the Tibetan Mummy". Also in this case it has been known that the repression of the "occident" —the current government of China is dictatorial and the current government of China is dictatorial and "occidental"— has made them disappear almost entirely. But in this case it is even bloodier, because it has been the same Chinese communist government (since Mao Tse Tung) who has systematically destroyed them, to erase these annoying vestiges of the "orient". Like the Taliban with the Afghan Buddhas.

Who doesn't know Iberian ham? How does this gastronomic wonder relate to the putrefaction of the dead and the difficulties of mummification? Well, because the cause of putrefaction is due to the loss of control of the bacterial flora of the digestive system after death. A muscle without anything else, does not necessarily rot, it can be transformed into a tasty ham.

Meditation and self-mummification [.1430]

Because of my Catholic upbringing, I meditated from a very young age. What I remember is the feeling of relaxation and tranquility, of solitude, in the school church. Apart from that, I was never able to meditate on anything in particular. I didn't come naturally to me to think about God. Many years later I learned that the original, "oriental" meditation is not thinking outwards, about God or our actions in relation to others, but precisely the opposite. "Meditation" **is not necessarily** "religious meditation".

The original meditation, from the Orient, is **NOT to think about anything**, to **be able to listen to your own body**. A **body consciousness** exercise. The essence of Zen practice.

Some Buddhist monks reached an consciousness, a **sensitivity** (see "Consciousness and sensitivity" [.1516]), and consequently to a **self-control** of his own body, including especially the "**Enteric Nervous System**"*, which would allow them to self-restrict their vital functions to the point of practically canceling digestive activity and thus almost annihilating their bacterial flora. Finally dying meditating —the "Nirvana" (=**extinction**)— and in a position that was permanently maintained by post-mortem rigidity, with the consequence derived from self-mummification. The cold and dryness did the rest.

* Also known as the "abdominal brain", it contains **100 million neurons**, largely for the exclusive and autonomous use of the digestive system but with some of them **interconnected** with the rest of the nervous system. Apparently

vegetative/unconscious, quite the opposite, everything seems to indicate their ability to **memorize emotions** and to suffer "stress", to suffer their own psychoneuroses and to be the **primary cause** of other apparently non-digestive pathologies.

If pole vaulting is already difficult because of the psychomotor management it involves, getting to control all the muscles of the body (for postural reasons), the usual conscious sensations, but at the same time also controlling all the internal organs of the body (which we consider reflexes / involuntary, and we usually do not make them part of conscious psychic management), it represents an unquestionable **maximum** of conscious psychic management capacity.

EQUILIBRIUM AND POSTURAL CONSCIOUSNESS [.144]

Apart from all the usual assumptions made by scientists about human evolution and bipedalism (decrease in arboreal habitat due to drought, better visual perspective when standing upright, freeing of hands to use tools, possibility of disproportionate increase of the brain due to its vertical position on the spine, ...) perhaps there is also a lack of taking into account a **positive stimulus** in the process: **equilibrium**. Equilibrium is associated with the cerebellum, but from what has been seen it is difficult to imagine that only in the cerebellum.

A cat has "many" reflexes, that is to say, very fast reflexes, but not necessarily a balance as developed as that of man, because with four legs it stands alone and does not need to develop it much. Birds fly, but this does not require much balance because they float through a fluid such as air, just as a fish does through water. Man has a vertical body, the most **unstable form of equilibrium**. It has had to compensate for this by developing its equilibrium-psychomotor faculties extraordinarily more than any other animal.

Just starting to walk means a **very difficult** learning process for the newborn, which requires a whole year, when a quadruped does it in hours or days. Then you need to walk properly and then run. It takes a few years to run properly. Strictly speaking, if a statistic were made, we would be surprised to see how small the fraction of adults who know how to run correctly is. If someone doubts it or doesn't know what it is to run correctly, they will understand if they put on a sports channel on the "television" and watch an athletics race. If BEKELE runs, so much the better (I don't mean his speed and stamina, but the **way** he runs).

At a glance, it can be seen that even many adults do not even know how to walk. With the many investigations and studies that are done, I have always been surprised not to find something about this very basic and human reality.

The option of bipedalism meant an important evolutionary requirement to **develop the psyche**, and surrogate the brain –especially the cerebellum as mentioned– and predictably the functionality of being able to develop more neural interconnections such as psychomotor reaction.

As a negative effect, we have the fragility of the human spine. The vices of not walking properly, even more of not running properly, sooner or later end up taking their toll on the **spine** (and **knees**): kyphosis, scoliosis, pinches, lumbago, ossifications, ... Man can live by giving up of his digestive consciousness (as in the case of the "gourmets", which we will see), man-male can live renouncing his perineal consciousness (we have seen that not so much the man-female), but of the consciousness the least you can give up is postural.

The already commented book by Elfriede HENGSTENBERG [.1402] is of particular interest in this issue. It highlights the **interdependence of posture with the physical and psychological maturation** of the person. Again, "Mens sane in corpore sano." But it also highlights something as or more important and even more ignored: how often "Occidental" education is detrimental to the development of postural consciousness. Not only does it not stimulate it, it **culturally represses it**. But this negative perspective will be seen in the third part.

Even postural consciousness is important locally. Frederick Matthias ALEXANDER (1869-1955) had a problem with consciousness, like Elsa GINDLER [.140]: he was a Shakespearean actor who the more he rehearsed the more easily he suddenly lost his voice. Dismissed by doctors like Elsa, he had to solve his problem by himself, repeatedly looking in the mirror. Thus he was able to see a postural problem that is avoided with the one known today as the "Alexander Method", in his honor. Today it is applied not only to the larynx but to many other parts of the body and by many other professions (especially artistic ones, such as violinists, pianists, ...).

Likewise, the lack of postural consciousness is the cause that leads to numerous occupational diseases, which end in unemployment on the one hand and medical and surgical intervention on the other.

But as said, the negative perspective will be seen in the third part. Here we are left with the importance of postural consciousness and equilibrium, but at the same time its requirements for psychic management and its difficult maturation and maintenance throughout life.

BRIEF PARENTHESIS ON THE DEFINITION OF CONSCIOUSNESS-RAISING [.145]

A small parenthesis is required here. Consciousness-raising has already been defined unequivocally, exactly*, but based on another concept that is usually very unclear, feelings. Today feelings are no longer located in the heart, but for scientific orthodoxy they are still an annoying phenomenon.

* The following explains what a self-application is, unequivocally, exactly.

Hence the importance of the global model of the psyche, which defines feelings structurally. It is not that of the dictionaries, even those of psychology: "it is what ...", "phenomenon of man and some higher animals ...". Feelings are the symbolic levels of structural complexatin that follow perception and precede the very recently appeared thought. A structural continuity* as the floors of the skyscraper aptly illustrate, one on top of the other (if there was no continuity and a floor was missing, the building would collapse).

* Making a computer simile, as if they were high-level languages, which have followed low- and medium-level ones and preceded expert applications (so to speak, because the levels of software have already proliferated so much [="software"]) that is difficult to speak correctly).

And when a model proves useful*,
- so as to explain synthetically and theoretically the reason for the phenomenon,
- how to apply in practice,

cannot be denied outright. It needs to be shown inconsistencies, or better, that another different model is brought in and improved.

* In addition to this write-up in terms of consciousness, see also the many useful examples found in "El kerigma del pensamiento" and/or the referenced writings.

"DA CAPO" [.146]

We already have all the necessary elements to analyze experiential/factual consciousness. That's why it's also good to recap a few moments about pole vaulting, and the reason for this example.

Running –and even a throw (of the discus, the javelin or the hammer soon– becomes an act that is not only unconscious (automation of the sentimental levels) but also reflexive (automation of the sensitive levels). But the pole vault is much more complex, it **lasts a long time** (a few seconds can be an eternity for the psyche): the run, the baton and then the whole jump. And in this time there is a **very intense interaction with the environment**. An interaction above all related to equilibrium, which must be integrated with psychomotricity and motor coordination of the whole body.

If the bipedal equilibrium is already complex, the pole vault involves an inverted equilibrium and on the arms, a whole **re-education** of equilibrium. But in addition a equilibrium of another vertical and extraordinarily unstable equilibrium: on a pole even longer than the body itself. This of making "a equilibrium of a equilibrium" we will immediately see that it is a **self-applicative process**, one of the characteristics of consciousness and that for the same defined it ("self-applicative process of the...").

Having seen all this, the reader can now be more aware –redundancy is never better– of the management effort that this act entails on the psyche. You will also understand that it forces the psyche to use all its available resources, and that for the same reason there are so many mistakes and null jumps, even among the best experts. This is why concentration is so important.

But as you cannot write a scientific article that counts the amount of signals that are generated in a pole vault –much less the way in which these signals are coded–, you can't even do it with the number of neural

interconnections that endure, as MANDELBROT poignantly observed [.030], no matter how real a pole vault is, for some this is not all a "scientific" matter...

CONSCIOUSNESS-RAISING [.15]

SELF-APPLICATIONS [.150]

An **application** is "the use of something as a means to process other things". Place a stick under a rock to move it. The stick has nothing intrinsically to do with the rock, but the man establishes an applicative, extrinsic relationship.

If we have two sets of elements, a "Mathematical application" between them is a criterion to unequivocally obtain from each element of the first set, an element of the second set. It is the abstract representation of a process of transformation of one set into another and of the medium that makes it possible.

An "**Self Application**" is an obvious concept by its very name. It will be the **application to oneself**. In other words, it is the use of a process "A" (not anything) to process the same "A". It is an "A" process made with "A".

A self-application should **not be confused with a reprocessing** (=doing the same process again, a **composition** of repeated processes).

In any application, what is applied and the process to which it is applied are different/independent (like stick and rock). It is the most common case. In a self-application, what is applied and the process are the same thing. It would be like being a judge and part of a process. Two well-known examples help a lot:

- a sum of sums, i.e. a multiplication;
- a multiplication of multiplications, that is to say, a potentiation-exponentiation;

and as a sample, the expression $\mathbf{9^{9^9}}$, a double potentiation which, as great, is an unreal quantity, it is only virtual, existing only in our minds, because there is nothing in such great quantity, not even the number of protons or particles assumed in the entire universe. It is equivalent, approximately so that the reader can do the calculation, to 10 raised to a number of 9 digits, that is to say, to a number of about 400 million zeros, which in the decimal number system and with this font size it would occupy 2 000 kilometers!! 100 000 pages with zeros, a whole library.

It is difficult to find or define a self-application, but when it is possible, a resource of **exceptional** power, efficiency, appears. There are many other examples that make it clear enough:

- the molecules that act as **links** between molecules;
- **polymerization** (a particular case of the above);
- the **DNA nucleic acid** (a combination of the two previous ones) that allows the generation of life information and, in general, life itself (a huge integration of self-applications);
- a set of organisms that make up a single, more complex organism, like a **coral reef** (a living organism that is visible from thousands of kilometers away from Earth), like a **swarm**, like an **anthill**. or like **human society**;
- the **composition of processes** (a process of processes), the **composition of mathematical applications** and/or mathematical functions (a specific case of the composition of processes);
- an **algebraic matrix** (a quantity of quantities);
- the **representation of systems** (a system is already, by definition, a representation), the algebraic representation (a specific case of the representation of systems);
- a **metadata** (data that defines and characterizes the data);

- the **symbolic support of information** (information is already symbolic), such as symbolic systems with symbolic support, of which Psyche is the most developed and known (but not as such a symbolic system with symbolic support) and which integrates the largest part of life's self-applications;

- **consciousness-raising** (an integrative feeling of feelings); self-consciousness such as bodily consciousness;

- the **method** as level 4 of thought, a knowledge of knowledge;

- **universal science** or **Mathesis universalis** (as advocated by LLULL and formulated by LEIBNITZ, a meta-science, intrinsically methodological, from which all sciences are derived as particular applications);

- a **judicial appeal** (a prosecution of a process, the basic element of a judicial system);

- an indicator of the evolution of an indicator;

- the software ("software") to develop new software, such as the tools of the fourth generation for the development of the software ("4GL tools") and in general the software engineering for the same software without which it would be absolutely unthinkable the current level of software development.

In all cases they are transcendent processes, so it would be better not to go on and stop at each example to analyze them in detail, reflect and be aware of the importance of each one of them. Let's think, for example, of the complexity and power of human society in relation to the unquestionable limitation of its starting element: the individual.

A significant observation must be made. Despite the importance of the concept "self-application", it is certain that the reader has not encountered it before in any writing, and what is worse, in any scientific writing.

There is also a repetition to be noticed. The psyche is a structure of "Symbolically Supported Symbolic Systems", systems that are self-applying (as opposed to materially supported symbolic systems which obviously are not). And consciousness is built on this self-applicative structure, another self-application! Like the spectacular case of "nine raised to nine raised to nine". If we were not talking about self-applications, consciousness would be a normal life process, which could hardly be considered as a ceiling of the faculties reached by living beings.

Applications and self-applications in feelings [.1500]

"Application" is **a condition** for there to be a "Tool". For example, the wrench is applied to the process of screwing a nut; if the wrench were not applicable to anything, it would not be a tool. The wrench can be understood as both the "Cause" of the "Action or Process" (screwing) and also as an "Inertial Element Favoring or Catalyst" of said "Action or Process". Talking about application in the field of feelings therefore implies knowing in detail its processes if one wants to intervene appropriately in them.

But we know nothing about how these sentimental processes of the psyche work, starting with ignoring their symbolic-informational structure. It has been seen how complex a feeling can be, information of the same or greater magnitude than the information associated with muscular or psychomotor management. Remember that feelings have a structure that can reach many levels of complexition. Falling in love, like any intense affective experience, like an accident, ... generates feelings, of which we do not know how many symbolic-informational structural levels it is composed of.

The only thing we know is that they are very complex. We can only stay, then, with this complexity, with this huge amount of psychic information that buys any feeling.

I don't know if divine designs are inscrutable, but what is inscrutable today are feelings. It may be the 22nd century, or who knows if even further ahead, they will be "scrutinable" for science, that is to say, representable and simulable. What is certain is that I will not see it anymore. As a sample, the bold announcers of "strong" artificial intelligence in 1992, today heal in health and now say that it will still take two hundred years or more.

Difference between feeling and consciousness [.15000]

Consciousness is a feeling, but a very special/distinguished feeling. The obligatory question to unequivocally define consciousness on the basis of feelings is to know what consciousness adds to feelings. In other words, what differentiates them?

A feeling is a process that starts from much simpler elements such as external stimuli, sensations and the corresponding sensitive images, perceptions, ... all of which is reworked and compared in a complex way and that we ignore . A feeling is a process, an "application" of the psyche, but in which —I insist— we do not know how this tool/means works. As in any application, the processed elements and the medium/process are **different**.

What will be **a feeling of feelings**? Well, a self-applicative process that consequently does not start from simple elements, but starts directly from complex elements such as feelings. As in any self-application, the application and what it is applied to are all **the same**: generative feelings and sentiments.

The reader must be aware —once again the redundancy is worth it— of what it represents as **a volume of psychic management**, activate a large set of feelings, experiences, knowledge and integrate all this into a new **unique and interrelating feeling**: the consciousness of everything that has been activated.

Self-application is the characteristic of consciousness, which distinguishes it from other feelings. "Normal" feelings are not self-applied (emotions, intuition, ...). That's why the definition "self-applicative process ... of feelings" is correct. Totally correct to refer consciousness to feelings, because as said, consciousness is, intrinsically, a feeling.

Analogy between "Consciousness-raising" and "Method" [.15001]

If the reader reads "El kerigma del pensament" will see a clear **analogy** between:

- the evolution of a normal feeling (which starts from sensations and perceptions) → to consciousness-raising (a feeling that starts from feelings);
- the evolution of level 1 thinking (the sensitive/simple conceptuation, which starts from real/sensitive images) → at level 4 of thinking (the "Method", which starts from knowledge)

Also both, "Consciousness-raising" and "Method", are self-applications. And method is the **last level** of thought, the fourth, just as consciousness-raising is the **most distinguished** feeling, the roof of human faculties and of all living beings for many.

All these coincidences should not be surprising, strictly generative intrinsic relations. Nor all the relations of consciousness with other faculties and/or processes that will follow, including those relating to mathematics ("Mathematical Inspiration" [.171]). If ultimately everything comes from the same place, the psyche, everything must be more or less the same. And these relationships do nothing but indicate the correctness and applicability of the global model of the psyche: everything that has never been understood until now **is easily understood** with this model.

Computer simile [.1501]

With the complexity of feelings, which can **collapse** the psyche, we have already lost the notion of the dimension of the information they carry. So instead of making a simile with the "Tera" of computing, we will have to make another more consistent with the process of consciousness: consciousness is like **a computer of computers**, like many servers of the Internet collaborating in the same globalizing and large-scale world work.

And all this in a few cubic centimeters. And no refrigeration.

There is also talk of "brain backup" or "bodily AI". This **only indicates the absolute ignorance on the part of researchers of what the psyche is**. "There is no greater audacity than that caused by ignorance."

Someone may say: "all this is just simple opinion, no scientific article has corroborated it". Well, this is the scientific article that was missing! and explains everything. And in any case, this is only a problem of science for not having done it yet (back to MANDELBROT's statement [.030]). What scientific interpretation should expressions as old —and so real/empirical— as "lose your ass" or "two tits pull more than two oxcarts" have?

The limits [.1502]

We have seen [.150] that "nine elevated to nine, elevated to nine" exceeds the reality of what can be counted. Any computer that had to **enumerate/list** the result of this operation would inevitably collapse, "hang". There is no processing memory, even less peripheral, capable of containing "in extenso" (as it must happen with a feeling, in the memory) this amount. But our psyche, **due to our virtual psychomotor management**, can come to understand what this repeated power of only three numbers means.

What are the limits, the conditions for consciousness?

Well, they are the limits of the "computer hardware", that is to say, the limits of the neurological support system. Predictably, the limits given by the number of neural interconnections, interconnections that can be understood as the "k" (or today the "Megues" or the "Gigues") of the computer's processing memory. And again, it must be emphasized that the processing memory has nothing to do with the programs that are managed in it. One thing is **material** (memory-CPU, brain), the other **virtual information** (software, psyche).

Only about memory, due to my intense activities in many areas, at the age of 40 I was aware that my memory was approaching the limit of its capacity, and I had to start selecting memories and with more efficient relationships to recover them, as well as references on the computer hard drive to activate the deepest part of the memory.

The limit **is not in the psyche**, it is not in its powerful virtual "algorithms" of management (as if it were "software"). The limit is **in the nervous system**, in the material components where management is attempted. As if we had to unfold and discuss in a WC the plans of a large building or a complex technological device.

The limits of consciousness are in:

- the **number of interconnections** that the child has previously developed through various post-natal stimulations,
- the **development achieved by psychomotricity** and
- the **development achieved by body consciousness**.

Experiential/factual consciousness, which puts feelings into play, is a "recycled" faculty, based on more basic faculties (psychomotor skills, body consciousness and, in general, the ability to interrelate and **integrate**).

Its appearance, much later than psychomotricity and body consciousness, entails two conditions derived from the previous limits:

1) It has already been said that, just as it is known that neuronal interconnections are "functional" developing according to the demands of stimuli and exercise, it is also known that this development is maximum in the newborn and in the child and **decreases markedly with age**.

At 60, or even at 40, you don't need to try to increase our neural interactions, but rather try to **properly use and preserve** the ones we have, and prevent diseases like ALZHEIMER... It's never too late to learn, it's always good to do that. But breaking a world record has its age.

2) The more elaborate a process/faculty is, the **more difficult** it is to learn and/or train. No one thinks of learning to play the piano by starting with a BRAHMS or LISZT concert. You need to start with very simple exercises, with one hand, then with the other, then with both hands together, then more difficult pieces. Learning a difficult process is like a pyramid in which you have to start to acquire the elementary skills, one by one, of the simplest and most basic faculties involved in the whole process. In the piano, you first have to start to get the independent movement of each of the fingers, then by ..., then by ..., then by ...

That's why there are so few good pianists. Certainly much less than what the record companies sell us as such.

In the case of pole vaulting, despite being a self-applicative process as seen, the training does not consist of jumping continuously in order to jump better. That way it would never improve. It is necessary to do a series of partial exercises and gradually integrate them. It is so complex that this is why there are some good trainers and many mediocre ones.

Even if a person sets out to do so, it is clear that this alone will **not** raise consciousness to the level he desires. Starting with what was said at the beginning: consciousness is an intimate, personal and non-transferable process. If a child is unconscious, if a child is not very aware, how can he achieve what he does not yet know?

But nothing can be said the other way around. A high level of body consciousness does **not necessarily imply** a high level of factual/intellectual consciousness.

The level of bodily consciousness is only like a limit, like a stop, for the factual/intellectual consciousness that it is able to develop. The level of development of the faculties prior to consciousness is a potential limit, a maximum that the level of factual/intellectual consciousness can reach. It is the same limitation that, due to deficiencies in neural interconnections, due to deficiencies in stimulation and psychomotor skills, intelligence (faculty based on **spontaneous and correct relatability**), language, and thinking cannot be developed properly.

That a person is able to jump five, or even six meters with the pole, or touch the pino wonderfully does not say anything about his capacity for consciousness. It can be an "unconscious" in the traditional social interpretation. It just means that **he can** be very conscious, but not necessarily so. As an opposite case, a small child who bumps into furniture due to a simple lack of motor coordination, is quite certain to have a very low level of consciousness (see "Transfer of psychomotor learning" [.1410]).

So let's resume the scheme of the beginning:

Consciousness (factual/ experiential) ⇒ body consciousness ⇒ Psychomotricity

but not the other way around (⇒ means "involves/requires")

SOME CHARACTERISTICS AND RELATIONSHIPS OF CONSCIOUSNESS [.151]

Consciousness-raising or Consciousness [.1510]

Returning to the difference between Consciousness-raising and Consciousness,

- consciousness-raising is the establishment of relationships that did not exist before, like construction, like the assembly of the pieces, like the construction of the "puzzle";
- consciousness is the resulting static and stable object, which we can keep in a closet, hang on the wall or give as a gift to anyone to use.

Consciousness, the process, cannot be saved, it can only be done, and always assuming that you know how to do it.

From the perspective of interactions, consciousness is an **evolutionary interaction***, an operation of many elements, with which one obtains ("emerges" in the language of biologists) a **new element of a higher level of complexation**. Consciousness is this resulting element.

* See previous note on "Limits to Complexation at Structural Levels" [.13020].

Again the delay [.1511]

A single feeling, a single intense experience that generates it, can be a complex enough process that it completely occupies our psyche, that it abstracts us from the whole environment, that it abstracts us even from our own bodily consciousness. It is clear that in this situation it is unthinkable to simultaneously carry

out a process of consciousness, where many feelings are integrated. If a single intense feeling can already collapse our psychic management, it is clear that we will have to wait for another moment for any integrative process of consciousness in which this intense feeling intervenes.

The more intense the required psychic management (psychomotor, emotional, labor, intellectual, ...), the less possible is a process of consciousness-raising.

Consciousness-raising and versatility [.1512]

Consciousness is by itself the clearest manifestation that its basis cannot be biological, due precisely to the diversity of faculties and images that it integrates. All the various faculties of the psyche —we counted a dozen— integrated as one. It is no longer a matter of supposing the sudden appearance, not evolutionarily, of many totally different proteins in the last human generations, but rather of a universal protein that can do anything: a real bargain.

Identity and Consciousness [.1513]

We have seen ("...versatility...Second Break" [.130]) how symbolic systems allowed the emergence of an individualized identity independent of the material substrate. In other words, symbolic systems are a **condition** for the existence of identity. Or what is the same, identity **implies** the existence of some structure of symbolic systems

In the same place it has been seen that symbolic systems with symbolic support were a **condition** for the existence of versatility (or that versatility **implies** the existence of some symbolic system with symbolic support).

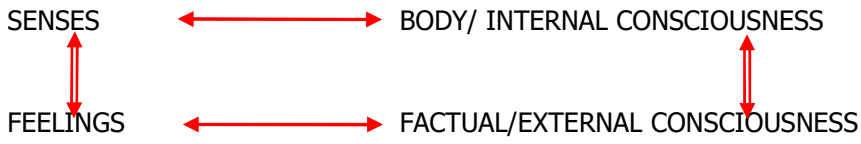
The question is, can any relationship of this same type (condition, implication) be established between identity and consciousness? The answer is affirmative: the continuity/permanence of the information that defines identity **is at the basis** of consciousness. If there wasn't this permanence of identity (supported by the memories of the psyche), the delay that characterizes consciousness would prevent having the elements that are integrated.

Consciousness ⇒ Identity (⇒ implies...)

Identity ⇐ Consciousness (⇒ is a condition of existence for ...)

Relationship between bodily consciousness and factual/intellectual/extern consciousness. Transference and Homology [.1514]

Bodily consciousness is to the senses and their internal experiences, as factual consciousness is to the feelings and their external experiences in relation to the environment.



We will see that, in mathematics, a scheme like this is said to be a **homologous** structure. The scheme is made possible by the aforementioned **methodological transfer** that allows a more basic faculty (body consciousness) to be reused in a **semiologically compatible** more complex faculty (experiential consciousness).

In general, we can talk about "consciousness" in a dry way, when we assume any elements to be integrated, whether bodily sensations, feelings and experiences, or elements of thought.

Consciousness and semiological compatibility [.1515]

In addition to the previous requirement of semiological compatibility, this requirement is twofold. A final implication/requirement that can be seen from the integration and versatility of consciousness processes is, again, semiological compatibility. Consciousness would not be possible if there were no semiological compatibility between the different information systems (the different faculties of the psyche) to be able to process all its elements together.

Consciousness-raising and sensitivity. Intuition and intelligence [.1516]

It has been said that the signals sent to the muscles —which we can call active— are many but the same for each muscle. If we imagine some multiplying functionality, its isolated generation is not particularly complex. However complex the movement, there are a relatively **limited** number of distinct/independent signals.

The case is different for the signals that we could call reactive, those that reach the brain for balance, the ligaments and the senses in general. It has already been said that they are totally heterogeneous. How many arrive? It has already been said that it is incalculable. But for that very reason, we cannot hear them all, one by one and separately. Getting hit hurts us, a lot at the point of collision and less and less as we move away from it. There is a different intensity of pain for each point. If two points are very close we are unable to discern the small difference in pain intensity between the two points.

In body consciousness there is therefore a gradation of "sensitivity"*. As if it were about the different resolutions that a photograph can have: the higher the resolution, the more points ("pixels") you have, and the corresponding information takes up more. What is also called "**fineness**" or intellectually "**sharpness**". The example of people's more or less good eyesight can also be used, but bearing in mind that sensitivity results, as in the photo, from the efficiency of the eyeball. To have "good eyesight" is to have a "very sensitive" sight, which allows us to discern between two points close to each other and far away from the observer, which cannot be done by a "short-sighted".

* I mean the strict concept of sensitivity, not what is called "mushiness/squeamishness".

Therefore, body consciousness has no limits because we could become more sensitive, more discriminating. A Buddhist/Zen monk, what he does is progress in this sensitivity, he is hypersensitive (I insist, not in the interpretation of "mushiness/squeamishness"), feeling sensations —that is, consciousness— that we are not able to feel. And reciprocally, this can allow you finer body control and more body parts. The limits of this progression are marked, as already said, by the development achieved by the neurological support system.

It is clear that the child who runs into everything he finds on his side ("Transfer of psychomotor learning" [.1410]), in addition to being clumsy and unconscious, is also insensitive.

It is important to be clear about this concept of sensitivity:

- because it is applicable to **all** senses but **also** to all feelings, i
- since the different names it receives depending on the area (fineness, sharpness, ...) and the confusion with " mushiness/squeamishness " make it very **little obvious**.

So for example, it is also of particular relevance in other important feelings such as intuition and intelligence, where, for example, a greater degree of intelligence leads to a large extent to a greater degree of sensitivity of this cognitive feeling. And it is clear that the development of sensitivity in one feeling **favours** —by transference— a faster development in another.

Consciousness-raising and relatability [.1517]

It is evidence that consciousness is a basically relational faculty (it has already been discussed extensively due to neural interconnections), but for the same, it is better to leave it on record. It is a relatability:

- in **time** (integration of elements originating from previous phenomena) i
- in **space** (integration of elements originating from internal and external phenomena to the individual)

Terminology. Other specific consciousness derived [.1518]

Body consciousness and factual/intellectual consciousness are two concepts that together cover all possible consciousness. From here we can "invent" as many consciousnesses as we want. For example, "Social Consciousness-raising" and its resulting state, "**Social Consciousness**" (which would be consciousness restricted to social facts).

Respiratory, digestive, perineal, ... already seen, are restrictions of this same type.

SOME PROCESSES AND/OR ATTITUDES RELATED TO CONSCIOUSNESS-RAISING [.16]

RELATIONSHIP BETWEEN CONSCIOUSNESS-RAISING AND THOUGHT [.160]

Thinking is a set of applied and very recent faculties. It is difficult to imagine a few million years ago a hominid doing reasoning, even internally. Why? Well, basically because he lacked the linguistic sign with which to raise consciousness.

Consciousness is of much earlier appearance, but human language is not. Thought processes begin at their first level, sensitive/simple conceptualization with the corresponding formation of sensitive concepts (see "El kerigma del pensament"). For the formation and retrievable permanence in the memory of a concept of this type, the contribution of the linguistic sign that represents it is essential. This is due to two reasons:

- conceptualization is **a local process of consciousness**, where the various sensations related by the common abstraction that characterizes the concept are integrated and a global sensation originates (the aforementioned local consciousness process) which is the sensitive concept generated;
- according to the "zero" principle of psychology (and pedagogy, and semiology) the psyche has not evolved to think, but rather to feel and to move the body (psychomotricity). Any virtual process requires **reference to a sensitivity** —as is the case with a sign— in order to continue being managed by the psyche. The sensitive sign acts as a "**marker**"; signs are like "pointers" in computer science, which indicate where the content of the information is "physically".

the consciousness generated, or what is the same thing the sensitive conceptualization generated, requires association with some sensitive sign (such as the linguistic sign) in order to be recoverable, transmittable to other people and reusable again, both individually and collectively.

So:

Thought ⇒ Consciousness-raising (⇒ implies...)
Consciousness-raising ⇐ Thought (⇐ is a condition of existence for ...)

In other words, without consciousness-raising (innumerable and small processes of local consciousness), thought would **not** exist.

SOLIDARITY AND CONSCIOUSNESS-RAISING [.161]

Solidarity is not an ethereal, mystical concept. In fact, by natural selection and in order to survive, it has had to be genetically incorporated as an instinct in all mammals (als the **maternal instinct**) and as a generalized behavior in many highly sociable mammals.

It is likely that the greater social solidarity of the ethnic groups and Nordic countries is due to a simple demand for subsistence in the face of the extreme conditions of the environment and the limitations of man's adaptability.

There is a clear structural parallel between the faculty of consciousness-raising and solidarity attitudes. Likewise, the absence or dysfunctions in consciousness make it **difficult** to behave in solidarity.

Solidarity implies as a precondition the establishment of relations, above all of concurrence between distant, **heterogeneous** things. Instead of "heterogeneous integration", a process of consciousness can also be

defined in terms of "concurrence". Even better because "concurrence" —a concept that is restricted to the behavioral— is a more specific concept than integration.

If relations of integration/concurrence have not been established between the individual and that with which he is expected to be in solidarity, solidarity is not possible. If there is no consciousness of a higher level of social organization that conditions our individual well-being and interest, solidarity is not possible. If the correct consciousness/concurrence has been established, solidarity is an **automatic derived behavior**.

I refer to a quote (from an analysis I was asked about a book, "Relational Marketing" 2003-03-31):

> "Moreover, we also see the double relationship between "Concurrence" and "Solidarity" (as "Stepfather", and as Relation of involvement). The concept of "Solidarity" has been introduced in many areas, such as in this book, but mostly for fashion, with certain airs of mysticism without anyone knowing exactly why. Why do we talk about her and not "Caridad"? The answer is in concrete needs, because "Concurrence" is a condition for the existence of "Solidarity" (activate this Concept in the simulator). Solidarity is not only voluntary and altruistic, it also requires concurrence. As these are essential in "Relational Marketing", Solidarity is a Conjuncture that favors "Relational Marketing". In other words, it is of little use asking "Solidarity" to others, but it is very useful to look for "Concurrences/ "Intersections" because they favor that and "Relational Marketing".

Nor should it be surprising that "When working together on body/sensory consciousness —even if it is for a short period of time— the people of these groups develop a sense of affection and respect for each other, which is not found often." (Sensory consciousness, Epilogue. Charles BROOKS [.1402]). As has already been said, bodily consciousness is a **prior faculty** to factual consciousness.

Another consequence derived from all of this above is that it is difficult to defend that consciousness-raising is an exclusively human faculty. Maybe yes exclusively mammal* (which also does **not** imply that all mammals have developed it).

* As always, the surprising case of squid must also be considered here

INTERDISCIPLINARY AND CONSCIOUSNESS-RAISING [.162]

Consciousness is a **paradigm** of interdisciplinarity, relating and integrating information as **heterogeneous** as we can imagine. It should be noted that this is an extraordinary **complement** to the tree-lined strategies that are everywhere, discussed in "The muscle" [.11], because this "transversality" **is very rare**.

Interdisciplinarity* it can be considered a specific case of consciousness and even solidarity, as it is an exchange and complementarity of knowledge between disciplines. In this case it is even more clear that deficits in solidarity and consciousness imply limitations in a person's interdisciplinary capacities —cognitive/thinking faculties** adapted— no matter how high their specific knowledge in each specific discipline.

* Do not confuse with multidisciplinarity or pluridisciplinarity, a simple disciplinary overlap without establishing interrelationships between them. "Transdisciplinarity" is a new term, but indistinguishable from "Interdisciplinarity".
** Cognitive, or knowledge, is a part of thinking.

This makes us understand the **difficulties of interdisciplinary work** (whether it is done in isolation by oneself, or if it is done within a group of experts) and two possible causes: **deficits** in consciousness and/or solidarity. At [.201] another condition will be seen, the unconscious difficulty of conceptualizing and applying the concept of "**System**".

SPORT AND BODY CONSCIOUSNESS-RAISING [.163]

Play is a basic activity in the cultivation and socialization of mammals because it involves both **exercise and learning**. In children, sociomotor play is a basic educational resource that helps mature relationships with other individuals. To deepen this relationship "Sport and consciousness" I give another **priceless reference**, as I have done with the previous books: "Elementos de Sociología del Deporte" by Pierre PARLEBAS. It must be said, however, that it has a very different perspective and also a much more theoretical exposition and more difficult to read*.

* At the level of conceptual introduction, I have also written "Exercici, exercici *físic*, esport, i joc esportiu institucionalitzat"

Sport is considered an activity with similar purposes: psychomotor maturation, hygiene, preparation for social relations, ...

It is clear that there are some sports activities more suitable for these purposes than others. And it is easy to agree that hunting, boxing or rugby are not optimal.

The question can be formulated positively: which sport would be the most appropriate to **stimulate** the basic faculties of consciousness and, consequently, **favor** the best conditions for consciousness to develop?

It is also clear that for many analogies of intensity that exist between pole vaulting and consciousness-raising, this is not the sport we are looking for either, for many reasons. An obvious and exclusionary one, which cannot be practiced by a child. It involves great specialization and great technical requirements that not everyone, not even an adult, can reasonably achieve (it is very difficult), restrictive equipment requirements and although the jump itself is attempts, the jump is very occasionally: we can't do one jump after another for two hours straight. Most of the training time is to develop the basic faculties.

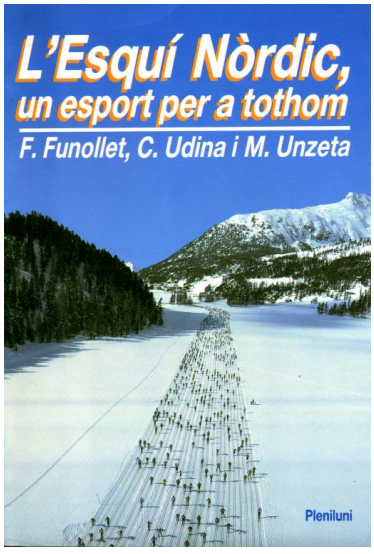
Someone will think of swimming, which is often rated as the most complete sport. It's not like that at all. The balance is non-existent, and so are the reflexes. The environment is aligning, bouncing every few seconds on a wall (it's not easy to be able to practice it in an open/natural environment). They don't even work all the muscle groups even in the most demanding way. Another thing is that due to certain characteristics it may be indicated for certain recovery therapies.

It may surprise the reader that **Nordic skiing** is, without a doubt, the most complete sport, integrating **the benefits of any other and without any contraindications**. Regarding athletics, running, which is the most natural and evolutionary practice for man, avoids repeated mini-traumas to the spine and adds upper body work. The important equilibrium is worked on equally or more (downhill). The only contraindications are circumstantial: snow is not always or everywhere, but there are roller skis, whether for the classic or skating technique, that exactly simulate doing it on snow. It can be even more surprising because it is also easy for the reader to be a little or nothing known practice.

Nordic skiing is the original ski for traveling on any terrain –flat, uphill or downhill– covered in snow, and today on tracks that may be machine-trodden and ski-marked. It includes different modalities but almost identical in terms of practice:

- the tourism of the promenade and the crossing (the latter on unprepared tracks),
- long-distance competition races, and
- the high mountain (in the open tourist version, or in the competitive version which today is almost a replica of cross-country skiing competition)*.

* I've only left ski jumping, which is a totally different modality.



With snow, the environment is a priority situation. It provides the **intense sensations** of the natural environment and that must be **integrated** with **equilibrium** (in addition, we often stand on one foot) and **reflexes** (at the will of the practitioner, the speeds can be remarkable). Any intensity of practice is possible ("he who can walk, can ski (nordic)"*). It develops the need to **adapt** to the environment due to its very **uncertainty** (PARLEBAS, mentioned above).

* "L'esquí nòrdic, un esport per a tothom".

Psychomotricity is of a similar intensity to that of pole vaulting, but instead of being a sudden activity, it is **continuous**. **All the muscles** of the body participate, with the **continuous coordination** of many muscle groups (the pole vault lasts a few seconds), muscle groups that can be **alternated** depending on the different techniques of Nordic skiing, the different conditions of the 'environment and even the fatigue of the practitioner. No muscle is loaded to the detriment of the passivity of others*.

* Any technique of alpine skiing is incorporated in Nordic skiing, but without the many limitations and contraindications of this modality.

Despite being an individual motor action (in itself, the action of skiing is not sociomotor), its practice is almost necessarily collective (family, friendly, ...), providing during the same practice an important relatability social (**solidarity, experiences, communication**,...).

We therefore have that within the practice of Nordic skiing, all the previous faculties that consciousness requires are involved. But we insist, that a person does Nordic skiing does not imply that he necessarily has a high level of consciousness. Only that it can favor it.

What follows has nothing to do with consciousness, but regarding the aforementioned "completeness":

- It is an **optimal aerobic practice, unbeatable for the cardiovascular system**.
- Also, like swimming, it is particularly **suitable for the spine** due to the decompression it does (due to the traction of the arms) and the absence of mini-traumas (skiing has a cushioning "bridge" and at the same time the snow is an elastic pillow).

In any case, it is an exercise **full** of sensations, which can also be **intense and prolonged**. Enjoy the whole body and the environment. It is not surprising, then, to find this sporting practice in Elfriede HENGSTENBERG's book [.1402], taking into account that for her "skiing" is in its original concept (Elfriede did not know alpine skiing, because it began to appear when she was already over 40 years old).

RESPONSIBILITY AND CONSCIOUSNESS-RAISING [.164]

"Are you consciousness of what you're doing?" is a polysemic expression that should strictly be expressed with "Are you responsible for what you do?". Responsibility implies having conscious knowledge of a chain of effects/consequences, a chain which at the same time is nothing more than a process of consciousness. It's so obvious, it's such an **intuitive association**, that's why "conscious" is used instead of "responsible".

HAPPINESS [.165]

Today, books about happiness are proliferating more than ever. The reason? That soon we will be able to buy it in pills, or we will be able to change some gene and in the future be as happy as we want (more or less as Aldous HUXLEY proposed in "A Happy World"...). In [.300] we will talk about a criterion for not buying certain books, and in [.202] about drug addiction and suggestion.

Apart from the previous joke, the first question, as always, is to define happiness. And with this concept even more differences can appear than with consciousness. But luckily there are also characteristics that almost everyone will agree on. In this case there are two, happiness is:

- a **feeling**;
- **very subjective**, very feignable (it doesn't matter how happy someone says they are, their expression, their facial language, tells us more).

In line with these characteristics, I set out what the definition of happiness is in my opinion (which, on the other hand, is taken from dictionaries, just trying to be more precise). Happiness is, as they say, a feeling. The surprise is that it derives from consciousness, with what it is known, almost everything has already been said about happiness.

The possible surprise of the emergence of consciousness at the basis of happiness (and all that it represents, as we have just seen) is evidenced by what follows. A child is said to be happy. More accurately, it should be said that the child feels loved, well cared for, well fed, that he is healthy, that he has no problems. In this we would change with a child, but not with his mental maturity, much more immature, much more "unconscious", much below the structural level of consciousness. We wouldn't have problems, but we couldn't enjoy not having them. That is why the adult does not remember whether he was happy or not, it is not conceivable, he lacks consciousness. Without consciousness there is no happiness. A lizard lives very well, but I doubt whether it is happy or unhappy.

If consciousness started from feelings (and sensations), happiness starts from consciousness.

What is the relationship between consciousness-raising and happiness? Well, happiness results from applying consciousness-raising to pleasure. Also "satisfaction" is a concept very close to happiness (the reader will hardly think of any significant difference, perhaps only that it is more restful, more intimate): "complacence" comes from "pleasure".

We have seen what an "Application" was, so in mathematical syntax we would write:

Pleasure $\xrightarrow{\textbf{Consciousness}}$ Happiness = Consciousness (pleasure) ≈complacence/gratify/satisfaction

By the same definition, the result of the application, which is happiness, is another feeling. At the same time, pleasure is a desirable/gratifying perception, so:

- we also have the subjectivity of happiness explained (because perceptions are **intrinsically subjective**);
- and its structure also explained: we apply a high-level psychic element (the faculty of consciousness) to another of a much lower level (a perception). It is what usually happens: we apply a device to a fragment of material to obtain a piece, we apply a (mathematical) tensor to a point, etc.

Both characteristics are met (it's a very subjective feeling). And instead of a literal, ambiguous definition, we have a **structural definition**. As said, one may or may not agree that this is happiness, but at least this definition is **unequivocal**.

Conclusions about the **dependent relationship** between consciousness and happiness (happiness as defined here), or between deficits in consciousness and unhappiness (ditto) are left to the reader.

THE MATHEMATIC [.17]

With "Mathematical Application" (a reasoned/comprehensive correspondence between two sets), mathematics borrows "Application" (applying something to an initial state to obtain a useful effect), but an abusive and incomplete borrowing. For example, it does not take into account its genesis, which is derived from the most basic phenomenological perception, since the phenomenological action, that is, a process, is applied to initial states (the origin set) resulting in final states (the image/effect set).

And from the correspondence derived between the origin set and the action/process, it results the "Step to the dual" (between the Base Space and the functions that are applied to it; see "El kerigma del pensament" [.31] and [.310]), perhaps because the "Step to the dual" was integrated into mathematics in the mid-20th century, much later than "Mathematical Application".

Certainly, I have **never** found any reference to this important generative relationship between both concepts*. Nor, as has been said, any analysis of the concept of "Application"; it is used everywhere but **no one** studies it.

* Some mathematicians may consider this question irrelevant, but it is not at all. Mathematicians often forget that they have not always been adults or mathematicians, but that they were once children and had to learn with effort. Because of this oblivion, the possibility of an auto-generative and closed (self-consistent) and egocentric ("created" by man) mathematics was raised. It is the tendency that was called "Mathematical Formalism", a waste of time due to a simple lack of humility, which originated a reaction: the "Incompleteness GÖDEL Theorem", demonstrating that "Mathematical Formalism" is mathematically impossible. Some waste their time in raising a absurdity and others in proving that it is a absurdity, which does not in itself detract from the merit of the theorem. And today, time continues to be wasted, treating one thing as the other. See "L'exactitud a les ciències".

Even worse, linguistics **ignores** the concept of application, which has **dire** consequences. But this is another matter that can be seen in "Triptic", "Part I, Significat i significant". Here we are only interested in the existence of "Intrinsic Semantics", which is the intrinsic perspective of language, and which at the same time formalizes the natural link between psychology and mathematics. Apart from explaining the linguistic phenomenon and the faculties of thought –its structural levels–, Intrinsic Semantics reveals the links of mathematics. That is to say, that mathematics is not an isolated/independent discipline.

Continuing with the borrowings, "Function", "Tensor", "Differentiable function", "Differentiable tensor", ... are direct derivations of "Mathematical application", progressively more specialized.

As just said, in "El kerigma del pensament " [.31] and [.310] it is explained in detail how the "Step to the dual" and the "Algebraic Duality" are borrowed from the intuitive duality manifested by children and from other much earlier algebraic dualities that characterize life.

The "Short exact algebraic succession", a not at all elementary concept of mathematics, is used by living beings as a repeated structural methodology (DNA, tissues, ..., psyche, ...).

Sequentiality is an intrinsic management of DNA. Successions, like that of FIBONACCI –based on sequentiality– are managed by countless species of living beings (see "L'exactitud a les ciències", "Integers and real numbers"). And as I argue in "L'exactitud a les ciències" it is more than likely that DNA also handles operations so complex that they are analogous to composite knowledge.

The most powerful operations in mathematics (multiplication and potentiation) are self-applications, and we must remember that the psyche is the area where there are more self-applications.

The structural methodology of mathematics is based –like all material, biological and psychic structures– on evolutionary interactions (operations and compositions).

All this with regard to algebra and geometry which are the strictly "abstract" branches of mathematics*. As we have seen, the bases of the two disciplines are full of methodological transfers, originating in the functionalities of the psyche and in many other earlier and simpler structures (histological, proteic, genetic).

* Mathematical analysis is not any branch of mathematics such as algebra, geometry or topology, but as the name suggests, a combination of these applied to any particular question, as in the case of "How is foot reflexology …?" [.2160].

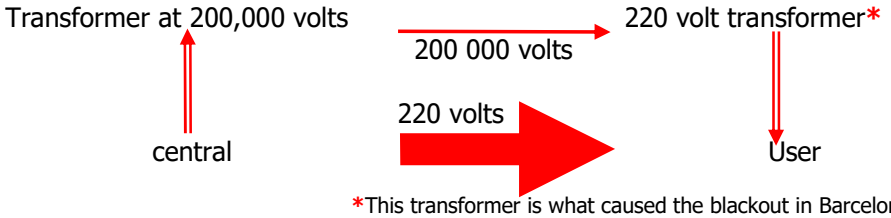
Topology is a simple, fully sensitive visual-tactile representation: it describes local characteristics (Topology comes from "Topo-"), it describes shapes/places.

But there is still a more extraordinary fact, discovered by MANDELBROT. The set that bears its name results from a functional graph of a complex variable function. It has an amazing shape. A type of shape known as a "fractal". Fractals have made it possible to represent complex natural forms of living beings for which before, man had not found a satisfactory analytical representation. The reflection is mandatory: to what extent can the genetic code support/manage –we still don't know how– **functionalities equivalent** to complex elements of mathematics?

In relation to what has been said throughout the article about "Methodological transfer between systems" and about "Homology" (in "Relationship between ... Transference and Homology" [.1514]) it should be added that algebraic concepts such as "Homomorphism" and "Functor" are **generalized/extended** with the concept "**Semiological compatibility**". Semiological compatibility is the **condition** for the aforementioned methodological transfer to occur.

What is a homologous structure? Two examples will try to explain it a little.

- If we were to transport electricity from a power station to a city 400 km away at 220 volts from the user, we would need some monstrous cables and even so much of the energy would be lost as heat. It is better to lose a small tan percent in transforming it to 200,000 volts, to transport it over small cables and with almost no loss, and finally to lose another small tan percent in transforming it to the user's 220 volts.



*This transformer is what caused the blackout in Barcelona in the summer of 2007.

- The calculator of a computer receives numerical information in the decimal positional numerical system, transforms it into the binary positional numerical system in which it processes the calculation and returns the result in the decimal positional numerical system.

The compatibility of the "transfers" (the "homomorphisms") between the algebraic structures, allows the problem to be transferred to the structure where it is easier/natural to solve it and to return it solved where necessary. The homologous scheme of consciousness tells us something similar: if we want to solve a problem of factual/sentimental consciousness –its deficits– it is best to try to solve it at the level of bodily consciousness so that the solution **moves** to factual consciousness.

THE MIRACLE OF POSITIONAL NUMERICAL SYSTEMS [.170]

No one can doubt that the classical man (Greek, Roman, ..., SOCRATES, SENECA, ...) was as intelligent as today's man, but until man did not adopt and generalize in society the use of the decimal system (a case of **positional number system**), mathematics did not have an important development. And only in the last 50 years has the **binary positional numerical system** opened up its application to new and unsuspected areas: computing, communication, ...

Leopold KRÖNECKER (1823-1891) was a mathematician with notable contributions. He said "God made the whole numbers, the rest is man's work" (because fractional numbers are derived from whole numbers by division, rational numbers are derived from fractional numbers ... and so on) and that you need understand in its context: the decimal positional system. It seems that for KRÖNECKER what was important was the ability to represent any quantity no matter how large, up to infinity (which in practice is impossible with the Roman numeral system). The rest is plugging holes, and from a sufficiently large number, what is between two whole numbers –for example 87458 and 87459– is irrelevant in practice. The rest until today have been constructions of algebraic structures, somewhat similar to the constructions with which the child plays, but more serious/abstract/complex.

But neither that, nor even divine intervention is needed, at least not in this case. It has been seen that, in muscle management, **the psyche manages much more complicated structures than monotonous positional numbering systems**.

Was this sudden ability to count and operate with numbers a miracle, or a genetic mutation? Of course not, it's much simpler. After 4,000 years of playing around, looking for systems to represent numbers —there is historical evidence that the Syrians already tried 4,000 years ago— finally man found a structured numbering system **compatible** with **the structure of its most developed and decisive faculty for survival: psychomotor skills**.

I complete here the table of "Constructive strategies (=methodologies) of some complex structures" in [.110].

	Exclusivity of the Base ("monogamy" or not)	**Variability of the Base Criterion**	**Number of Children**	**Types of Children**
Muscular structuring	**Exclusive** (each partition, a single family of descendants)	**Variable criteria**, predictably depending on molecular and cellular "availabilities"	**Variable and changeable** according to Level: about 1000, 2, about 500, about 60, about 6, about 60, about 24.	**Always the same**(all Sarcomeres are the same, all MyoFibrates are the same, ...)
Nerve	**Exclusive** (ditto)	**Variables** (as in "Muscular Structure")	**Variable and changeable** according to the Level	**Always the same**
Bone structure	**Exclusive** (ditto)	**Variables** (as in "Muscular Structure")	**Variable and changeable** according to the Level	**Almost the same** (small differences only in Form)
Positional numerical systems	**Exclusive** (only one, and moreover, fixed, always the same "father")	Criterion **fixed** (or 2, or 6, or 8, or 10, ..., but always the same)	**Fixed** (and matching with the value of the Base: 2, 6, 8, 10, ...)	**All different** among them (0, 1, 2, 3, ... in the case of Base 10), inductive (+1)
Exact conceptual systems (=LEIBNIZ "Characteristica universalis")	**Not exclusive**(there may be more than one "Stepfather"/ "Sibling Family"), and consequently with Multiple inheritance	**Totally variable**(any Concept can be Criterion/ "Stepfather")	**Totally variable**(between 1 and many). There is a dependency between the number of children and the diversification possibilities of the Criterion/Stepfather.	**Always semantically disjoint (=different), but contiguous (connected and compact)**

We will briefly discuss the "**Conceptual System, intrinsic and exactly**" further on. As positional number systems are so monotonous and trivial to the psyche, with some additions that are a little more complex but still comfortably manageable by the psyche, it is possible to **extend** this to all concepts, so that concepts (and knowledge and methods and reasoning ...) be definable and operable with as much **accuracy and efficiency** as we do with numbers today.

KRÖNECKER was not in time to know the algebraic concept of functor (obviously neither psychology nor genetics). The divine creation of whole numbers is a simple **functor from psyche to mathematics**. And its roots are, to say the least*, genetics

* At the "Teoría holistica" it is suggested that the roots are much earlier.

The scope of this table is best understood from the perspective of the **Universal science** proposed by LEIBNIZ: it is a common methodology for psychology, mathematics, physiology, genetics.

MATHEMATICAL "INSPIRATION". [.171]

So far I have talked about "Mathematical Representation" (in the structural methodology of fabrics, in the rupture that the appearance of management supposes, ... [.12] [.121]). In other words, which mathematical concepts describe the faculties we have seen.

But seeing that there are more and more mathematical concepts that describe these basic methodologies and present in life from the beginning, and also seeing that these mathematical concepts are basic, from which many other more complex mathematical concepts result, the obligatory reflection is? are we going to be doing everything the other way around?

In other words, it is very good to find a mathematical representation for each faculty/functionality of the psyche and/or certain biological structures, even more so because it had **never been done before**. Sometimes we talk about "psychology and mathematics", but misleadingly, because we talk a little about each thing, but separately.

This of mathematically representing psychic faculties (as is the case of "Intrinsic Semantics"*) is already good enough, but another step can still be taken, a step more important than the aforementioned representations.

* See "Teoría holistica", "El kerigma del pensament", ...

The next step would be the reverse approach. Shouldn't we think, rather, that if we can do mathematics it is unique and exclusively because **all its structural bases already exist in our body and/or are managed by the psyche?** Shouldn't we **just recycle and apply** according to our needs, taking advantage of the versatility of the psyche?

After so many years, and finding more and more analogies like all the ones mentioned (and others that I even forget if I don't write them down at the moment), I have no doubt about it. And it is common sense: man only does the mathematics that he is able to understand, that is to say, that is **semiologically compatible with his natural evolutionary faculties**. Faculties that result from the psychic management of their biological, sensitive, perceptive and/or sentimental structures.

How could man build a virtual structure that the psyche could not refer to something already "known"? When this doesn't happen it's like chaos, it doesn't clear up, it doesn't know what to do. That's why nothing could be done with the Roman number system, but man has been able to **do wonders** with positional numerical systems.

Psyche sues mathematics for plagiarism [.1710]

If it were imaginable that the psyche would interpose/personate itself in a plagiarism suit against mathematics, it seems unlikely that it would lose. I would have everything to win. But it probably wouldn't because then the tissues would do the same against the psyche in much of the defendant, and then the DNA would do the same against the tissues, and so on...

The mathematical concept of homomorphism (and that of functor) exists, for example, because there is transfer in teaching. There is transfer in teaching because many millions of years ago there was "**Methodological transfer between structural levels**".

To complete this section on the relationship between the psyche and consciousness with mathematics, it is appropriate to talk about the concept of "**transparency**" as understood by linguists and researchers in the knowledge sciences. It will be discussed in the Annexes ([.3210] and [.3211]).

PART III: WHAT IS NOT CONSCIOUSNESS-RAISING?

Consciousness has been defined [.10], detailing its component concepts of the definition, the previous faculties that allow the appearance of this feeling, its relationships with other concepts, etc. But any definition also requires the negative perspective of what it is not, to avoid misunderstandings. Sometimes we think we know something, but we don't.

"Little and bad"

We will see what it is not and also some deficits of this faculty. And what follows from our Occidental civilization is that we have little and bad consciousness-raising. Perhaps for this reason, the Occident is so concerned about knowing what consciousness is from a scientific perspective, because it does not know it as its own experience.

LANGUAGE MISTAKES [.20]

If the reader looks for the concept "Consciousness" in dictionaries or in books, in addition to wasting time gathering them, he will come to the conclusion that each one says something different and they all say nothing concrete.

The power and complexity of consciousness, integrating many other simpler functions means that any of these simpler faculties can be confused with consciousness. This is how the trivialization of this concept is common. At the same time, as consciousness is a necessary component of any thought process, it means that any faculty of thought is also confused with consciousness. It is what has already been said in the first part "Introduction" about CONDITIONS 1A and 1B [.034].

If the reader wants to see an example of chaos about what consciousness is, he only has to look for this term in "Wikipedia". Nor is the usual scheme of synapses missing. Nor does he say "what is consciousness" (as has been said, a feeling), he just talks and talks. As treated by this encyclopedia, it seems more like an ethereal, mystical faculty.

The reader may also say that what has been defined here as "Consciousness" is not what he considers "Consciousness". Totally agree, everyone is free to name a concept whatever they like. But then, this writing allows us to see at least that we are talking about two different things, "Consciousness-1" and "Consciousness-2". Then the question, obligatory, will also be to ask the other person to define what is the concept that he calls "Consciousness". It is quite likely that he does not know how to do this, at least with a minimum of conciseness. Or probably, that it coincides with any of the concepts of lower rank with which, as I have already commented, it is common to confuse it. "Define and you won't argue" (Jaume BALMES).

In other words, in the event that the same thing is not being discussed, it would only be necessary to change the title of the writing "What is consciousness, as this gentleman understands it?" and problem fixed. And if he wants, when he has some time, he should write a letter explaining what he means by consciousness.

"TO BE CONSCIOUS". CONSCIOUS AND UNCONSCIOUS LANGUAGE [.200]

An example of ambiguity is the usual expression "Being consciousness" which does not even indicate a process of consciousness, it only indicates a **potential state** —neither asleep, nor "unconscious"—, a state in which processes can occur where it intervenes locally the consciousness.

The difference between "Looking" and "Seeing" is clear; and between "Hear" and "Listen". The first are "unconscious" acts, the second "conscious" acts. For example, "Listening" implies thinking, and it has already been said that thinking implies small consciousness-raising ([.160]), so effectively "Listening" is a conscious act. So far we understand each other. But the expression "Being consciousness" creates a misunderstanding, because "being consciousness " does not necessarily mean "making consciousness ".

As an example, everyone will consider regular conversations to be a conscious manifestation, especially when their content is more elevated/"intellectual". But strictly speaking, the conversations are about phenomenological identifiers (Level 01). In "El kerigma del pensament" it is explained that this Level 01 is a trivial level, prior to thinking. Nothing to do with consciousness.

Consciousness-raising is, by definition, an introspective process, the complete opposite of a conversation. To "raise consciousness" you need to "meditate" as has been said in [.1430]. And a conversation is an interaction with the outside, with other people. Being able to be aware of the conversation while conversing requires being well above both the conversation and the interlocutors ("The more intense the forced psychic management, the less..." [.1511]).

Even more, when speaking, not only is one not becoming conscious despite "being aware", but even the normal is the emergence of the unconscious level of language. Feelings take advantage of communicative interaction to manifest unconsciously, that is to say, without realizing it. It's the old "fish dies by the mouth" thing.

Our conversations are more "unconscious" than "conscious".

My insistence on differentiating between process and effect is not exaggerated. 3-year-old child, without anyone teaching him, just by listening, differentiates within a phenomenon not only the process and the effect but up to a dozen subtleties. That is, he perceives the various phenomenological perspectives (origin, cause, action, effect, ...) differently. See "La percepció i la intuïció infantil: les 'Terminacions' dels nens" or [.315] "Terminacions" in "El kerigma del pensament".*

* ADDENDUM 2025: "El Conocimiento de los niños a los 3 años" (2020), deals in detail with this intuitive process.

But this natural sensitivity (see "Consciousness and sensitivity" [.1516]), is repressed by culture, creating habitual **polysemies** with a phenomenological **trivialization**, making it difficult for him to distinguish basic aspects of reality. Anyone who picks up a dictionary (in Catalan, not in English in this example) will repeatedly find **polysemies** such as:

- **Obertura** f. Acció d'obrir; l'efecte (el forat).
- **Enregistrament** m. Acció d'enregistrar; l'efecte (el CD o "*.mp3").

- Overture. Action of opening; the effect (the hole).
- Record. Action of recording; the effect (the CD or "*.mp3").

The same linguistic sign identifies (in Catalan) the action with the effect: drilling, with a hole; the process of recording a concert, with the CD.

SYSTEM CONCEPT, VERSUS TRIVIALIZATION AND BANALIZATION [.201]

The Judeo-Christian moral tradition, the dichotomy "good – bad", or "innocent – guilty"* (a dichotomy that has absolutely nothing to do with algebraic duality), is a slab for the perception of the concept "System"**. Apart from its already mentioned need to enable interdisciplinarity, among other consequences, without having internalized this concept, it is also not possible, for example, tolerance. And **tolerance** is also a condition for facing apparently unsolvable problems (in fact, all problems are initially) since the solution can be found in the most **unexpected** place.

* It is a trap to have to discern between "innocent" and "guilty", because it mixes two completely different issues. The only thing that can be discerned is whether he is the material author of the act, or not. Another different and later thing is to determine the responsibilities arising from the act.
** A system is a set of elements, but complex elements, with different possible states and such that the modification of the states of any element conditions the states of the other elements.

The reality is complex. Even today all the sciences are closely related and a minimum of interdisciplinary work is needed to progress in any field. The concept of system is **inescapable** for the scientific representation of any phenomenon. But in unconscious behaviors there is a constant moral manifestation that tends to the trivialization and banalization of everything that is not scientifically determined. Of everything that is not part of the orthodoxy of each moment. MANDELBROT's repeated phrase is a realization of this in the scientific field itself ("...car nous ne..."). Outside the scientific realms, even realities such as evolutionism are denied. In everyday life, trivialization and trivialization is overwhelming, any problem is

reduced –absurdly– to two extreme options. The Internet-WWW, with its proliferation of polls and opinion forums (where brevity, i.e., triviality, is mandated), has **further contributed** to this nefarious cultural disposition. It is **highly worrying** to see what is being said in these forums and polls.

This **conceptual lack**, and consequently **linguistic**, is an important **negative inertial element*** and **unconscious**, of extraordinary power. All the unconscious is "powerful"**, a characteristic that can be understood if one understands that of the numerous structural levels that have generated feelings versus the **limited surrogate and fragile** conscious levels of thought (see "Limits to the complexity in levels..." [.13020]).

* A "Negative inertial element", are circumstances of the environment that can condition or even prevent any process, like a "moderator" of a reaction. It has been commented on [.032].
** Also in geology "powerful" is used in the same interpretation of the thickness of the stratum.

Reality is intrinsically relational, everywhere there are cause-effect relationships and the concept of system is intrinsically relational. Otherwise it would not be useful.

If consciousness is the paradigm of relational faculties, we can deduce the **null stimulation** that the repeated tendency to banalize and trivialize provides, especially due to its **unconscious** nature.

ALTERED STATES OF CONSCIOUSNESS. DRUG ADDICTION. THE SUGGESTION [.202]

Such a widespread and discussed issue, with a lot of "scientific" literature, and it turns out that **!!it has nothing to do with consciousness!!** As nothing is defined, or incorrectly defined, as everything is confused with everything, as there is no global model of the psyche, such great **misunderstandings** as this are reached.

So what are the altered states of "consciousness"? Simply, **altered states of perception**, a type of faculty that as seen [.13010] it is much earlier, prior to feelings and resulting from sensations. Nothing to do with a feeling and even less with a self-applicative process.

There are even pretended scientists (in this case that I have the references, I prefer not to give them) who used drugs to provoke them, to experiment, to promote "empiricism". A very forced way to justify a simple drug addiction. Clearly, consciousness and **hallucination** have very little to do with each other. Nothing to see how everything will look next, they are rather incompatible.

It is necessary to make clear, at the same time, the **importance of the unconscious level** of the already mentioned language: a simple change of denomination allows sustaining a great misunderstanding and justifying the unjustifiable.

It also notes the **importance of the already mentioned intrinsic semiology**:

- the need to use suitable linguistic signs to make **thinking more efficient** (as in the case of the positional numerical systems already discussed). "**Call things by their name**".
- the inconvenience of using inappropriate linguistic signs (such as this confusing **polysemy*** between perception and consciousness).

*See for example the polysemy in "El kerigma del pensament" and/or "L'exactitud a les ciències".

And now that drugs have been banned in experiments, "respiratory techniques" are used, an elegant way of saying that with episodes of asphyxiation/apnea or hyperventilation, the normal and optimal functioning of the brain is altered, altering its basic constant: oxygenation. And consequently, altering the functioning of the psyche. But altering is not necessarily improving, let alone evolving to a higher state.

"Altered states of consciousness" are presented as a state even beyond consciousness. As an even more developed/higher faculty. Nothing more wrong. Rather, drug addiction, that is, the need to experience strong sensations, indicates **low sensitivity** (see "Consciousness and sensitivity" [.1516]), **body consciousness deficits**, which are **compensated artificially** (with drugs), or also **by suggestion** (with much more limited secondary consequences).

The process of reconstructing sensitive images is complex. To correctly reconstruct the visual images, the baby takes months. It is well known how **easily** perception, its intrinsic **subjectivism**, can deceive us, by incorrectly interpreting images, which we associate with other images that strictly have nothing to do with what is felt/sensated. If we add the darkness of the night, the shadows of a forest, etc ... we can imagine anything.

When a body is able to feel fully and consciously (and therefore controlled) and/or when we can exercise it fully and it produces **all** the sensations we are capable of perceiving, there is no need to want more, a need to want more only associated with **dissatisfaction**, **deficits**.

THE REPRESSION OF CONSCIOUSNESS. BODY CONSCIOUSNESS DEFICIENCIES [.21]

"GOURMETS" AND DIGESTIVE CONSCIOUSNESS [.210]

In any integration process –which implies a **harmony** between the parts– any **hypertrophy** of any part is **detrimental** to the others, to the detriment of the integration process and the result.

A "Gourmet" —and today almost everyone has become a "Gourmet"— **hypertrophies and sacramentalizes** the act of ingestion, to the **detriment** of the rest of the digestive and nutritional process. Even more, it prioritizes conjunctural aspects, **unrelated** to nutrition, such as:

- the aesthetics (of the premises and of the food),
- the cost and origin of the food and/or
- the intake of non-nutrients (alcohol, tobacco, ...).

One eats *not out of one's own desire* derived from **a vital need**, which is what would give **full pleasure** to food, but **compulsively and depending on others**.

The consequence is that digestion does not become a prosperous process, but rather an ignored or forced process:

- ice creams to accelerate the evacuation of the stomach from the intake;
- coffee to avoid the sleep that produces an excessive intake;
- salts or similar to "help" digest.

Defecation is not the final process of digestion, is considered **eschatological, pejorative matter**. Not only do you not get pleasure from this process, like what you can get from eating, but it is usually **torture** due to deficits such as hemorrhoids, constipation, ... a consequence of nutritional and body imbalances. If there are so many advertisements to avoid flatulence, hemorrhoids, constipation, ... it must be because there are many people unable to solve these problems by themselves.

Is colon cancer a genetic curse as they say to evade responsibility? or perhaps a final epigenetic consequence of poor food hygiene?

Quite the opposite of **Yoga**, where practices like "Vasti Asvini-Mudra" (washing the rectum and anus after pooping, by sucking or introducing water; see "El Vasti Ashwini-Mudra del yoga") I don't know if they lead to "Antahkarana" and "Nirvana", but, if more no, they prevent hemorrhoids. Incidentally, despite being a digestively symmetrical practice to the widespread and common practice of brushing your teeth —and **equally hygienic**—, it is a **non-existent and/or silenced** practice in our culture. As discussed in "Perineal Consciousness" [.142] it is only approached from the pejorative-eschatological perspective ("lavatives"), or sexual and/or homosexual, not from bodily consciousness itself.

It has been seen that it is possible to have full digestive consciousness, which does not mean that we have to live like monks, let alone end up self-mummified. Simply, have consciousness to fully enjoy the body. Enjoy the whole long digestive-nutritional process, get the pleasure of exercising it consciously. Or at the very least, not to suffer discomfort or even less pathological dysfunctions.

OBESITY [.211]

The previous deficit is often directly related to another, obesity. A dysfunction of body consciousness as a whole, which is spreading to alarming levels. Close to 40% of the population in the USA, already 30% in Europe, entire ethnic groups transformed (like the Polynesians), ...

It has come to be affirmed that in some cases it is inevitable, that is to say, that the cause is independent of the person's behavior and medical intervention is inevitable. No matter how many studies and scientific articles claim this, this **cannot** be true:

- one of the most irrefutable laws is that energy is neither created nor destroyed, it is only transformed ("First Principle of Thermodynamics", and if it were not true or intransgressible, neither our car, nor the refrigerator, nor nothing). If you don't eat more than you need, it's **impossible** to get fat (fat is an energy reserve);
- unfortunately a lot is known about concentration camps and wars, but not a single concentration camp with obese people or any war that has favored obesity is known.

Obesity is the result of a **combined imbalance** of **digestive consciousness** and a lack of **body consciousness as a whole**. An abandonment of the body.

Hunger is a sense like any other, one more **to add to the list of versatility of the psyche**. It is clear that hunger does not directly result from a metabolic state alone. The psyche also intervenes to spare, because otherwise its undeniable subjective aspects would not exist.

But hunger is experienced as something negative, something to be avoided. Hunger is mistakenly confused with malnutrition, when they are two completely different things. Worse, today's society brutally **represses** this sense in children, saturating them with fats and carbohydrates that prevent them from developing the sensitivity to know, the consciousness, which foods the body demands at any given time and which ones are unnecessary.

To learn to eat, the first condition is **to be hungry**, but not the compulsive hunger that results when this sense has already become unbalanced. What are the desires of a pregnant woman (I insist not to confuse it with opportunistic whims)? These are claims for nutrients that would not be common in another state, due precisely to:

- this same state of greater need for nutrients;
- which surface more than in the normal state due to the hypersensitivity of this same state.

Why does a baby cry? Everyone knows that only if you are hungry, if you are sleepy or if something hurts him (for example, the irritation of his excrement). When the baby cries because he is hungry, he begins to interpret the sense of hunger, its most basic parameters, the quantitative ("when" and "how much"). It is a mistake to prevent the baby from progressing in this learning by saturating him with food and preventing him from being hungry. It's another **overprotection**. If the simplest —the quantitative— is repressed, how can the qualitative, the "what"/"which foods", the full digestive-nutritional consciousness be developed?

Being hungry is not bad, on the contrary, it is absolutely necessary. The only bad thing would be not eating. A fat baby will never be a healthy baby, only an obese person in the future.

TATTOOS, "PIERCING", MAKE-UP, PERFUMES, ..., PLASTIC SURGERY [.212]

The body is painted to enhance it, to make it more attractive, more handsome. Either temporarily (makeup) or even worse permanently (tattoo). In other words, there is a **serious conflict** with one's own body, there is a serious dissatisfaction complex, a lack of self-confidence. One's own body **is not accepted**. Possibly rightly so, because if it has already deteriorated, we don't want to accept our own responsibility for allowing it to happen. If you have bodily consciousness of the whole body, how can you infer from something as extraordinary as the body that we can still add something more to it?

The more the body is exercised and enjoyed (we will never be able to fully exercise it, it is too extraordinary, with too many possibilities and potentialities, and too complex) the less we need to enhance it. We have enough work to preserve this wonder without it deteriorating more than is inevitable.

Earrings, a pendant, a "piercing" in an African tribe, is part of a cultural context where, among many behaviors of social utility, it is inevitable that there will be arbitrary and useless ones. Individually, maintaining these behaviors does not indicate a body consciousness deficit, just a cultural attitude. But among individuals of a culture characterized by their knowledge in all areas, the voluntary and innovative option of piercing the body is a symptom of deficits in body consciousness and at the same time of stupidity.

In general, almost all "Fashion" interventions are not about the body ("Body": main part of a being/object) but about the bark/envelopment ("Bark": delimiting part of a body), the skin, the hair, what you see. Another prioritization of a part –the cortex– to the detriment of the whole, the body. Another symptom/manifestation of body **consciousness deficits**.

Personally, I find it nauseating to see a woman leaving the hairdresser but with an abject expression on her face and a deformed and twisted body. Old age also deserves its dignity, dignity that very few people know how to carry. On the contrary, it is a pleasure to see in a sports broadcast, athletics, skating, ... to enjoy efficient bodies and above **all their movements**.

Is the color of the skin unsightly? Perhaps the unsightly is the texture of an unhealthy, poorly aired skin, regardless of color. Or perhaps, the frequent skin effects of somatizing behavioral problems.

Is the smell of the skin unpleasant? If something is unpleasant it can only be the dirt or sweat it incorporates.

Is the skin unpleasant to the touch? Is there anything nicer to the touch than a baby's skin? It is one thing to put on substances to take care of the skin, another to want to replace it by covering it with any slippery and shiny substance.

The current abuse of **plastic surgery** is another indicator of the **non-acceptance** of one's own body. A concern only with external appearance, with what **others** see, not with our inner health, with what **we feel ourselves**. Another **symptom** of body consciousness deficit.

"FASHION" AND THE ART OF WALKING [.213]

Art is not painting, sculpture, music, ... Art is simply an "**expert way** of doing a process", any process. It can be an artist transplanting an organ in an operating room, driving a vehicle or pole vaulting. One of my favorite artists is a baker from the Pyrenees, where I go to buy bread whenever I can.

An often forgotten consequence of the definition of art is that **there are no bad artists**, there can only be good artists. He who does not know how to do it, is not even a bad artist, he is a barrower. An inaudible song or a distressing painting is not art, nor are the artists who made it.

Another consequence of the definition of art is that doing anything efficiently **can never be unsightly** (unless the "thing" is a botchedness). But if something is done wrong, it is more difficult for the way it is done to remain aesthetic. Aesthetics is largely a **matter of context**. The way a penguin or a duck walks is funny, endearing. But if it's done by a normal person, it's ridiculous (or if it's a good actor/mime, it's funny, precisely because of the imitative humorous context).

Equilibrium and the difficulty of walking well and even more of running well have been discussed (in "Equilibrium and postural consciousness" [.144]), and now again of body movements and "Fashion". For all this, a question is necessary: how can be a social reference, a pattern, as is the case with models on catwalks, a way of walking that is **unbalanced** (without separating the footsteps), **orthopedic** and consequently **ridiculous**? What bodily, postural consciousness can a person develop who rehearses such unnatural and useless movements for hours?

Walking can be an art, like carrying out any process. Why is it not the **first art** that each and every person tries to achieve? Isn't it one of the most basic and useful functions of man? Why aren't children taught to

walk at school? Are there no graduates and teachers in physical education*? Isn't it more important/prerequisite to walk properly than to know how to read well, write well, add and subtract well or multiply well? Is there justification for a supposed art —fashion— that ridicules a basic, vital art?

* It should strictly be called "Corporal Education".

BABY CARTS [.214]

Today it is common to see babies stuffed in almost armored artifacts, which hardly pass by the sidewalks and/or the corridors of commercial establishments. They only lack four-wheel drive and remote control (and climb the stairs by themselves, like the Japanese robots we are shown on TV news).

It is one of the ways in which modern parents today show their love for their children as soon as they can: not by paying attention to expenses. They show it to others, not to the baby, who still has many years to go before he feels loved through money. It has already been mentioned that the baby can only be loved in **person and actively, with dedicated time**, through touch, warmth, hearing, food, ... (because he can't even see properly). In short, through body language.

The **importance of equilibrium** in man has been highlighted, due to his bipedalism ([.144]). When the child is first helped to develop it, he first learns and develops the corresponding psychic faculties (and the neurological substrate that allows it, **cerebellum, interconnections**, ...). A child should be in constant imbalance, as happens to any old person years later. It is clear that an **imbalance within limits that allow him to exercise his precarious balance**, so that **little by little he improves it**.

Is tying a child to the leg of a table, or locking him in a room, or sedating him with sleeping pills, very different from prostrate him in a padded pram, a kind of premature coffin? If a baby has to sleep, it has to do it in a quiet place, without noise, not in the middle of the street. If he is awake, what he needs is **stimulation**, with an **equilibrium** provided.

What have Marsupials developed? Not a stroller, but the baby carrier. Like any African, Asian, Andean rucksack, ... When they can't follow the adults on their own, many baby mammals move around on their backs or hanging by themselves from their mother/father. Where better? What better **stimulus** than touch?

FOOTWEAR AND FOOT REFLEXOLOGY [.215]

The feet of all primates have a tendency **to open** from the ankles. It is even more **forced** in man because of his bipedalism. How can such an organ, like the one in the middle photo, be inserted into an instrument like the one on the left? Shouldn't all shoes be shaped more or less like the photo on the right? If a shoe is protection for the foot, how can it become an object of **deformation and torture**?

Collection of Bruno PAOLI Photos CUC 2007-09-24

What objective arguments are there to consider a useless instrument more aesthetic than a useful one? It is clear that aesthetics does **not** depend on form but on other things. A pointy thing can be as aesthetic or as unsightly as a rounded one. It's another matter.

Summer makes people show many parts of their body, hidden in winter. For example the feet. It is terrifying to see the many pathologies of the feet (deviations, toes mounted on top of others, corns and calluses, ...). Images that are **repugnant** to both hygiene and aesthetics. And this for a subjective aesthetic of showing off an external and foreign instrument to the body.

What levels of body consciousness can be expected from a person who is capable, not of ignoring his body, but of **torturing and mutilating** it?

Foot reflexology, origin of a second negative effect of inadequate footwear [.2150]

A question that is commonly asked of "men" is: "What do you look at most in a woman?", or "In what order?". Perhaps the most sincere and summarizing answer would be "everything that can be seen". Or better, "everything they let us see" (this last expression emphasizes the interactivity of the process).

The shape of the body is what is seen from a distance, and when you get closer, you can see the details (the breasts, the ass and the face). In my case, to the shape of the body I simultaneously add the way of walking, the way of moving, that is, the **body language**. And to the extent that I see the face —whether it is "beautiful" or not—, I add its expression, that is, the **facial language** (that "the face is the reflection of the soul", that is, the reflection of the psyche). But apart from what I see, as soon as I can, **I look at feet**. Why?

Because at the same time the foot nevertheless reflects the rest of the body. It is a phenomenon called "Foot reflexology". It deserves to be discussed in detail due to its impact on consciousness.

THE BASICS OF FOOT REFLEXOLOGY [.216]

Foot reflexology is another "Orient" therapeutic resource. The fact that it was also practiced by the American Indians may mean a double discovery, in Asia and America, or a very archaic discovery, prior to the migrations that took place across the Bering Strait, supposedly **36,000 years ago**.

But like everything of the Orient, there was no lack of Occidental reluctance to this phenomenon. The historical antecedents, of doctors, go back to 1580 (apparently, a publication of a certain BAEL, in Leipzig). Anatomical reflexes are incorporated as an **incontrovertible reality** of the human body (F. and W. HUNEKE in 1841; IW PAWLOW, Nobel Prize in 1904; H. HEAD, ...)*. Its connection to the sole of the foot is a logical consequence (W. FITZGERALD, 1872-1942). But as "occidental" science has not yet found a satisfactory explanation of the phenomenon, because of "...because we do not consider them scientists who..." [.030], even a doctor like N. GENTILE, in 1930 he was referring to this therapy with the "small mouth" ("... added to the other treatments..."). Today, it is often still considered an "alternative therapy."

* Reflexes are, however, one of the bases of the explanation of acupuncture.

At the very least, foot reflexology is no longer contested today, like for example the Freudian contribution (and we must not forget that FREUD was also a doctor). It may be because unlike the momentous social and moral consequences of FREUD, foot reflexology has no other consequence than therapeutic. So today we already find statements as forceful and common sense as "... any medical student learns first of all to tickle a child's foot to see his reactions ... BABINSKI'S signs and the signs important neurological ones start from the feet..." (GC DONADI, in "Reflexología del pie y medicina").

How is foot reflexology explained? [.2160]

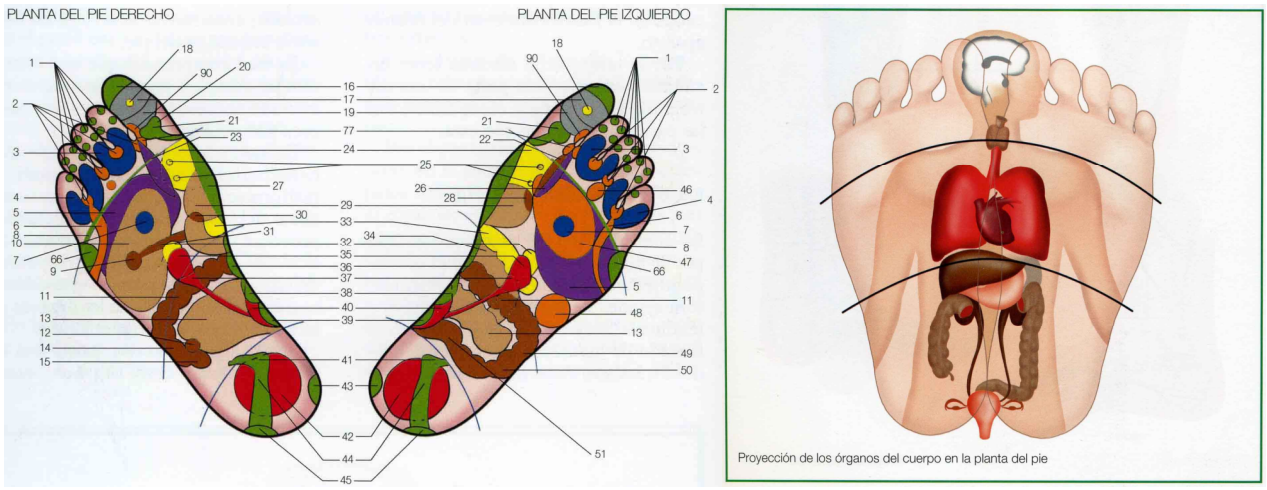
It is an obvious consequence:

- from symbolic systems to symbolic support of the psyche,

- of bipedal balance (see [.144]), and
- of evolution.

Everyone will have danced the "rock-and-roll" once, and quite a few the "twist". If someone hasn't, I'll explain. With the "twist" the hips and knees are moved with the arms close to the body at the same time that, as a reflex, automatic reaction, we relax the toes. In "rock" everything happens the opposite, by moving the whole body and extending the arms the toes are activated and even extended with jumps. It's a matter of balance: the lower the movement of the body, the less the ends of the feet and fingers work (case of the "twist"); when the movement of the body is higher, the ends of the feet and fingers work more (case of "rock").

The reader will immediately understand that bipedal equilibrium establishes a reflex motor relationship between the foot and the body. A relationship that is **symmetrical**, and **the point of symmetry is the ankle**. We already have a first part of the explanation. But the two most important ones are missing.



On the left, a projective diagram of the body on the soles of the feet. On the right, the exact location.
Source: D. PIAZZA and A. MAGLIO "Reflexology of the foot and hand" (Editorial de Vecchi, 2004)

Bipedalism and adaptive evolutionary changes have led to the current human foot, which is **more wider when farther** from the ankle: to try to compensate for the increasing "Momentum" of the forces that unbalance us*.

* The "Moment of a force", is a pedagogically obscure concept of elementary physics that is difficult for students to understand, because it is strictly **not** a force (the phenomenological cause), but an **effect** of that force, and consequently with dimensions different If this and the criterion [torsion] are explained, the concept is immediately understandable. And with it all the other effects, as amount of motion or linear momentum [where the criterion is speed], mechanical impulse [where the criterion is time] , ..., Another example of the phenomenological chaos of our education and culture. See "Demo física i química".

The irrefutable existence of reflexes has led to their incorporation into scientific doctrine, even though it is not known how they work or how they are genetically transmitted. With what has been said, it is clear that they work with some symbolic coding of the psyche, in no case with a direct material support (biochemical, ...). Heredity adds that they are genetically coded and that as stated in "The Psychic Transcription of Instincts" they must be incorporated into the psychic coding by some process of **transcription** [.13011]. There are two possibilities to investigate in the future, if:

- directly (the left vertical purple arrow at the base of the skyscraper of [.1302]), or
- indirectly through protein coding (the one on the right combined with the horizontal one).

It is nothing concrete, but it is much more than what was considered until today: as far as I know, today science does not consider any of this included in the global model of the psyche, or at least not as an important topic and with diffusion.

Physical agents (the ionizing radiations of the natural environment) and biochemicals cause continuous genetic mutations, in the sequences of DNA bases. The children with the most favorable/adaptive changes and which therefore survive more easily and reproduce more, set these changes in the species. In just over 100 million years there have been so many mutations/genetic changes as to form 18 phylogenetic orders and

thousands of different mammal species. In hominids, many DNA base sequences have been renewed in 4 MYears, possibly modifying all genes to a greater or lesser degree. We speak, approximately, of modifications in 20% of the genome (which is made up of tens of thousands of genes and billions of bases).

More specifically, in 4 MAy the anatomy of a primate species is radically modified with the appearance and consolidation of bipedalism, the equilibrium organs located in the inner ear are modified, new reflexes appear and at the same time brain triples its volume. It cannot be argued that with this significant and progressive increase in the brain (cerebrum and cerebellum) and all the other simultaneous changes, it has not been accompanied by any other qualitative neurological changes. For example, reflexes and their functionalities.

In other words, the reflex relationship between the foot and the body is not just a psychic function of symmetry acquired by psychomotor learning. It must necessarily be a previous genetically consolidated function, therefore transmitted, and which the psyche can develop more easily than otherwise*.

* An example is the hemispherectomy already mentioned at [.1304]. It has been shown that you can educate a child without half the brain (a neurological-material characteristic), but "with patience", that is, you can always go further if the child has the whole brain. Genetically established functions are neurological in nature, but allow for better mental management, like the already mentioned example of the expansion of a computer's processing memory by computer software.

Another good topic to investigate would be whether cats or cows –to say any quadruped–, enjoy foot reflexology as it exists in humans. It sure isn't. One more realization of this consolidation.

So we have the second part of the explanation: the functionality must have genetic **support**. We only lack the third and most important part of the explanation.

A basic concept of mathematical analysis* is the inverse function**. With what has already been said in "Math Inspiration" [.171], if this concept is understood in the baccalaureate or in the mathematics degree, it is for nothing else than the proliferation within the psyche of managements of this type. Effectively: the reflexes, the balance, ... And this is possible because of the repeatedly cited **versatility** of symbolic systems with symbolic support. It is **unthinkable** for a protein to suddenly perform the reverse function.

* As stated in [.17], mathematical analysis is strictly not a branch of mathematics such as algebra, geometry or topology, but as the name suggests, a combination of these applied to a specific question, in this case focused on functions differentiable
** See at "El kerigma del pensament": "Contrasts between inverse relation and inverse function" [.31A].

Another example will further aid the reader's understanding. The concept "virtual" is very degraded by the abuse and/or the incorrect application that is done from computing, but in elementary optics it is unequivocal. The image in the mirror, the image that is formed in the photo camera or video recorder, obviously exists, but it is not real, it is **virtual**. The only thing that is real is the photographed/filmed object. The image is like a reflection.

The psyche, as a structure of symbolic systems with symbolic support, is the paradigm of the management of information, of the management of images of all kinds, that is to say, of virtualities. Inverting a function (eg. a reflex) or an image is trivial. Turning again to computing, inversion (180º rotation, color, ...) is a basic option of any drawing or design program.

So we already have the latest and most basic explanation of the phenomenon of foot reflexology. If there is a functionality even more basic like this linked to equilibrium, the psyche allows the existence of its inverse. It is foot reflexology, according to which the appropriate stimuli in the sole of the foot stimulate the corresponding reflex/symmetric parts of the body.

ADDENDUM (2019-04-02)

Commenting with Fernando MENOR-FUSARO (Dr. Traumatologist) on the concept "Dermatoma" (the area of the skin innervated by a root or dorsal nerve of the spinal cord), he also explains to me the appearance of Herpes Zoster in a certain Dermatome, due to the transmission of the Varicella virus to this area, through the corresponding dorsal nerve from the medulla the spinal cord where the virus lives latently in the dorsal ganglion cells (in almost the entire population).

This process is interesting in order to differentiate it from what is made possible by foot reflexology, which has just been described. When we suffer trauma, displeasure or have unresolved psychic problems (emotional, ...), the frequent effect of psycho-somatizations on the skin is known. This frequent skin effect is understood by the direct, material-neurological relationship between the skin (Dermatome) and the neurological support of the psyche. The "why?" somatization occurs in a certain dermatome and not in another, that's another question.

In the case of foot reflexology, the relationship between the area of the sole of the foot and the corresponding reflex part of the body does not respond to any material-neurological transmitter means, but is possible due to the **versatility** of symbolic systems with symbolic support (it is say, to support not directly material), those that characterize the psyche. See the important concept of "Versatility" in: "The necessary versatility of the psyche. "The second rupture" [.130], "Psychomotricity" [.13012], "Consciousness-raising and versatility" [.1512], .."Mathematical inspiration" [.171], "Obesity" [.211], "A historical question. Expansion of the current scientific field" [.2161], etc.

Biological systems are specific (a single function), as is evident, for example, in proteins or the immune system. The complete opposite of psychic versatility (the very wrongly named plasticity, because plasticity is a much more limited material characteristic and totally insufficient to explain psychic versatility). Like the versatility of computer "software", where all kinds of different computer programs can be managed to manage information (which is represented by symbolic systems in symbolic support).

To understand it better, let's assume a computer (that works with symbolic systems with symbolic support, the computer languages) with which we can make all kinds of combinations/overlays due to their versatility, for example the extreme case of recent "Deep Fakes" (image manipulation). In foot reflexology, the stimulations of the sole of the foot superimpose their transit and destination according to the same path of reflex motor equilibrium relations between the feet and the rest of the body. Unlike dermatomes and their neurological root, in foot reflexology there **is no specific material connection between the corresponding reflex zones**. It is a **virtual** relationship, as in all information.

Finally, if you take into account that there are about 4 million years of evolution of our bipedal species (more than 100,000 generations), it is easy to think that these motor relations may even be incorporated into our genetic endowment , like any instinct. See "The Psychic Transcription of Instincts [.13011]", because instincts could not function at the slow speeds of biological DNA reading processes, only they can do it if they are transcribed and replicated in the psyche.

A historical question. Enlargement of the current scientific field [.2161]

The question "What are the bases of foot reflexology?" it is not among the 25 most important questions that science has to solve, or even among the first 125, at least in the opinion of the magazine "Science" (n. 309, July 2005). Opinions aside, the **historical reality** is that it is a question that health and medicine —and consequently science— has been asking for almost a **hundred years**.

If you understand what symbolic systems with symbolic support are, if you understand their versatility and the break it represents for traditional material science, you begin to understand many things —such as consciousness, foot reflexology or also acupuncture and the so-called "energy centers"*—, with which scientific understanding can be **extended** to any type of phenomenon, and **not only** to exclusively material ones. As with consciousness, foot reflexology **cannot be** understood from "biology" alone.

* Strictly speaking, they should be called "**Dual** Energy Centers" in the strict algebraic conceptualization of "dual", or simply "Chakras", because it is clear that energy is energy and nothing else. They are **not energy centers strictly speaking**, but reflex centers of **control**, reflex centers of **stimulation** of motor-energetic activity. Nor from the "Occident" can you understand what this phenomenon is, an existing but **inexplicable phenomenon** if you don't understand the rupture that the already mentioned duality supposes. But that is another matter.

Shoes, foot reflexology and consciousness [.2162]

Having finished the parenthesis of foot reflexology, the reader can already imagine what follows if he observes that the toes correspond precisely to the cranial vault and the brain, to the eyes, to the ear, ... in short to all the sensory/sensitive, perceptive, sentimental functions (including **consciousness-raising**, which

as has been seen is the **most powerful** faculty/functionality and which entails the **most management requirements**), and thinking. If this phenomenon allows the body to be stimulated from the feet, from the deformation and repression of the fingers, **the opposite** must be expected in the corresponding parts and functionalities that it reflects: a global repression of **all of them**.

A conclusion as unexpected and surprising as it **is true** at the same time. The second effect advanced in "Foot reflexology, origin of a second negative effect of inadequate footwear" [.2150]. And another "occidental" habit*, repressor of consciousness, or at the very least, that does not favor it. And they go...

* Similar oppressive habits of the feet occur traditionally in Japan and China. It is clear that the interpretation that has been given here to "oriental" and "occidental" is not geographical, but of cultural attitudes.

The high heels [.2163]

High heels, of more than 3 centimeters, are too tempting a temptation for a woman, much more so if they are a women short. No direct consequence for consciousness follows from its use, unless you would like to be taller, something that almost everyone (except excessively tall people) would want. Another thing is the postural effects. The use of high heels **reverses** the functions in the ankle lever — end of the feet. Abusive/exclusive use of high-heeled shoes **shortens** the Achilles tendon, making a **compensatory chain reaction** in all the upper joints, until it progressively unequilibrium the spine, especially its **lumbar region**.

A person used to only wearing shoes with high heels finds it uncomfortable to walk without them, for the simple reason that he has the beginning of atrophy of the ligaments. It's a matter of "**dependency**", like any drug.

The shape of the shoe at the front and the heels of the shoes are two different and independent characteristics. Heeled shoes don't necessarily have to be pointy. To my taste, the most aesthetic heel shoes are those with straps, which leave all the toes **completely free** and at the same time **visible**.

The relationship of high heels with consciousness appears when, in addition, the footwear is pointed. If a high heel is **added** to footwear that puts pressure on the toes, the pressure is **increased even more**.

Partial corollary (about foot reflexology) [.2164]

From [.144] and of all this [.216], it will be trivial for the reader to deduce that running barefoot and on the sand –for example by the sea– is one of the most beneficial body exercises there is. Exercising the body while receiving a foot massage. And also "Touch the ground with your feet".

Global corollary (about "fashion") [.2165]

Clothing (including shoes), make-up, hairdressing, ... even **food**, have ended up becoming strategies to **hide** the body, to **ignore it**. To **evade** one's conscience.

THE DISEASE [.217]

In 1946, the WHO defined Health as:

> "The complete state of physical, mental and social well-being, **and not just the absence of disease**".

At the "X Congress of Doctors and Biologists in Catalan" in Perpignan (1976), Jordi GOL presented the definition of:

> "Health is a quality of life or a way of living that is **autonomous, supportive and joyful**, which means that it is **dynamic**".

That is, having **sufficient personal autonomy** to be able to carry out our life project (autonomy both physical, mental and of certain social, economic, etc.); **supportive**, in the sense of having it with equity, without social inequalities, with the environment, etc.; and **happy, joyful**, optimism, with hope".

But the truth is that until very recently, the concept of "Mental Health" has not been used frequently, and curiously has become popular in the sports field, where it can be thought that the health of its practitioners is maximum supossed.

We associate illness with a negative and undesirable state, of imequilibrium, an altered state, a disorder, produced by external agents, infectious, infestation, invasive, pollutants, ... against which we try to fight.

As seen ("System concept, versus trivialization and banalization" [.201]), man tends to a trivializing **egocentrism**. If there is something positive (knowledge and understanding, discovery, creation, ..., mathematics, ...) it is the exclusive origin. But on the contrary, if there is something negative, it is man who excludes himself and distances himself from any causal participation. Today genetics is still contributing more to this trivialization*: the cause of the disease is the genes of our parents, grandparents and any prehistoric ancestors, never ourselves. The case of obesity has already been discussed ([.211]), any justification is sought before accepting that one eats more than necessary.

* See the Annex of the "Correspondence of August 14/15, 2007", in the writing on "L'exactitud a les ciències".

But there are hygienist tendencies that give another perspective that **complements and improves** the egocentric conception –and the resulting medical over-interventionism– of the disease.

There is no need to deny the external agents already mentioned, directly involved in the disease –that would be totally absurd–, causality is complemented by the intervention of the body's own consciousness. As the most previous cause, the disease is a **reaction of the body**, of protest, of "strike", to its **abandonment**, to the lack and/or deprivation of vital exercise that is required by the social and professional life of the person and/or because of their unsanitary hygienic habits. Illness as a complaint, as a vindication of the misuse we make of our body. As **a forced recollection through illness** to **restore** the dedication, **self-attention** and prominence that our body deserves.

That is why infection or imbalance appears, simply because **unconsciously and sensorially** it is allowed. As if to "make a fist" as a manifestation of bodily protest.

Illness **as a symptom of a deeper cause**, not as a disorder in itself.

It may even seem like a poetic, romantic vision. It may seem like a simple conjecture, commonplace but fanciful. In addition, it is added that this implies accepting a "non-scientific", Freudian phenomenon, such as psycho-somatization. But despite what it may seem, the arguments are there:

- First of all, it has a basis of common sense, because it is clear that the lack of use **diminishes** any vital functionality, as vice versa, its use develops/strengthens it. It is common sense that the decrease in body consciousness must leave the body in a state of **weakness**. And strictly speaking, illness is nothing more than an inability to **maintain the precarious equilibrium** that characterizes the complex and fragile living being, and the inefficiency in its struggle to **maintain its identity** over time, in a hostile environment.

- Secondly, because it can be **demostrated** that the appearance of the disease is an **inverse function** of the level of body consciousness, assuming, obviously, equality in other circumstances. The **more** body consciousness-raising, the **less** chance of disease. The **less** body consciousness-raising the **greater** the likelihood of disease. And for all that has already been said, the relationship may **extend** to consciousness-raising in general. The **more** consciousness-raising, the **less** chance of disease. The **less** consciousness-raising the **more** likely diseases. In mathematical expression that everyone will understand:

Improbability of occurrence of the disease = **f**(level of consciousness-raising)

Probability of occurrence of the disease = **f**(Consciousness-raising deficits)

It would be very easy to do a study with a population group, better when larger and when more homogeneous, and a small selection of expert psychoanalysts, which collectively* establish a score, for example from 1 to 10, of the level of consciousness of each individual. The assessment could also be duplicated with another independent assessment of body consciousness by a select group of Buddhist/Zen monks**. From there, it would just be a matter of sitting back and waiting a bit.

* It could even be restricted to individuals in whom the grade/rating assigned by each and every measuring psychoanalyst has coincided. A much more reliable requirement than excluding the highest and lowest score and averaging the rest.
** It would be an unbeatable opportunity, at the same time, to **determine the correlation** between body consciousness and factual/intellectual consciousness-raising already mentioned.

But this is where the insurmountable problems appear, due to the accumulation of **formal problems**. A study like this would **not** be publishable in "scientific" journals (such as "Science" or "Nature"), because it does not respect the imposed formalisms for the orthodoxy of the "scientific community":

- The first problem lies in the very undefinition of consciousness (remember CONDITIONS 1 of the first part [.034]). The problem is, how can the scientific community agree to measure consciousness if it doesn't even know what exactly it is (whether a protein, a feeling or a spirituality), or what components it has?
- Psycho-somatization (and the reverse phenomenon, somatic psychization) was described 100 years ago by FREUD, but they are not considered scientific phenomena, "…*car nous ne considerons comme scientifiques que*…".
- Consequence derived from the above is at the same time, the non-recognition of psychoanalysts, a kind of tribal sorcerers in a modern version.
- The final consequence would be the non-"homologation" of the assigned measure, and without a measure empiricism is not accepted, there is no valid article. It is clear that the material has dimensions, but is the virtual measurable with material dimensions?

As stated in the Introduction ("Empiricism and Consciousness" [.036]), science should be aware that the limits of science are not in science, but **in the scientist**, in his human limitations of understanding and in the limited scientific methodology he uses. It is forgotten that **each and every** scientific discovery has meant increasing previously existing understanding, or improving previously existing methodology, or both at the same time.

It is said that statistics are there to change them: they are only the fossilization of a past that will be renewed with the present. Like orthodoxy. Orthodoxy is what is already known, but what needs to be discovered, what resists being known, must therefore be in heterodoxy. Therefore, if there is **no tolerance** (remember the conditions explained in "System..." [.201]), if there is no **curiosity** that allows overcoming the comfort of orthodoxy, no scientific progress is possible.

Do you need a demonstration of gravity? Of course not, it's a reality. If someone denies it, that's their problem. The only thing that needs to be demonstrated –with an empirical check in this case– is the correctness of the formulas that represent the behavior of the phenomenon. The inability to perceive a phenomenon is not a problem with the phenomenon, much less invalidates it, it is only a limitation of the observer. At the beginning, new discoveries are almost always denied, especially when they are more transcendent and modifying orthodoxy, **simply because they are not understood**, because there **is not enough cognitive sensitivity** to perceive them.

The discoveries are intrinsically anti-democratic, **one against the rest of the world**. The antithesis of the "ad hominem" and "ad populum" fallacies.

Who would need this correlating study of consciousness deficits and disease, will not do so because of the supposed inaccuracy/heterodoxy of the study. And who could do it, he doesn't need it, it's unnecessary. For a good psychoanalyst or a qualified Zen monk, it is simply a reality, an immediate and repeated empiricism, even an empiricism **of oneself**.

Isn't the life of people with their individual and social behaviors, the closest **empiricism** we have? Isn't personal experience even closer, than as stated in the "Introduction" [.036] is it the **only one possible** in the case of consciousness?

Material science and even the science of symbolic systems with material support (genetics) need some kind of laboratory and instruments to experiment with. The advantage of psychology is that often neither a laboratory nor a clinical study is necessary. The individuals that surround us everywhere are like the **samples** of a **giant laboratory**, the laboratory that is society.

I often remember, about twenty-five years ago, that I met a person "A" for work reasons. She herself saw fit to inform me that she was being treated by a relative of mine proper "C", psychiatrist, for a matter that did not affect her work performance. "A" was afraid that I might accidentally find out myself and misinterpret the fact that I was undergoing psychiatric treatment. It was completely unnecessary because I clearly separate private life from work, and even more so from work performance. But that got me curious.

It turned out that "A" was obsessed with the fact that she had a serious and deadly disease, and that the doctors who treated her were hiding it from her, so as not to scare her. She was convinced that she would suddenly die any day. I even argued with him ("C"), that it was not appropriate to medicate her but rather to refer her to a good psychologist or psychoanalyst, which **significantly upset him**.

One day "A", died within 24 hours with an acute febrile process. He was very worried my familiar "C"* that he was only concerned to know the result of the autopsy. When he learned that he had died of a certain infectious process (a septicemia) he was able to sleep peacefully: according to him it had all been a fortuitous coincidence, like those that happen by simple chance from time to time in football pools or the lottery. Obviously, a serious misinterpretation of "C" due to his apriorisms and his knowledge limitations.

* Also dead today, committed suicide in a voluntary/**conscious** car accident.

What worried "C" as a psychiatrist? Well, that it would not have been accidental, that a combined psychosomatization was possible. Well, it was possible. And what is also clear enough, moreover, is that an appropriate, non-psychiatric treatment of "A", would possibly have cured his obsession and thereby prevented his **unconscious suicide**.

CAN THE BASE OF CONSCIOUSNESS BE BIOLOGICAL?, CAN IT BE QUANTUM? [.30]

The answer has already been given implicitly and explicitly, both actively and passively, throughout the text. But some thoughts are added.

THE TRAP OF SYNAPSES AND NEUROLOGY [.300]

Any book about knowledge, about intelligence, and even today about happiness, necessarily talks about synapses and about some details of the chemical processes that take place, with a few drawings as brilliant or brighter than those previously seen about muscles nerves and bones.

ADDENDA-2 (2025-05-15)

Synapses are basic to neurology, without a doubt. The problem lies in the fact that neurology does not know how they work. Traditional biological theses of neurotransmitters have never provided any explanation for knowledge, intelligence or consciousness. An eminent Colombian-American neurologist with Catalan roots (his surname is that of a town in the Catalan region of Vallès), which was mentioned could be the Nobel Prize in Medicine in 2011, Rodolfo LLINÁS, because it clearly dismantled the traditional biochemical justification, but without being able to provide a solution to the problem. But today, many neurologists continue to try this dead end.

Taking advantage of the isolation of the CoVid pandemic in 2020, I thought of taking advantage of it to rewrite some writings from 1996 on knowledge, which due to its non-traditional approach ·like that of Consciousness· I had not yet managed to publish, despite having a computer simulator that demonstrated the correctness of my theory. Being necessarily interdisciplinary (psychology, semantics and intrinsic semiology, mathematics, language, biology, computer science, ...) and implying a drastic change in scientific paradigm, it did not fit into the usual specific scientific "niches".

It seemed to me that an exhibition by the years in which the various cognitive faculties of children were appearing, something easily verifiable by any expert educator, would facilitate their understanding, despite the great change in paradigm that it implied. Thus I wrote "The knowledge of children at 2 years old", "The knowledge of children at 3 years old", "... at 6 years old", "... at 10 years old".

In "... at 3-year-old", when I asked for more detailed information about a Freudian concept that was consistent with my research, I learned about FREUD's "The project of psychology". His first writings, from the end of the 19th century, that were published and are preserved – in the strictly biological and neurological field – show that he anticipated the discoveries of RAMÓN y CAJAL that earned him the Nobel Prize in 1906. But when FREUD he did not progress from biochemistry with the mental problems that primarily interested him, he chose to jump to the perspective for which he is known. This is how he wrote to his friend Martha BERNAYS in a letter dated 1882-06-27:

"In front of me, ..., something boils and gas bubbles form, and I have to take care of it. Two thirds [of my time] ... consist of waiting..."

That is why he destroyed all his initial works. Fortunately, in 1895, he wrote to his friend FLIESS in a very long letter, a summary of his intuitions that he had not been able to develop (obviously due to the very limited knowledge still available in those years) which was therefore saved from destruction. The letter was discovered in 1950 and was christened "Entwurf einer Psycologie", because it can precisely be considered a "project" that lays the foundations of what psychology is today.

I felt obliged to acknowledge the genius of FREUD in "The knowledge of children at 3 years old", so that a century ago he already perfectly intuited the functioning of many faculties of the psyche. And more specifically, as I explain in detail he **also anticipated the functioning of synapses**, **going a century earlier,** beyond what LLINÁS attempted.

Synapses are not synapses (contacts) as they have been **incorrectly called** since their discovery 105 years ago. They are **contact barriers**, "Contactschranke" as FREUD **intuited them 130 years ago, 25 before they were discovered**. That is to say, "**switches**" on the passage of psychic signals, which can contact, or not. The barrier (neurotransmitters) is a simple remote-controlled automatism. That is why the barrier itself, by itself, **does not explain anything**. So, remote-controlled by what? Well, from the orders they receive from the unconscious of the psyche, the concept of "Bhanung", badly translated as "Facilitation" in Catalan and Spanish languages, because strictly speaking it is "the psychic process of selectively recovering elements of memory". Like the "tele-tack" that from the car automatically opens the barriers of toll highways. **!The psyche controlling the physiological!**

I therefore consider **that read this article to be of the utmost interest.**

CONSCIOUSNESS AND QUANTUM MECHANICS [.301]

If we cannot speak of a biological "base", even less of a quantum base of consciousness. It is clear that objects are made up of substances, substances out of molecules, molecules out of atoms and atoms out of physical particles (whose behavior quantum mechanics tries to describe), but that's not it. From this perspective everything is based on the "quantum". But no one thinks of describing the characteristics of a car or a refrigerator in terms of quantum mechanics...

In the case of consciousness even less, due to the break already mentioned between the biological (mostly describable from symbolic systems with material support) and the psychic (only describable from symbolic systems with symbolic support). The biological is material, tangible, real. The psyche is virtual, like any language.

The transferability of methodological elements has been discussed [.1410], which allows methodologies to "jump" from the material to the symbolic. And from the symbolic to material support to the symbolic to symbolic support. But "Base" and "transferred" are different things. Precisely, the "bases" of consciousness are the transferability of methodological elements (the move from the sensitive to the sentimental to the intellectual) and versatility.

If we intend to establish relationships between different material structures and even more between material structures and psychic/virtual structures, they can only be established through the phenomenon of "Transferability of methodological elements" (like the "replica" already seen in [.122]) and in the field of "Intrinsic Semiology", concepts, both, today still unknown by the scientific community. You only need to look for them - in vain - in some scientific journal.

Recommendation on quantum mechanics [.3010]

Whoever wants to find relationships between phenomena of the psyche and quantum mechanics, could dedicate himself to looking for the physical support of the transmission of telepathy (because it most likely has to be a wave support), which is indeed very close to the field of quantum mechanics. Anything other than that is unlikely to lead anywhere.

ADDENDUM-3 (2025-05-15) As mentioned in ADDENDUM-1 about my recent articles (2023) on theoretical physics and "Quantum", today it can be stated that "Quantum Mechanics" is a very incorrect name, since strictly speaking Quantum **has nothing to do with mechanics or matter** (as I was taught at University more than 50 years ago), but is only **non-material** information and energy. As already mentioned, see the viXra pre-print (https://vixra.org/author/carles_udina_i_cobo), and the most compelling of them: "Uncovering the Numerous Manifestations..." in English and Spanish-Castillian https://vixra.org/abs/2309.0089 published in the "Journal of Physics & Astronomy" (TSPA) 2023 Vol11(8).

A FEW PERSONAL MARGINAL REFLECTIONS [.31]

ROBOTICS [.310]

What has been explained about psychomotricity ([.13]), makes this first reflection appropriate.

Today, news of robotic gadgets that walk and climb stairs are commonplace. How many mobile elements do they have? How many signals do they require to move them? Today they may already have a few dozen and with time they will reach hundreds and maybe thousands. The problem is both the mechanical part, as well as the IT part to manage the mechanical part. And what? In any case, it is ridiculous about a single muscle.

Automations are very useful. Thanks to them, for several centuries man has been able to **free** himself from inefficient work and continuously **increase** his leisure time. Automation is in all widgets, in the productive industry, services, everywhere. They are the **key** to the current level of civilization. Despite its necessity when it has a practical application, it is also necessary to ask whether it is not a futility to try to emulate the functioning of the human body just for the sake of doing so.

In my opinion it is a simple sexist manifestation. The male-man is "superior" to the women-man, but only in muscular power. That is why the social model has traditionally been based on this characteristic, on strength. In almost all the others it is at a disadvantage: organic resistance, intuitiveness and, as you are seeing with surprise, even intelligence.

But above all the male man is at a disadvantage in a faculty that is denied to him by definition: pro**creation**. to see [.142].

Maybe this alone is enough to explain the "creative" need of the male: in large part due to the frustration of not being able to create naturally like the women-man. The "creative" reaction to this frustration has already gone well, for technology, for the arts, ... but perhaps sometimes it leads to absurd attitudes.

We will see an example below [.311]. Before, continuing with the automatisms, what justification is there to regrettably waste time trying to emulate some human automatisms just for the sake of doing it, with how entertaining it is to "work" to beget a child (especially without the risk of having- lo, if not desired)?

Morality and the "good - bad" dichotomy already discussed ("Concept of system..." [.201]) **unconsciously** leads to absurd approaches such as making moral evaluations of objects and processes. Are the automatisms good? Another type of question that in schools should be taught not to ask (like the already discussed "What is the biological basis of consciousness?").

The only thing that is correct to ask is "Is such automation useful in replacing which process?", "What advantages/disadvantages does it present?", etc. etc.

"IN VITRO" PREGNANCY [.311]

In "Perineal Consciousness" [.142] and a few lines above [.310], the pejorative opinion of some scientists about childbirth has been commented on, while their proposal of pregnancy "in vitro" to avoid it.

It must be clarified first of all that this has little to do with "in vitro" fertilization, which is only an intervention at the initial moment of pregnancy: at conception. After the instant of conception there are still nine months of instants until delivery. In the first weeks of pregnancy, the fetus does not yet have a nervous system, so the mother-fetus relationship is exclusively vegetative (another thing is that the mother, individually, is particularly transcendent about the new state). But little by little, as the nervous system matures, the mother-fetus interaction becomes more and **more transcendent**. An also priceless book, a must-read (although it is also not in a scientific "format") is "The secret life of the child before birth" by Thomas VERNI and John KELLY. Everyone knows the problems, deficits and disadvantages posed by premature births, which precisely shorten the last weeks of pregnancy, the most important for defining the child's temperament and character, **regardless** of genetic characteristics.

The problem that the proliferation of "in vitro" fertilization can pose is another, the **weakening** of the species that it can lead to in the long term, due to its anti-evolutionary nature.

Returning to "in vitro" pregnancy, it seems clear in this case, that the male-man's frustration at not being able to "create" life (see [.142]), instead of generating a positive reaction of creating something else –intellectual, technological or artistic–, a **sick reaction of envy** appears, trying to **prevent** the intrinsically creative faculty of the hungry man, the reaction of trying to prevent the 'pregnancy of the women-man.

This is not the case here, but from a psychological perspective, cases of people like these, if they were studied clinically, could provide a lot of information about the **consequences in adults** of serious affective problems in the fetus, in the newborn and /or in the child (undesirability, abandonment, deficits and/or emotional abuse, unresolved Oedipus with the mother, ...).

It is also very likely that these people do not have the slightest consciousness of what consciousness is, nor of the complex process of its attainment.

ARTIFICIAL INTELLIGENCE [.312]

Intelligence **is a non-emotional, relational feeling applied to knowledge**. This is not the time to go into this definition here (it would take a few pages, perhaps not many less than those of this writing). I explain this in detail in "Que es la inteligencia?" (2008, 37 pages)

The important thing is that it is a feeling, like consciousness and consciousness-rasing, but also **very different**.

If consciousness was characterized, differentiating itself from other feelings, by the self-application it entails, intelligence also has its own characteristic. It is a feeling that interacts with any faculty of the psyche. It is a case analogous to the interaction of the photon with matter: it is not material but it has the property of interacting and manifesting effects with any material level: it ionizes, decomposes, heats, illuminates, ...

That's why talking about "multiple intelligences" is nonsense [.02], is to underestimate the most precious characteristic of intelligence: its versatility.

Similarly, trying to computerize intelligence —as was done in the 80s*— is another nonsense, a stupidity. We can't even try today, because it's a feeling. Pretending to do so indicates ignorance and even irresponsibility to condemn to failure the human and economic resources devoted to it.

* As stated in [.032], after the failure of 1992, what today is called "Artificial Intelligence" has nothing to do with intelligence. They are simple automatisms or recognition of images (visual, sound, ...), vegetative and sensitive faculties that have existed for hundreds of millions of years, present in Phylum such as Octopoda and Arthropoda, far from the emergence of intelligence in higher mammals.

No one has considered computerizing a mathematician and it would be much simpler. Why? Because ultimately mathematical information is limited, it is all in a limited number of writings. It would only be necessary to program the computer simulation of mathematical reasoning and understanding to handle this information from books and magazines. It can be difficult, but thinking is ultimately very simple, it has very few structural levels. With an accurate conceptual system, logical programming and patience, it would only be a matter of time.

But unlike trying to computerize a "mathematician", trying to do it with a feeling —be it affective, be it integrative like consciousness, be cognitive like intelligence, ...— a double problem appears:

- We have "no idea" what the symbolic processes are by which feelings are governed (not even the codification in which they are supported, even worse, the current scientific orthodoxy has not even considered it), so neither we can consider trying to simulate any feeling;
- Even if this were known, there is a worse problem, of a practical/quantitative nature. What is the information that will need to be available to be managed by the previous feelings simulator? How do we enter it into the computer? How many "Megues", "Gigues" or "Teres" of hard disk will be needed?

I insist, reasoning could be simulated, it would be "Artificial Reasoning", but feelings, not.

Another option would be much more reasonable and easier. Much cheaper and much more useful. Select the most intelligent men in the world (which would mean, among others, agree on the concept of what intelligence is, bury the current intelligence tests and design others that do not they would have nothing to do). Once chosen, ask them about the big problems that arise and take into account their answers. In a way, like the councils of elders in the tribes, but well done (nothing to do with the "Committee of wise men" that politicians promote).

Personally, I still think of another, even more reasonable option: to stimulate the development of children's intelligence, avoiding the current repeated cultural repressions, among others, drastically modifying our current nefarious education systems.

ADDENDA-4 (2025-06-20) In this and other articles I repeatedly talk about the **so-called** Artificial Intelligence, because it **has very little to do** with strict Intelligence, and even very little with Artificial Reasoning due to its "hallucinations". A failure that must be remembered is that of the "World Brain Map Project" with the claim that "the brain is the only part of the body that we do not know how it works" (R. YUSTE). Even in 2014 it obtained the support of the President of the USA, OBAMA, and millions of resources have been invested. The problem with the approach is that **much is known** about the brain, as with all material, whether inert or living, **what is not known is the psyche** as has been explained throughout this article, and by studying the brain you will **never** be able to know anything about human behavior and its faculties.

Concerned about this error, and insisting as much as I could on my explanation, a few years ago I sent this article to several scientists, including an acquaintance of mine, a professor in AI applied to medicine. A few days ago I received an e-mail from him saying:

> "the Brain projects have **not given us** a solid theory about consciousness (or about other, non-trivial topics)."

ARTIFICIAL LIFE [.313]

Fortunately, no one has yet thought of computerizing consciousness. But curiously, they are trying to create artificial life. Since "strong" artificial intelligence ("AI") is no longer sold today, no one believes it, they try to bribe the staff on the other hand.

What happened in the 1980s with AI is repeated: it also does not begin to define what is life? What processes are intended to be computerized in life? everyone?

Depending on how you look at it, this has already been done: biochemists have already synthesized carbon bases, nucleic acids, proteins, ... If a few of these molecules are isolated from current life and sent to an inert environment but adequate, it will repeat the same process that life has already done. Of course, you will have to be patient...

The problem is one that has always puzzled biologists and biochemists: there are no variants within life. Kingdoms and species have diversified extraordinarily, but always based on the same biochemical pattern.

Then what is needed is to find a different but analogous life, not on nucleic acids and proteins (and water), but on something similar but different. For example based on another type of molecule, or even better, based on other atoms, for example based on silicon instead of carbon...

Simulating it on the computer, a virtuality, is a farce, it is nothing associable to life, with **inexcusable** material characteristics.

Let them try it if they want, but in their free time, in the afternoons and during the weekends. But not with public resources when human life on our planet is so precarious and when we are putting life in general in danger.

ADDENDA-5 (2025-06-23) Directly related to the creation of life is its **origin**, but this phenomenological origin is usually **confused with the place** from which it came to Earth, if it was not the Earth itself.

The place is anecdotal, strictly a curiosity, what is important is the phenomenological process that originated it, regardless of the place or places where it happened. And this is what the article "Universal Science: Information Transfers Processes" (https://vixra.org/abs/2305.0181) of the collection already commented on (https://vixra.org/author/carles_udina_i_cobo) deals with.

Wherever it was, the information that supports life results **from the transfer of pre-material/quantum information underlying physics**, as I summarize to Nobel Prize winner MONTAGNIER, (https://www.sistemaconceptual.org/pdf/LucMONTAGNIERENG20100318.pdf) in a letter in 2010.

The interest of the article, however, is also to resolve the dilemma of **what is time?** (an elusive concept for philosophers and the scientific community, especially physicists), as well as explaining **the transfer of genetic information to psychic information**, discussed here.

CONSCIOUSNESS OF THE "RESPONSIBILITY OF SOCIAL PRESTIGE" [.314]

I owe a friend* an almost unknown but especially important concept: the "responsibility of social prestige". The terminological composition is self-defining, self-explanatory. It is a common sense concept, but as is commonly said, common sense is the least common of the senses.

* Esteve PETIT i LLONGUERES, who died in an accident shortly after, everything indicates that it was an **unconscious suicide**.

Apart from ignorance of this important concept, the resulting problem is that **there is no consciousness** of this concept.

If a person achieves social prestige, it means that he receives benefits, advantages with inequality compared to the rest of normal people. These benefits are ceded by society but should continue to be concurrent with their collective interests. They should not be used unilaterally only for their own benefit and even less against the social interest.

Usually this is not the case because recognition and fame often leads to the degradation of the person. The televisions are a continuous showcase of these people and at the same time stimulators of the phenomenon. But it is not only a problem of millionaires, folklorists or the like. It covers anyone: from the political, business, institutional, scientific, ... (N.T.: I don't say anything about "influencers").

It may be this last area, the scientific one, is where it is less justifiable. I'm leaving aside the thorny issue of the important part of the scientific community that directly or indirectly work for the arms industry: something has to be lived on.

But if there is no workplace problem, how can a scientist, what is a supposedly cultured person who is informed and knowledgeable, start making public statements about scientific fields that are foreign to his knowledge? Taking into account only the information about hemispherectomy (and we have seen many other similarly excluding information) how can it be defended "from science" that consciousness has a biological basis?

For convenience and/or personal limitations or views, a scientist can isolate himself, if he wants, in his small area of erudition and ignore the rest. There is no need to look further or read other magazines or books than those in your specialty. Everyone does what they want. But then you have to be consistent, not talking about anything but yours and always listen to the rest. Never start talking and asserting everything you don't know. Even less taking advantage of the audience that social prestige can give

ADDENDUM (2007-12-01)

Months after writing all this, I learn of some manifestations that it is inevitable to comment in relation to the criterion of H. R. HERTZ and this part [.314]. An award-winning physicist took advantage of his prestige to state that, due to quantum mechanics:

"Reality **only exists** when you are aware of it"

reaffirming himself and with insistence with the interviewing journalist. In other words, the planet Mercury, to give just one example, began to exist suddenly, in antiquity, when some astrologer-astronomer discovered it. But more than that, it begins a new, parallel existence every time a schoolboy is taught that it is the first planet in the solar system. The inscrutable mystery of the Holy Trinity –that they are three, but that they are not three but one– is nothing compared to this statement. This is explained by two reasons (or both in combination):

- that the statement is no more than a sample of **functional illiteracy** (knowing speech and writing, but not knowing how to use them usefully), in this case to confuse concepts as basic as "existence" and "reality", since the latter is included, by definition, in the former. "Reality" cannot not exist, because with "virtuality" it is all that exists. "Reality" and "Virtuality" are **mutually complementary** within the "existential". A normal person does not have to know that "Existence" is the strict union of reality and virtuality. But it is obligatory for someone who has studied a minimum of mathematics, assuming that he has understood them minimally. Even many readers know the sign"∃" (a turned E), which means "exists" ("if ∃ such, then which..."; "if such is fulfilled ... then ∃ which one"). Everyone knows that in mathematics there are only virtualities, we can't touch anything, there is nothing real because what it does precisely is **represented** in reality (and representation is a mental/virtual operation). But even though it is not real/tangible no one doubts that mathematics exists and hence the sign ∃ it's everywhere If someone says "Reality only exists" it means that they have not even understood the conceptual basis of mathematics, because, by definition, if there is reality there is already existence. How to say "Paris is only in France when I go there on a trip". And a physicist must be clear about the most basic classical optics, the difference between real (objects) and virtual (images).

- as explained in the "...Zero Principle" [.36] from another more recent writing "¿Qué es la inteligencia?", it can also be a absurd manifestation. HEISENBERG was, indisputably, a brilliant physicist. He also said: "I think the trajectory exists from the moment we observe it." But it's an opinion, regardless of whether it could turn out to be true or not*. What **cannot be done is to decontextualize** this manifestation, bring it to macroscopic reality and **ridicule** HEISENBERG himself by saying: " Reality **only exists** when...". The same can be said of his "rival" SCHRÖDINGER. I always understood the "Paradox of the cat" as this, as a "paradox", a **sincere, honest and humble manifestation** of the **misunderstanding** of some phenomena that on the other hand he was able to describe empirically and in a brilliant way (the wave formulation of quantum mechanics). In real life, in science, having the certainty of a fact/phenomenon **has nothing to do** with understanding why it could have happened. A paradox, that is to say, a misunderstanding, which later other people take as a valid reference, as a fundamental axiom, from which they infer new, equally absurd axioms, such as that of consciousness, or more generally **nihilism**.

* N. T. 2025-06-22: It is **totally true**, I explain it in detail in "Quantum Information Processing Time Vs. Relativistic Dilatation: a Necessary Paradigm Change, for Relativity and Also Quantum Physics.", pp 14 & 15 (https://vixra.org/pdf/2306.0122v2.pdf) of the collection already commented on (https://vixra.org/author/carles_udina_i_cobo).

CYBERNETICS, LINGUISTICS, ... OR SYMBOLIC SYSTEMS? [.32]

CYBERNETICS [.320]

I've talked about languages, I've talked about information, and I've talked about organization, all of which are familiar concepts. But I didn't talk about "Cybernetics". It is not a forgetfulness, because from the perspective with which it is traditionally considered, we do not need it for anything here either. Like biology and/or neurology (including especially psychiatry). Even if it might bother someone, that's it.

THE "TRANSPARENCY" OF THE LINGUISTIC SIGN [.321]

Linguists call "transparent" linguistic signs that evoke what it represents. For example, saying "Moooo" instead of "Cow", or "Meow" instead of "Cat".

As if the sign were transparent, letting you see or hear what is behind it, what it represents. All hieroglyphic writing attempts to be transparent. The current "icons", so prolific in computing, try to be hieroglyphic signs and consequently transparent.

What should be clarified first is that transparent signs can only be such, if the concept is sensitive*, and consequently its possible usefulness is limited to these concepts. For example, to unequivocally represent "Strategy", a video may or would not be sufficient, let alone an icon. Why? Because it belongs to level four of thought, that of **level of method**, a level very **different**, far above the first level of concepts, the sensitive concepts..

* A class of concepts intrinsically different from other more complex classes of concepts, all of which can be found in "El kerigma del pensament".

Ignorance of the levels of thought, ignorance of the intrinsic differences between sensitive concepts and composite concepts, knowledge and methods, causes linguists to obsess over questions about "Transparency", and/or get confused in their analyses. See for example "Some errors... Translation and comments on figure 2.2 of 'The symbolic species: the co-evolution of language, and the human brain' (by Terrence W. DEACON)" in my article "Triptic".

Another example is numbers. It is known that 1 is derived from a single stick (that of small children - and before prehistoric man - using "sticks" and doing rudimentary sums with them). The 2 is derived from two horizontal "palotes" linked by the inevitable stroke of the continuity of the writing. The three of three The four of the four ends of a cross, ... As perception is **very limited** to count (see "Memòria … de la patent WO2003054835A2" does not distinguish directly beyond five or six quantities), in this case of quantities and numbers there is another greater limitation. No need to even attempt transparent signs from five.

Transparency is very nice to explain, very curious, but very unhelpful when what is to be represented is minimally complex or large.

Transparency? o Semiological compatibility? [.3210]

So, what is to be done? So look elsewhere however uncomfortable it may be at first (this is the problem, heterodoxy is less comfortable). And one of the places, maybe the only one is to try to take advantage of methodological transfers, semiologically compatible. We have to look for another type of "transparency", the "comprehensive" or methodological transparencies, for their transferability.

Why are positional numbering systems so efficient? It has already been seen why they are a shameless copy of the organization of the muscular management of the psyche. It is an analogous methodology. This calculus, this semiological compatibility, allows the transfer, or if you want to say it another way, it allows the alternative management of the psyche, due to its versatility.

Transparency in positional number systems does not refer to quantity but to its structure. The position indicates clearly visible, **unequivocally**, the structural level we are referring to.

The "Intrinsic Semiology". The "Conceptual System" [.3211]

Given that "Intrinsic Semiology" has been commented here, and the reader will easily have thought "what the hell is he talking about now?", the following reflection is illustrative:

What are we doing in these simple paragraphs about transparency?

Well, we are precisely doing elementary intrinsic semiology, and not far from what MONTESORI or FREINET did several years ago. There is also no consciousness that much of the contributions of these pedagogues **was not pedagogical** but semiological, because "Intrinsic Semiology" is such a basic science or scientific discipline, as it is still unknown.

Do you have more uses for intrinsic semiology? without a doubt Another basic, analogous and extraordinarily useful one is to structure the "Conceptual System, intrinsic and exactly", already commented on "The miracle of positional numerical systems" [.170] on the occasion of the "Strategies..." table.

Another transcendental application –together with "Intrinsic Semantics"– would be in the linguistic field. To "El kerigma del pensament" the reader will be able to find several criteria on where **linguistics, grammar, syntax or the knowledge sciences should evolve** in order to become efficient disciplines **with a future**.

Also seen ([.033], [.110], and [.13020]) that could help **genetics** and the material support symbolic systems he studies. Also to today's inexplicable **molecular** phenomena such as the "memory" of water. Continuing like this, it is possible that even intrinsic semiology is useful to get out of the impasse that **theoretical physics** finds itself in today, already commented at the very beginning of the "Introduction" [.00] (see "La Teoria holística (resum)").

An example of the efficiency of the "Conceptual System (intrinsic and exact, like positional number systems)" can be illustrated in this same writing with the images that will follow.

Assuming the reader has made it this far, it is easy for the reader to be exhausted, exhausted, by the amount of old and new concepts, but above all by their continuous relationships. Relationships that prevent comfortable and easy linear/sequential expositions (such as narrative or factual).

Aside from being tired, someone may also wonder how so much information was gathered, or how long it took to structure it. It would be like those reports about how a movie was made, which is often more interesting than the movie itself.

The answer is that the difficulty has only been writing, but because writing is a **totally inefficient** representation of ideas, of the powerful effects that the psyche can produce. All this writing comes from an immediate and trivial way of considering the concept of "consciousness" from the perspective that it is another element of the "Conceptual System". The same can be done with any other concept, in the understanding that few concepts are as rich and deep as this one, and would not give for so many pages.

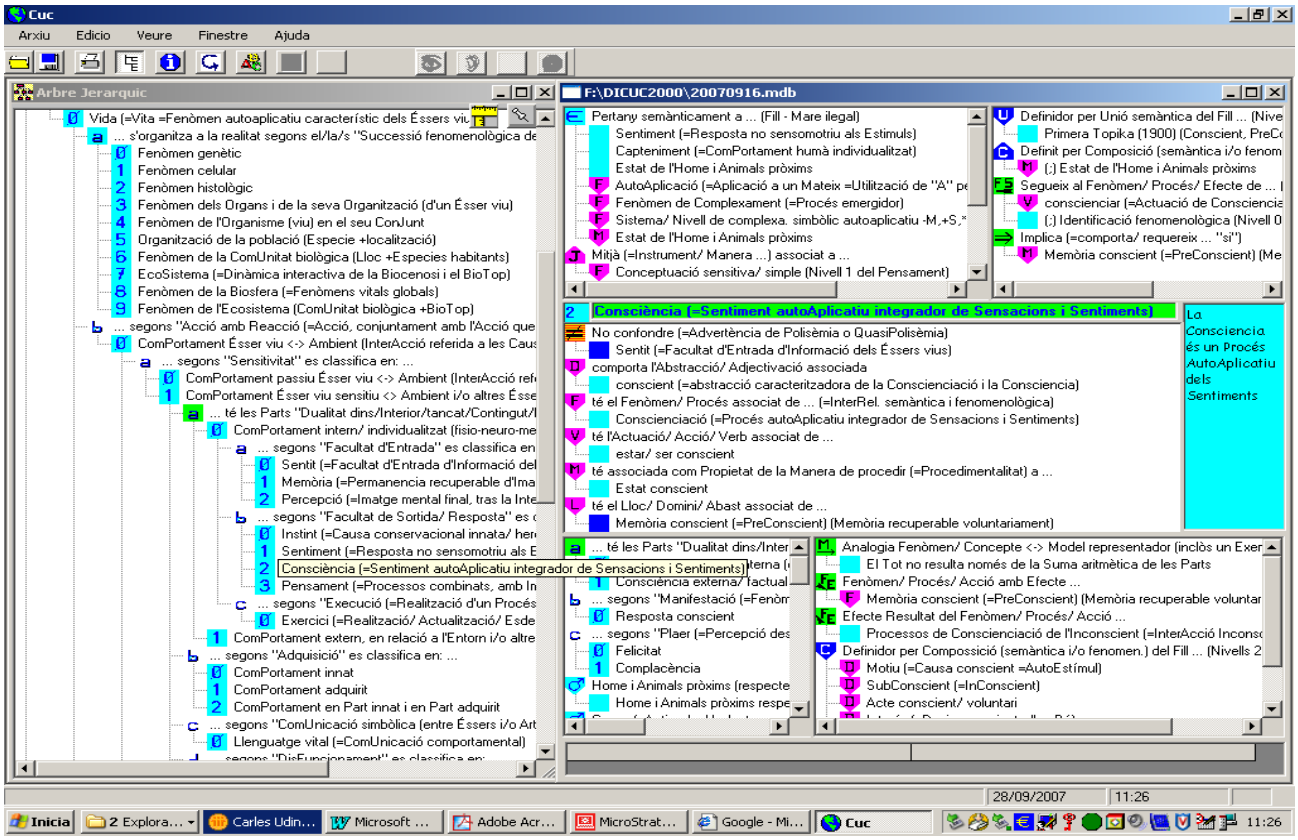
If the reader wishes, he can entertain himself by looking at a few "screens", briefly discussed, of an elementary and incomplete simulator of the "Conceptual System". Those that correspond to "Consciousness", and in a "zoom" way, to some other of its related concepts.

Unfortunately, since I haven't been able to develop it further, it only works in Catalan language (N.T.: In 2021 Carlos GONZALEZ VILELA developed a more powerful computer version. **There is also a one-hour video in two parts**, this in **Spanish**-castillian language https://vimeo.com/415106311?quality=720p and https://vimeo.com/415104656?quality=720p).

Unlike a Dictionary of words, or even a Thesaurus, an intrinsic and exact conceptual System is a **system of concepts** (not of words), supported by a **database**, concepts that are related by a set of a **hundred "relationators**" of pairs of concepts, forming "triads" "a**R**b" (with "a" and "b" **exactly defined concepts**, and "R" one of the relationators). Triads that are at the same time **Simple knowledge** and **first-order logical propositions**, which transitively base **Artificial Reasoning**. The "relationators" are **the specific faculties that make human knowledge possible** and that, except for those that are already intuitive, are acquired with age through education and culturation. In the simulator, each line of text is the name assigned in each language to the concept, but strictly it is a button, which when activated with the mouse, moves us to this other activated concept (that is, it is a **strict hypertext**).

The icons (for example ) correspond to the different relationators. Therefore, to establish this "Representation of knowledge", the first thing was to list and explain in detail all these "relationators" and their progressive acquisition (see "The relations", 1996, 106 pages in Catalan).

CONSCIOUSNESS



In the box on the left we can see "Consciousness" after "Feelings" and before "Thought" and all of them as output/response faculties. They are within the internal/individualized behavior of living beings. The letters, like the

a

they indicate the partition criteria that generate the concepts following "Short exact algebraic sequences" (like the numbers expressed in the positional systems). The different colors of the background (green, blue, white, ...) indicate different types of partition (real, phenomenological, virtual, ...).

In the multiple box on the right, in the center we have:

- the observation not to confuse with the Senses,
- the **difference with Consciousness-raising** which is its **associated phenomenon** F,
- the conscious State as M Ownership of the way to proceed,
- the conscious Memory as a L associated site, etc...

In the same box, in the upper left sub-box:

- we have the membership "Consciousness ∈ Sentiment" (Consciousness... belongs to the Sentiments...),
- we also have that its associated phenomenon (F, Consciousness-raising) belongs to AutoApplications, i
- that its associated phenomenon (F, Consciousness) is the J Medium through the process of sensitive/simple Conception.

In the lower left sub-square, you will see "Happiness", "Complacency". Etc, etc, etc. The reader will remember that all these have been topics discussed in the text. And so on, many others would be found.

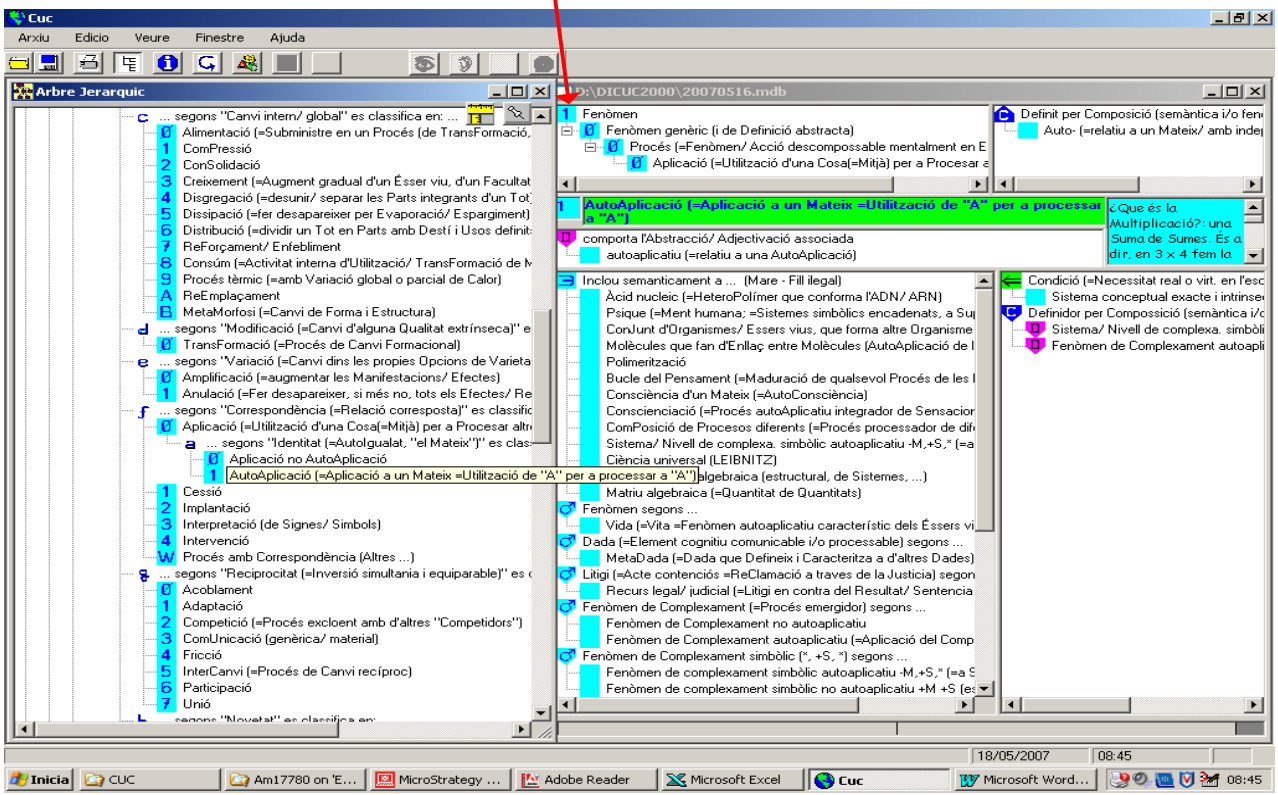
Each frame and sub-frame corresponds to different thought processes, so that each sub-frame corresponds to **intrinsic and differentiated faculties** and consequently, which can be realized from certain ages, and not before.

SELF-APPLICATION

Also, by making a single "click-click" of mouse we can **navigate** through the "**Cognitive space**" to any concepts or knowledge as previously seen. If we go to "AutoApplication", we will find the corresponding information for this concept. We see how with a single "click-click" we are in a completely different place in the cognitive space, with coordinate 0.$1_e0_a0_f0_a1$(which results from the sequence of "Short exact algebraic sequences"):

Phenomenon → Generic phenomenon (...abstract) → Process → Application → Self- application

and where in the lower sub-box we have the list of processes that are self-applicative, and that have been seen in [.150]: Nucleic acid, ..., Polymerization, ..., Algebraic matrix...

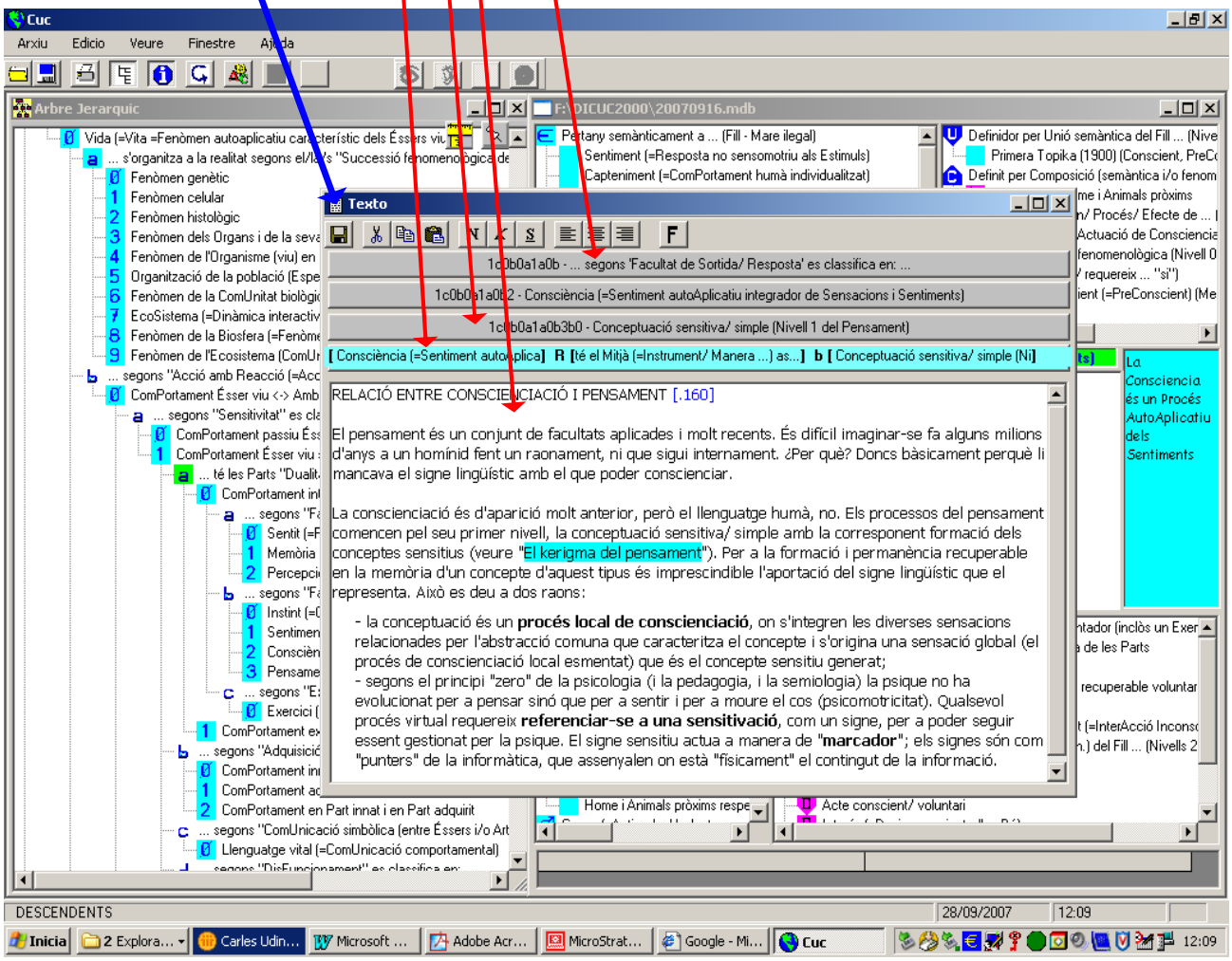


The **blue box** on the right allows you to view complementary explanations, the blah, blah, blah, which is the only thing that can appear in traditional dictionaries. If this subwindow is activated, you can choose between viewing:

- the **partition criterion** that generates the **exact** concept,
- the text relating to the activate concept,
- if this is the case, the **simple knowledge** ("aRb") generated by the relationship established in this case,
- the text relating to the concept related to the knowledge of this case.

The structural code, intrinsic and independent of the language, is observed in front of each linguistic sign.

So for example, if we mean that its associated phenomenon (F, Consciousness)is the Medium through the process of sensitive/simple Conceptuation, we find the section [.160] of this writing where this knowledge is explained in detail.



In this additional box we can put whatever we want:

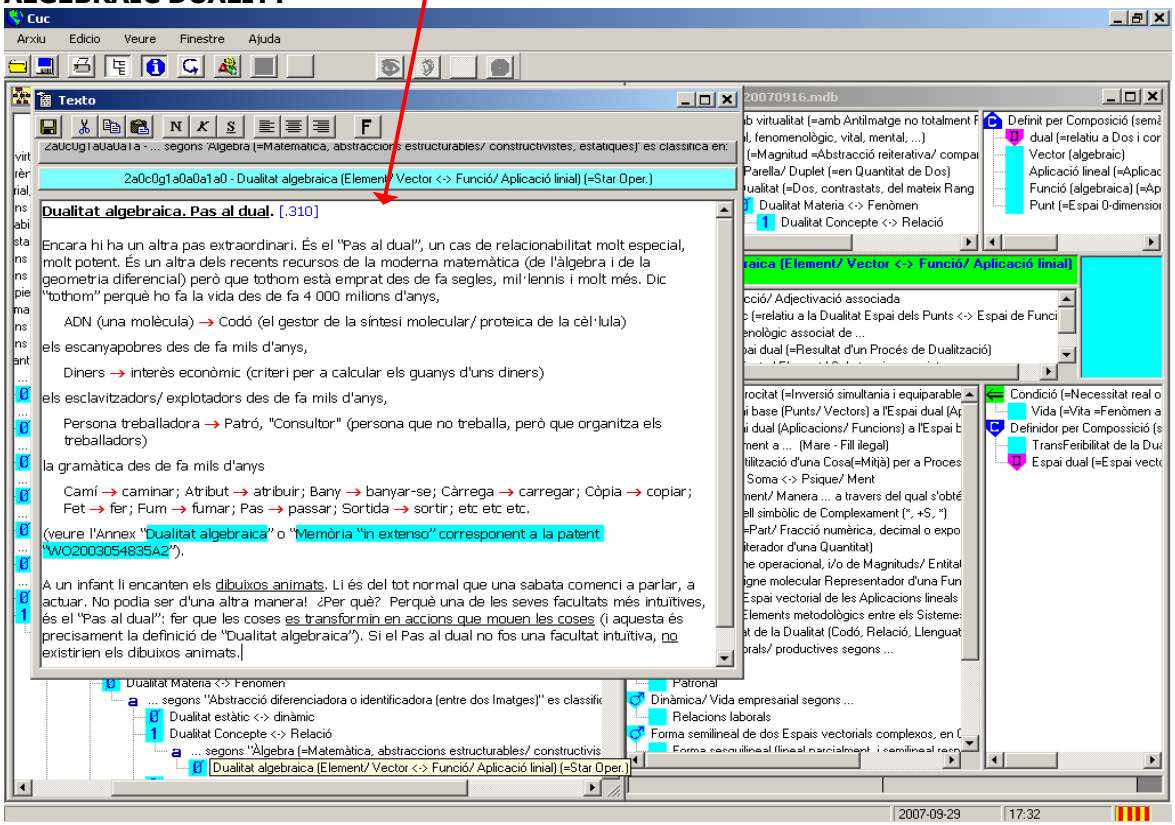
- our personal comments, as in this case I have done;
- the bibliographic references of documents or Internet addresses – WWW (="links") that talk about the same concept or knowledge,
- drawings, photos, ...

Thus any concept, any knowledge, any effect that thought can produce, however complex it may be, can be **crumbled**/decomposed into its simplest and most trivial **components**, because the simulator incorporates simulations, all thought methodologies, that is to say, **all the faculties** that allow thinking. It incorporates them not only consciously but, as I say, "simulated" for the user, **helping** him to **learn** and **think without equivocation**.

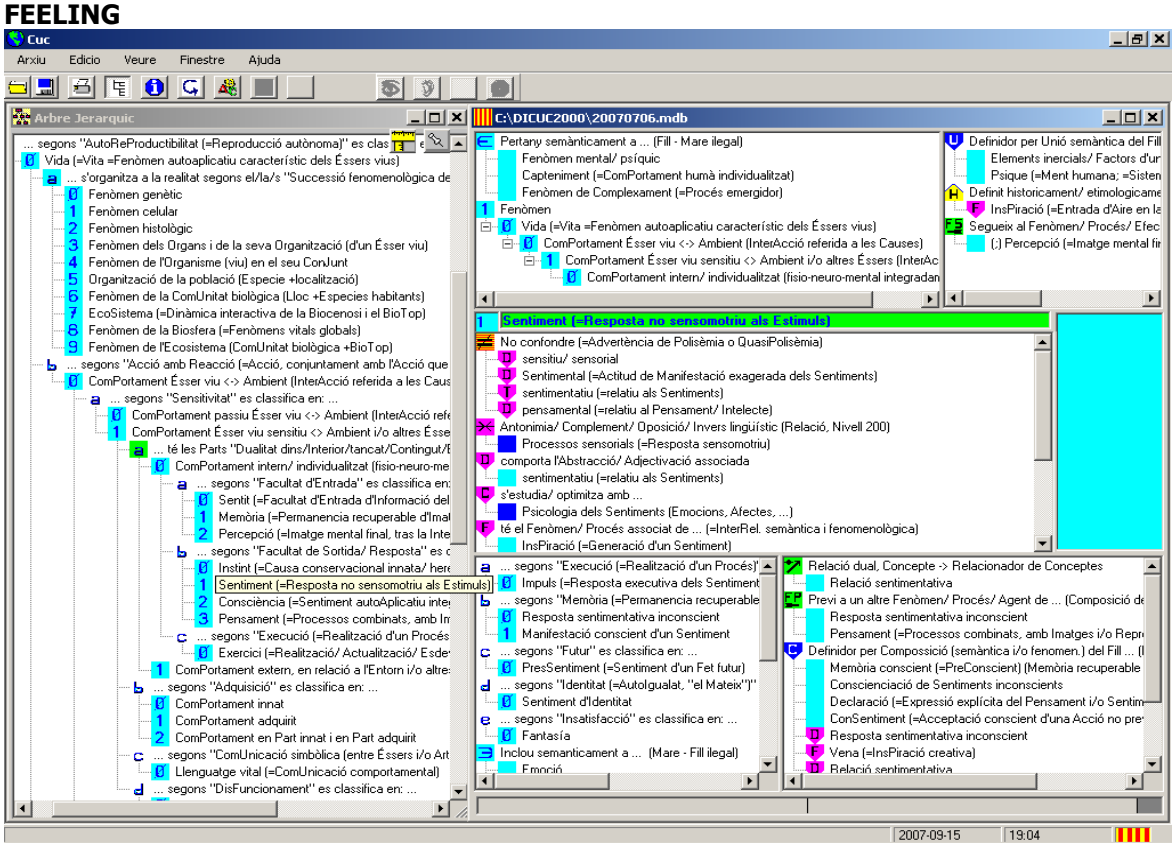
In this way, **navigating** with "click-click" we could obtain all the concepts and knowledge that make up this writing, in a structural form or in a textual/literal form. For example, the concept "Feeling" or the concept

"Algebraic Duality", if we don't know what it and allows us to look for its corresponding "Intrinsic Conceptual Map" as well as any possible reference and/or explanation (by the way, the reader will find a brief explanation of "**Algebraic Duality**" within the next text box).

ALGEBRAIC DUALITY



FEELING



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