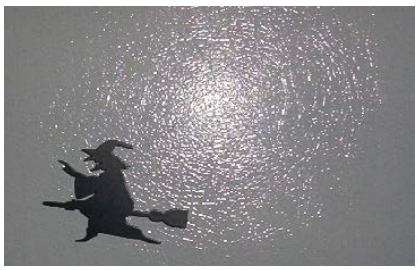
GLOBAL COGNITIVE THEORY

VOL. IV
WILLPOWER AND ARTIFICIAL INTELLIGENCE

2019

Museum of future science

José Tiberius



GLOBAL EDITION

Hobbies: chess, padel and philosophy among others

José Tiberius is the main author of Molwick publisher books.

With over 40 million visitors and two million books downloaded in PDF format, he is undoubtedly one of the most widely read authors in Spanish of scientific essays in the current millennium.

There are more than 10000 links to Jose's website, where his books on theoretical physics, theory of evolution, quantitative genetics, cognitive theory, philosophy of science, metaphysics, and children's stories are showcased in five languages. Many of these links –to all these different fields– come from universities, projects done by university students and blogs created by teaching professionals and Educational Specialists.

Moreover, it is interesting to note that these links are usually together with links to Wikipedia or pages such as National Geographic.

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The only antidote for the egocentrism
of pure reason is Love.

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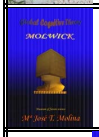	*Global Cognitive Theory (Book series)*	978-84-15328-73-5 978-84-15328-74-2* 978-84-15964-00-1**
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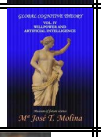	*Willpower and Artificial Intelligence*	978-84-15328-17-9
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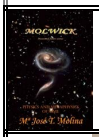	*Physics and Metaphysics of Time*	978-84-15328-84-1 978-84-15328-80-3* 978-84-15964-02-5**
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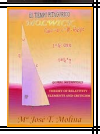	*Theory of Relativity, Elements, and Criticism*	978-84-15328-81-0
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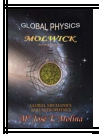
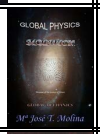
	*Global Mechanics and Astrophysics*	978-84-15328-37-7 978-84-15328-83-4* 978-84-15964-03-2**
	*Global Mechanics*	978-84-15328-35-3
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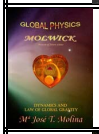	*Dynamics and Law of Global Gravity*	978-84-15328-91-9 978-84-15328-86-5* 978-84-15964-04-9**
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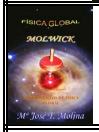	*Global Physics Experiments*	978-84-15328-88-9 978-84-15328-89-6*
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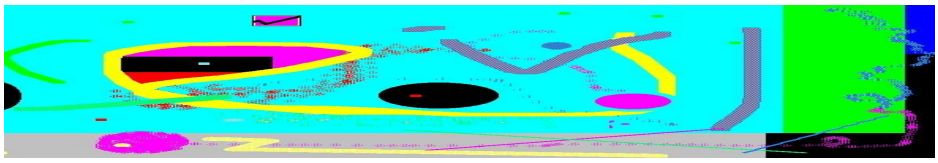

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GLOBAL COGNITIVE THEORY

WILLPOWER AND ARTIFICIAL INTELLIGENCE

WILLPOWER AND THE DECISION-MAKING PROCESS

1. Evolutionary psychology and willpower

The fourth online book of the Global Cognitive Theory is *Willpower, Decision Making Process, and Artificial Intelligence* and it is an attempt to explain the essence of the living being from a scientific viewpoint while taking into account it is a typical topic of philosophy.

The scientific nature is due to the connection with the *Global Cognitive Theory* about cognitive processes of the brain and evolutionary psychology, confirmed largely by the EDI Study – Evolution and Design of Intelligence.

The *Global Cognitive Theory* is an extension to the psychology of the new perspective of life given by the General Theory of Conditional Evolution of Life.

Womoon

Not in vain, the ideas included in this evolutionary theory are about the philosophy and definition of life.

The fundamental characteristic of life, according to the *Conditioned Evolution of Life,* is precisely freedom; an aspect that presents itself through the free will of the living beings.

Therefore, without understanding the most important propositions of the two theories previously mentioned, it will

be challenging to comprehend the complex ideas described in this little book about evolutionary psychology, willpower and the essence of the living being.

As well as this introduction, there are four additional chapters. Two of them concern the decision-making process, analyzed from a descriptive and scientific point of view; the other two deal with the concept of the existence of the living being, from a philosophical and metaphysical perspective.

The decision-making process studies the source of the wishes, ideas, and thoughts through the mechanisms of willpower formation, such as automated decisions, reflexive and semi reflexive actions, and decision processes based on majorities, which end up configuring groups of neurons as accurate political representation systems in the brain.

The willpower processes are dynamic equilibrium systems; that is to say, given the same external conditions, there is no guarantee the equilibrium point will be the same. We are talking about expert systems with dynamic equilibrium, which incorporate the result of earlier life experiences.

A case would be emotions, which are no more than unconscious responses to certain stimuli, which identify the presence of a complicated situation, requiring a fast answer despite there is not enough time to study it satisfactorily.

Additionally, there are some thoughts on partial aspects of schizophrenia regarding evolutionary psychology and the decision-making process.

The fourth chapter is about the human being, feelings, and willpower, given that they are concepts closer to human readers. However, it refers to the living being and the vital impulse systems because according to the proposed evolutionary psychological theory, feelings and willpower are

essential elements of life.

To avoid byzantine terminological discussions, we consider emotions as neuronal mechanisms of a scientific nature; and feelings as belonging to the realm of philosophy and metaphysics.

At this point, there is the most exciting and poetic part of the previous theories, *the spatial and temporal discontinuity of the existence of the living being.*

The definition of artificial intelligence is the last challenge in this book.

We hope the reader finds useful the ideas shared during those moments in which we all brood, our minds and our hearts, about what we are, where we come from, and where we are going.

2. The decision-making process

A dictionary defines will as "f. the potential of the soul in whose virtue we tend to have a positive or negative sense towards the goals proposed by the intellectual knowledge" or the "Free will or determination."

There are other meanings for the term "will," but these are interesting because they show its essential nature; it is a quality expressing and exercising the internal liberty of all living beings. Some authors, such as Schopenhauer ascribe will to human beings, animals, plants, and even objects.

For the *Conditional Evolution of Life,* "The essential characteristic of Life is Liberty." Although usually, the theory talks about human beings, the CEL also attributes liberty provided by the autonomy of will to objects, even if humans are not capable of detecting it. It is no more than a topic of the philosophy of Life.

In the will-forming processes, internal and external elements influence the individual. The commentaries refer to the internal factors of the procedure, without trying to propose a detailed study at any time.

To obtain a better characterization of our nature, it deals with extending the line of argument about the working of human intelligence and memory to the creation of the will.

The first step is to examine the phases of the decision-making process. Afterward, a few points about its intricacy will allow dealing with the topic of an entity capable of free will.

2.a) Origin of desires, ideas, and thoughts

On many occasions, their origin is unknown, not to mention of our feelings!

Regardless of the comments on the thoughts in the background, if there was a system of collecting ideas, the brain will select one with more votes or higher intensity to study and develop..

Alice in Wonderland

(Public domain image)

Let us suppose a cell would like to have more water; the body will provide it with the appropriate mechanisms. However, when many cells ask for water, it will start to become scarce, and the desire to drink water will appear little by little. This desire will be made conscious at a time, depending on the consciousness' other priorities. For the conscious, *all this process has remained hidden*!

The subject is more complicated than it seems at first glance; for example, when faced with the same initial sensation, smokers may want to

smoke instead of drinking water.

In the world of ideas, it happens the same. All sudden the brain has initiated a series of reflections about a subject, but the conscious do not know precisely when or why. If we think about it, and we are lucky, we will manage to figure out why.

Something similar occurs in the trickier realm of feelings; for instance, laughter and tears frequently appear without direct control. We can try to laugh and cry, but only indirectly, by reproducing the conditions provoking them.

2.b) Reasoning and thoughts

A second stage of the decision-making models, or a generation of will, is the evaluation of a goal requiring a decision using reasoning and thoughts. There will be a combination of logical processes and memory.

As commented on in previous sections, the information verification method is one of the methods used in decision-making processes; the functionality of the neuronal networks allows for considerable flexibility in the application of the different variants of this method.

Usually, billions of neurons are involved in carrying out the decision-making process.

Although the analysis of the procedure has two steps for expository reasons, nothing prevents the two steps from being simultaneous in some instances. Neuroscience postulates the cognitive and other mixed processes, such as emotions, are very flexible and variable in their structure and specific development.

Furthermore, the cognitive processes and emotions affect each other; the context can influence the situation decisively. Consequently, some contextual elements, such as alcohol or other drugs, are vices of will.

Emotions or even in independent contexts can also act as vices of will.

It is possible that our brain never ceases, at least while we are conscious. It seems to have a line of pending reasoning and thoughts so that, when one ends, immediately another one appears according to its urgency or any other criteria.

Other sections commented on the work the human brain performs, and its relevance while sleeping.

2.c) Development of political systems of decision-making

It seems the human brain is not an exclusive decision-making center. There are acts, called reflexes, carried out by our entire body. In addition, modern biology teaches us how the body's different organs and cells emit signals and communicate between one another.

Theory of decision

A dog on the beach thinking
(Public domain image)

If there were a decision-making center, the rest would be nothing more than somewhat a complex machine. Of course,

we would have to ask how many cells are in this center and which of them have the power of decision. More so, what part of this hypothetical cell would be the part that makes the final decision?

An interesting characteristic of the choices we make is their degree of confidence or stability.

Sometimes we are convinced, other times, we are not entirely sure and other times we feel very insecure.

We can observe this effect in repetitive decision-making processes. It seems reasonable that decisions made with total security persist over time; however, this is not always the case. Sometimes people change their mind, even in the short-term, despite their initial confidence in the stability of choice adopted.

Our will can change even though the information and logic are the same; it refers to the slightly schizophrenic side in all of us.

A model of the decision-making processes (that can explain and integrate the possibilities stated in the previous paragraphs) should count on expert and control systems. That is, it may be like the development of dynamic systems like a country's political system.

In typical situations, we can find decision-making processes such as:

- **Automatic decisions**

  A multitude of small decisions is unconscious due to the development of systems of information, which identify necessary and enough parameters.

  In our example, these would be all those decisions that do

not follow parliamentary procedures because they are not so significant, or they are part of previous conclusions.

- **Reflexive and semi-reflexive acts**

  We decide emergencies immediately; we have them evaluated afterward, and if needed, we adjust the guidelines for future behavior with the development of dynamic systems.

  It is easy to observe the parallelism with the working of a modern state, although the danger or urgency would be fictitious at times.

- **Overall immediate consultation**

  It would be as if all our cells voted on a subject. It seems one of the best systems and supposes a direct democracy without any filter.

  It would be the equivalent of a referendum. A significant power of information transmission is required, especially if we are speaking about billions of cells, and it occurs often. The dynamics of intricate systems will undeniably limit its use more than necessary.

- **Representation**

  - Simple majority
  - Reinforced majority

    Nature tries to resolve the problem of respecting minorities in the theory of decision.

  - Organic - territorial - functional

    Additional problems still within typical situations can use these types of representation. They not only deal

with the minorities but also recognizing their special relevance in particular areas.

- **Other channels that take in specific situations**

  The equivalent in a political system could be lobby groups.

However, some behaviors do not seem to follow the indicated guidelines of the theory of decision; then, the model needs to integrate more elements to explain some choices showing significant alterations of a person's character.

We are referring to vices of will that alter the system of dynamic equilibrium of the will, like:

- *Sicknesses*
- *Drugs*
- *Other internal chemical processes*

Unfortunately, although it cannot be in any other way, this example also materializes in conventional political systems.

3. Dynamic systems with multiple equilibria

3.a) Expert systems

The human decision-making process is one of the most complex systems; there are many variables of character, both structural and short-term conditions.

Just as countries do not have the same political system, each person has a specific policy of dynamic equilibrium.

Some structural variables are:

- Differences in the systems of information and perception of the external physical reality
- Endowments of capacities for making abstract constructions, in other words, in the development of expert schemes and systems of control
- Alternative evolutionary ways regarding the pondering of elements
- Resistance or response to pain or other changes

The relevant aspect here is the executive nature of the decisions made. Depending on the circumstances, the decision-making system uses one process or another, even if the change modifies the result, although a person is conscious of the change, the new resolution will usually go ahead. After all, this is the essence of the choices.

It is worth pointing out that a change in the process can occur automatically, that is, without conscious control. The working

of a dynamic global system is probably too complicated to control it.

Nevertheless, it is advisable to manage the basic factors of the dynamic system to guarantee the appropriate control and provide the desired stability, without overlooking the fact that flexibility is an excellent characteristic. Exceptions are necessary, such as those provoking the emotions.

Among these conditions, water and food are critical. These are obvious, but are no less critical to this reason! Everyone knows the beneficial effect of vitamins. Maybe the extensive education is not enough.

Lack of sleep, sports, or physical exercise is also within this category, although they have a slower and more accumulative effect.

3.b) Emotions and control system design

The awareness of the emotional states and their influence will help to understand why there are changes in previous decisions.

Where are emotions from?

It is worth identifying states of anxiety and irritability because it is possible that the procedure is among forced systems due to the vices of will.

The characteristic of the systems of dynamic equilibrium is to have multiple equilibria. That is, even with the same parameters, they can be different according to the followed path; the balance will be the decision.

This characteristic can produce emotions initiating hazardous situations when trying to leave a forced system; it could be the typical example of uncontrolled reactions produced when

trying to stop consuming hard drugs.

A less dangerous but more common example is the process of quitting smoking tobacco, and a marked state of anxiety and irritability shows with the customary emotional instability.

In all of these examples, trying to control emotions using the basic factors is the least that can be done to return the dynamic system to a reasonable path and to avoid producing unplanned reactions.

On the other hand, what seems risky is managing emotions that can alter its natural function.

3.c) Schizophrenia and genetics

Schizophrenia is probably the most well-known and common disorder of the decision-making system.

To some extent, all of us have a certain degree of schizophrenia, which is natural. The problem appears when the degree becomes severe and uncontrollable.

A weighty cause of this characteristic of decision-making behavior could be, independently of the known genetics or hereditary predisposition, wanting to know the impossible to understand because it does not rest on logic. A good example might be trying to comprehend the emotions of others or even their philosophy.

Furthermore, on many occasions, the error consists in striving to solve a problem that does not depend on us. To give a simple and somewhat childlike example that nonetheless repeats throughout life:

"*I have my hands behind my back and ask: in which hand is the candy? Then, the only thing I have to do is put the candy in the opposite hand to the stated in the answer.*"

In the brain game, the person who responds never wins; it is a false dilemma, and we can force the intelligence as much as we want, but we will not obtain any satisfactory solution.

To understand something sturdy, sometimes it is useful to evaluate with different initial situations, prejudices or preconceptions; forcing the intelligence to examine different

points of view.

Imposing this behavior with enough intensity and time could damage the brain's decision-making process. The configuration of the system alters, and it is not only an automatic process beyond conscious control, but it also tends to modify the genetic endowment. Given that the genetic load is relatively flexible, it could allow for the possible transmission of the problem to our descendants.

A reasonably smart person could try to understand the mentioned situations and, therefore, there it could be a statistical correlation between intelligence and schizophrenia. Nevertheless, there is evidence of a positive connection with low levels of intelligence.

Perhaps this effect would be higher in people with problems related to dyslexia, given that memory recreates different points of view for its operation.

It is worth remembering that the concordance between identical or monozygotic twin brothers is 0.69 for schizophrenia, which shows that it has a marked genetic character while in non-identical or dizygotic twin brothers it is 0.10

This information contributes to two ideas. It appears the related genetic information does not concentrate on just one chromosome and the second, the presence of various "genes" is necessary for the actual cognitive development of these processes or the carrier genes are not significant in the sense of being "dominant," or both at the same time.

4. The human being, feelings, and willpower

4.a) Non-existence

From all the previous discussion about willpower, a logical implication is emerging slowly: if the decisions humans make do not depend on just one being or origin of will, it seems evident that this being does not exist.

The human willpower is the consequence of the individual will of a multitude of more elemental living beings modulated by a system of personal decision.

In this sense, we could say, *"I think. Therefore, I am not."*

On the other hand, the idea of being human fits in perfectly with the concept of the vital impulse system.

The book of the Conditional Evolution of Life states the vital impulse systems act as living beings, or at least, have many of their main characteristics.

Likewise, it considers superior animals as symbiotic macro-societies of more elemental units with their own life, like cells.

The order of intuitive proximity indicates that the components of the more elemental type of vital impulse systems are also living beings –nation, state, beehive, ecosystems.

All of the above poses the questions, "From where do we come? Where are we going? Who are we?" It is very tough to answer, perhaps impossible. It is like asking, "From where does a state come? Where is a beehive going?"

These questions are not very relevant because we are talking about organizational forms. To be able to respond, first, we should give a precise answer to "What are we?"

From a strictly scientific point of view, we are animals evolved from monkeys, and it looks like our existence is a vital impulse system.

We cannot even guarantee the continuous existence of human beings from a spiritual point of view, given that, as we have seen in discussing the decision-making processes or formation of the will, our different components or individual elements do not agree nor do they have the same points of view or morals.

4.b) The being and existence

This section will not end on a bitter and adverse note. A vital impulse system is not derogatory; on the contrary, it is a way of being able to dominate higher scales than those of the individual.

For instance, a country can obtain objectives for its citizens who cannot accomplish these objectives by themselves.

Yellowstone-Canada

(Public domain image)

The spiritual dimension also has positive aspects; sometimes it gives the impression many people behave or feel like one individual as if the action was unanimous –a perfect synchronization of feelings– a colossal bubble of energy.

Human beings work differently in regards to feelings; the majority does not decide on them. They are not decisions they are situations. Instead, it invades us; it takes us over. We could cite many sentences from diverse religions that are especially relevant when speaking about feelings and the spiritual essence of living beings.

One of the most significant hitches of this subject is that approximation requires the use of metaphors and other poetic figures that, on many occasions, end up misinterpreted, above all, over time.

So, we can say, *"I feel. Therefore I am."*

Regardless, at risk of exceeding our goals, we believe we have a dual nature –we are not the first ones to say so. On the one hand, we do not exist in the traditional sense of the expression, and, on the other, we do in a dimension unknown to our intellect.

We are talking about the *temporary discontinuity of our existence!*

5. Definition of artificial intelligence

There are different, even contradictory, meanings of this term.

Both words, intelligence and artificial are problematic. The book Intelligence, Intuition, and Creativity deals with the first one, and the second one is a term-limited to what is performed by human beings. However, which is artificial, it is natural because human beings are part of nature.

Sphere with plasma light

(Public domain image)

Generally speaking, there are two extreme stances regarding the concept of artificial intelligence: one postulating the impossibility of its existence for being a characteristic of life and not of a machine, and the other one, accepting any artificial decision-making system as simple as it may be.

The famous **Turing Test** is in the middle of the definition by requiring the machine to behave like a human in its responses. It is an anthropomorphic idea.

This meaning is not only entirely accepted; nonetheless, its decisions might be in many aspects more accurate than human ones.

A different perspective would lead us to try to achieve the direct manifestation of a level of the essence of Life in things and energy perceptible by humans.

It is a problematic subject, let us digress and say that the application of the epistemological principles of the optimization of any complex dynamic system could help develop the first line of empirical approximation, creating an auto-regulated system with an animated goal, sensitive enough to detect its portion of liberty.

* * *

♦

When **Princiosa** finished the book,
she went to the kitchen,
speaking to herself,
to prepare the afternoon snack:

–I am hungry.
Me too.
I am going to eat.
I agree.
No need!–