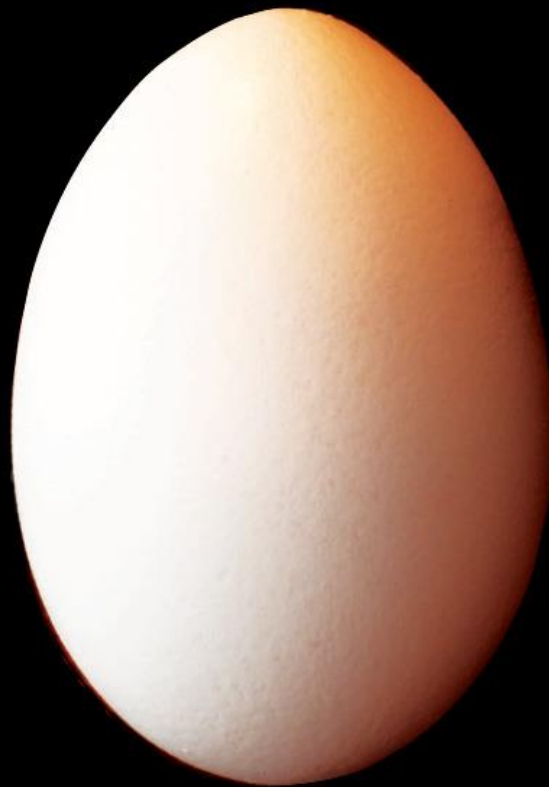Summary

What is the Unicist Theory?

(The Nature of Things)

The Unicist Theory of Peter Belohlavek changed the paradigms of the scientific approach to complexity. It made a logical approach to complex adaptive systems possible, making them reasonable, understandable and manageable. The Unicist Theory allows the emulation of the organization of nature by introducing unicist objects to drive social, institutional and business processes.

THE UNICIST
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The Unicist Research Institute
Pioneers in Complexity Science Research since 1976

The Unicist Epistemology to deal with Knowledge

The Unicist Epistemology is based on the development of the logical foundations and the empirical justifications to sustain human knowledge. This epistemology is a pragmatic, structural and functionalist approach to knowledge.

Knowledge is such when its use allows individuals to better adapt to an environment. To be used, it needs to be stored in the individual's long-term memory.

The credibility of knowledge depends on having found the fundamentals that integrate the concept that defines the nature of an entity and having the necessary empirical justifications that make the acceptance of knowledge tangible.

The Unicist Epistemology was developed to build reliable knowledge to deal with complex adaptive environments.

The Unicist Epistemology provides, on the one hand, the basics of foundations, which deal with fundamental analysis, and on the other hand, the basics of cause-effect knowledge, which sustain the empirical justifications of knowledge.

What is the Unicist Theory?

The Unicist Theory, developed by Peter Belohlavek, is a paradigm shift of the scientific approach to complex adaptive systems. It substituted empiricism by a pragmatic, structuralist and functionalist approach and replaced knowledge falsification processes with destructive testing processes. This theory provides an approach to complexity based on the use of the unicist logic that emulates the intelligence that underlies nature. It integrated complexity sciences with systemic sciences in a unified field. The Unicist Theory allowed understanding and influencing the evolution of living beings and artificial complex adaptive systems.

The Unicist Theory to Manage Fundamentals

Back to Basics

The Unicist Theory deals with the nature of things. It made a back to basics possible, by giving fundamental knowledge the original meaning, which integrates fundamental analysis with technical analysis to build reliable knowledge to manage the nature of things to generate value. This allowed recovering the original concept of fundamentals.

In financial analysis it is said that the fundamentals allow defining the intrinsic value of a company. As a universal definition, fundamentals define the functionality of the nature of an entity. Therefore the structure of fundamentals is homologous to the structure of concepts.

About Fundamental Analysis

Fundamental analysis is necessary to deal with complex adaptive environments. It provides the tools to describe the nature of a reality in order to forecast and influence its evolution.

It is the approach that defines the limits of the possibilities of the evolution of a given reality. Fundamentals define the boundaries that are implicit in the functionality of a given reality. Defining such boundaries or limits based on the fundamentals of a given reality implies dealing with its nature. (See application fields in Annex 3.)

About Technical Analysis

Technical analysis deals with the cause-effect relations among "variables" that have been identified by making a systemic compromise. In order to be able to manage a reality in everyday actions it is necessary to define it with systemic tools.

Fundamental analysis defines the possibilities (0 or 1) and technical analysis defines the probabilities (from 0 to 1).

The discovery of the Unicist Theory and the structure of the concepts that regulate the evolution of living beings and their deeds, established the structure for fundamental analysis integrating it with technical analysis in order to develop reliable knowledge.

This knowledge allows dealing with complex adaptive environments and building adaptive systems that upgrade the value generation.

Introduction

The objective of the development of the Unicist Theory was to find a structural solution to deal with complex adaptive systems considering their characteristics. Complex adaptive systems have, among other aspects, open boundaries and are integrated by the conjunction of their elements. In such systems, there is no possibility for the existence of observers.

The Unicist Theory, based on the discovery of the ontogenetic intelligence of nature, allowed developing the four scientific pillars that provided the basics of the unicist logic based and objects driven technologies to manage human complex adaptive environments: Conceptual Economics, Conceptual Anthropology, Conceptual Psychology and Conceptual Management. (1)

The Unicist Theory was originated by the need of finding responses to the question of why things happen in the social and economic world in order to influence evolution. It was triggered by the need of going beyond the empirical Know How that was used in the 70s to approach complex adaptive environments and the need to integrate it with a "Know Why", that was inexistent.

The author developed an inductive approach to complex environments, which implied that he began at an operational level dealing with complex adaptive systems and entered deeper and deeper until the Unicist Theory was born. This theory was born when the structure of the concepts that underlie facts was discovered.

Then he began the application (see Annex) and research work to find the structure of concepts in the field of complex adaptive systems, beginning with biology and ending with social sciences and future research. This research work was possible due to the development of the unicist ontological research methodology that changed the paradigms of sciences to approach complexity.

The Theory itself

The research in complexity sciences to manage complex adaptive systems that led to the discovery of the Ontogenetic Intelligence of Nature and the Unicist Theory began in 1976. It was led by Peter Belohlavek and included the following discoveries and developments: Unicist Ontology, Unicist Logic, Unicist Conceptualization, Ontogenetic Maps and Unicist Objects.

The Unicist Theory was developed to manage the nature of complex adaptive entities. On the one hand, to approach the nature of things an individual needs to be able to apprehend the essential patterns that underlie the operational patterns that are observable. But, on the other hand, complex adaptive entities have open boundaries, which imply that the individual, who intends to influence the environment is part of the system, which makes traditional systemic science research methods fallacious. In this context, the Unicist Ontological Research Methodology was developed to transform complex problems into manageable problems.
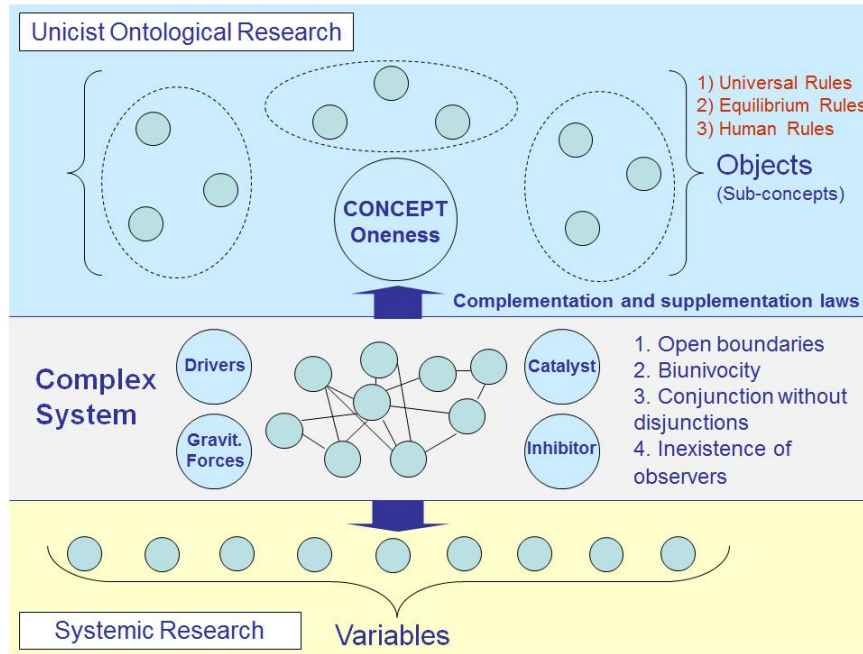
The Unicist Theory needs to be apprehended using the ontointelligence any individual has. It defines the individual's capacity to apprehend the nature of things in adaptive environments.

It has to be considered that 3-5 year old children use their conceptual approach to reality to adapt to an environment that fully exceeds their rational comprehension by posing and endless questioning on the "WHY" of things.

Ontointelligence (2) is necessary to manage reality as a unified field. This is necessary when dealing with complex adaptive systems. Ontointelligence is the deepest human intelligence that allows apprehending the nature that underlies observable facts. It is integrated by ethical intelligence, strategic intelligence and the logical type of thinking of individuals.

The Basics of the Unicist Theory

The Unicist Theory is based on the discovery of the Ontogenetic Intelligence of Nature, which regulates its evolution. It was based on the hypothesis that in nature there are mutations that are random but others that are driven by a purpose. The Unicist Theory is fully focused on the purpose driven evolution and involution.

The research on the Ontogenetic Intelligence of Nature (3) concluded that each living creature's evolution is ruled by its ontogenetic intelligence, that defines it as unique both in its species and individuality and that the essential structure of this intelligence is

integrated by a purpose, an active and entropic principle and an energy conservation principle.

The Relationship between Entities in Nature

Complex systems became understandable due to the discovery that there are no other relationships in nature than those of complementation or supplementation (4).

Therefore there are no other relationships among elements that integrate the unified field of a complex adaptive system than those of complementation or supplementation.

The purpose, the conservation function and the active function of a concept are integrated by logical rules which sustain their unity.

While the purpose and the active function are sustained by the supplementation law, the purpose and the conservation function are integrated by the complementation law.

Supplementation Law: It is a relation between elements with redundant purposes and verbal functions, having a different homeostatic element. One of the elements has a superior "myth" that challenges the evolution of reality.

Complementation Law: It is an interdependent relation between two elements, actions or ideas. Each one of these elements has what the other element requires and they both have a coincident homeostatic element.

There are three different levels of complementation and supplementation integrated in a unified field / object: Essential, Operational and Functional.

## Transforming Basics into Reasonable Knowledge

This ontogenetic intelligence of nature defines necessarily the structure of all aspects in nature, beginning with physics and ending with social behavior. This implies that ontology, which is the philosophical approach to deal with the nature of things, necessarily has to include the structure of the intelligence that underlies nature.

The Unicist Ontology (5) has an extreme difference with a philosophical approach. Its purpose is not to exert influence but to generate added value. What it has in common with philosophy is the action of apprehending the nature of reality. But, being its objective the adding of value, it needs secure knowledge in order to produce that added value.

The unicist ontology is by definition a static approach that defines a structure that can only act if a human logical approach is able to apprehend it and transform it into actions.

The unicist ontology uses a semantic according to the application field:

Unicist Double Dialectics Semantics
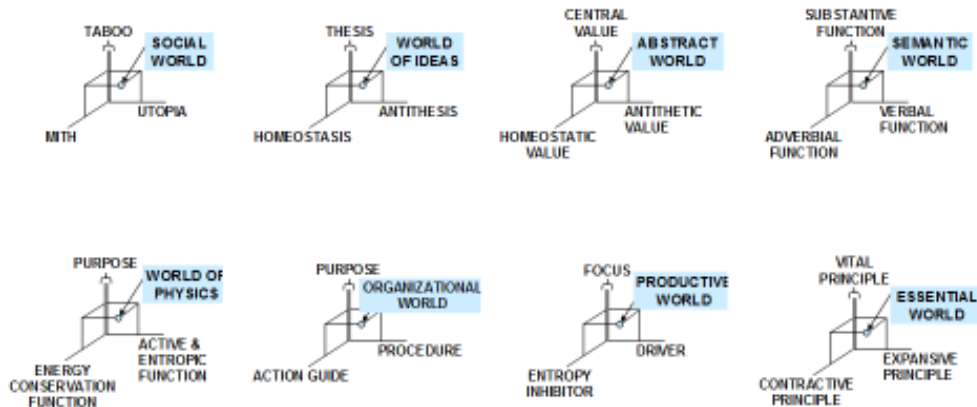
The discovery of the double dialectical logic allowed transforming the structural static knowledge of the unicist ontology into value adding processes.

Transforming Structural Knowledge into Dynamic Processes

The Unicist Logic (6) was developed to deal with adaptiveness. It is necessary to emulate the dynamic structure of complex adaptive systems in order to influence them. It allows dealing with living beings or any complex adaptive system.

The Unicist Logic is a double dialectical logic. The dialectical logics of Hegel and Marx follow the natural dualistic operation of neurons (on/off) but are not compatible with the intelligence that underlies nature. Hegel's and Marx's dialectics are fallacious but functional to rationalism.

The unicist double dialectical logic uses the dualistic operation of neurons to build a mental emulation of the structure of nature that allows dealing with the complex adaptive aspects of reality.

The mathematics of the unicist logic was developed to define the field of the possibilities to influence a reality and the probabilities of being successful when doing so.

Unicist thinking is the name given to the process that allows building the double dialectical logic in mind.

It allows emulating in mind the structure of complex adaptive aspects of reality in order to manage them. But in order to transform thinking into action, it is necessary to manage the concepts that underlie facts.

Conceptual Management to Build Solutions

On the one hand, intrinsic concepts are defined as the intelligent structures that underlie living entities and regulate their evolution. On the other hand, inanimate beings have extrinsic concepts, which are deposited on them according to their functionality.

The knowledge of concepts (7) allows defining what will naturally happen and what actions can influence the environment to evolve. In this context, conceptual management allows transforming the logical approach into actions and objects to generate value.

To understand the functionality of concepts in human behavior, a homology will be helpful. It has to be considered that the function of stem cells in the human body is homologous to the function of concepts in the field of human actions.

While essential concepts allow the construction of objects to insert into complex adaptive processes, stem cells allow the building of organs that work as unicist objects to sustain the functionality of a complex adaptive system such as the human body.

It is necessary to manage the structure of unicist objects to build solutions.

Using Unicist Objects to Structure Solutions

A unicist object (8) is a complex adaptive system that is driven by a concept, adds value and has its own quality assurance imbricated in the object itself.

Nature is organized by objects and all complex adaptive systems are organized by objects.

The human body is an example of this organization by objects. Because of their adaptive complexity, objects have, among other characteristics, open boundaries which imply that any "observer" is part of the system.

The Unicist Theory manages complex adaptive systems by integrating them with their restricted and wide contexts. This requires having the map of the unified field in order to manage a complex entity.

Describing the Unified Field of Complex Adaptive Systems

The ontogenetic maps (9) describe and define the unified field of a complex adaptive system. They are a conceptual representation of the unicist ontology of an entity that allows explaining the algorithm of its functionality.

Unicist algorithms describe and explain the natural functionality of a complex adaptive entity and establish the relationships of the objects that are part of such reality based on the ontogenesis of the evolution process. Ontogenetic maps are essentially analogous to the DNA of a living being.

It has to be considered that:

1) The knowledge of the unicist ontology provides the structural information of the nature of an entity.

2) The double dialectical approach allows apprehending the dynamics of the entity.

3) The concepts are a description that integrates the unicist ontology with the unicist double dialectical approach in order to define the functionality of an entity.

4) The ontogenetic map is defined by the structure of concepts of the different functions and the objects of a complex adaptive entity and describes the algorithm of their functionality.

The Ontogenetic Maps are a sort of "GPS" to manage complex adaptive systems. The confirmation of the functionality of a solution requires developing destructive and non-destructive pilot tests.

The Pilot Tests of Complex Adaptive Systems

Complex adaptive system testing (10) implies testing their functionality and requires a precise design of the tests. The "trial and error" use of objects is not a pilot test.

Pilot tests are the drivers of the unicist reflection processes. Pilot tests have two objectives:

1) Falsification of knowledge

2) Validation of knowledge

1) Models to falsify knowledge using destructive testing

Destructive testing needs to be the first test when dealing with complex problems. The first step of a reflection process implies projecting one's beliefs on the external reality.

This implies needing a destructive testing approach to eliminate the subjectivism that is implicit in any projection.

Destructive testing allows defining the limits of the validity of knowledge considering that there are always, on the one hand, conceptual limits and, on the other, operational limits.

2) Validation – Non-destructive testing

Validation implies the factual confirmation of the validity of knowledge. Validation is achieved when knowledge suffices to exert influence on a reality in a predictable way.

The validation process is homologous to a non-destructive test in the field of material research. Validation implies cause-effect relations. Therefore, validation can only be applied to a simplified field of a complex reality.

Scientific Evidences of the Unicist Theory – See Annex 1

The objective of the research on the scientific evidences of the Unicist Theory was centrally focused on:

1) Confirming the existence and functionality of the ontogenetic intelligence of nature.

2) Confirming that the unicist ontology emulates the ontogenetic intelligence of nature and allows defining the structure of complex systems.

3) Confirming the functionality of the unicist double dialectical logic to go beyond dualism. Dualism hinders individuals from apprehending reality as a unified field and emulating the intelligence of nature in mind.

4) Confirming that concepts are defined by the ontological structure of an entity and, as Immanuel Kant already discovered, have a functional meaning that is the framework of any possible action.

5) Confirming the functionality of unicist objects that are built emulating the objects in nature like the organs in the human body.

These evidences are:

1) The functionality of amino acids
2) The structure of atoms
3) The structure of biological entities
4) The nervous system
5) Homology of natural and social objects
6) Unicist concepts as stem cells
7) Thinking processes and the functionality of electricity

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(10) http://ssrn.com/abstract=2599630

Annex 1
Scientific Evidences of the Unicist Theory

Scientific Evidences of the Unicist Theory

This document provides the scientific evidences that sustain the Unicist Theory that deals with complex adaptive systems.

The objective of the research on the scientific evidences of the Unicist Theory was centrally focused on:

1) Confirming the existence and functionality of the ontogenetic intelligence of nature.

2) Confirming that the unicist ontology emulates the ontogenetic intelligence of nature and allows defining the structure of complex systems.

3) Confirming the functionality of the unicist double dialectical logic to go beyond dualism, which hinders apprehending reality as a unified field, in order to be able to emulate the intelligence of nature in mind.

4) Confirming that concepts are defined by the ontological structure of an entity and, as Immanuel Kant already discovered, have a functional meaning that is the framework of any possible action.

5) Confirming the functionality of unicist objects that are built emulating the objects in nature like the organs in the human body.

The objective of the development of the Unicist Theory was to find a structural solution to deal with complex adaptive systems considering their characteristics. Complex adaptive systems have, among other aspects, open boundaries and are integrated by the conjunction of their elements. In such systems, there is no possibility for the existence of observers.

The research on complex systems required the development of a new research methodology considering that the traditional scientific method was dysfunctional to approach such systems. The inexistence of observers, the openness of the boundaries and the existence of bi-univocal cause-effect relationships of the entities that integrate a complex system made the traditional approach dysfunctional.

It required defining a new path in research that included both destructive and non-destructive testing in real actions in order to confirm the validity of knowledge. The traditional scientific papers are not suitable because there can be no observers.

The unicist research methodology is based on dealing with the nature of the complex systems, which is defined by their unicist ontology (named concept), and forecasting their functional results, which requires refining the concept until the results are accurately forecasted.
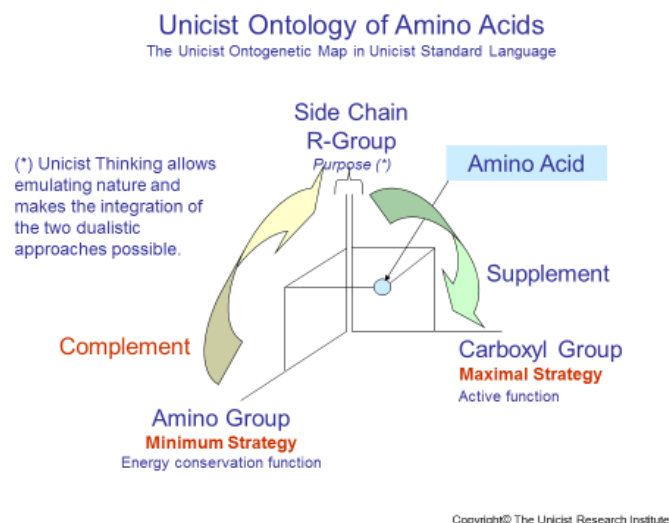
In this document you will find seven scientific evidences of the Unicist Theory that confirm its functionality to deal with complex systems. These evidence are:

1) The functionality of amino acids
2) The structure of atoms
3) The structure of biological entities
4) The nervous system
5) Similarity between natural and social objects
6) Unicist concepts as stem cells
7) Thinking processes and the functionality of electricity

Evidence I:
The Functionality of Amino Acids

The Unicist Ontology of amino acids allows understanding its functionality and the possibilities of their integration to build proteins. Their purpose is given by the side chain which defines the different functions amino acids can fulfill.

It has to be considered that the Unicist Ontology emulates the ontogenetic intelligence of nature that was discovered which defines that there is always a purpose, an active and entropic principle and an energy conservation principle. The unicist ontology of amino acids is a demonstration of how this intelligence works.

The active function of an amino acid is given by the carboxyl group that establishes a supplementary relationship with the R-group. The energy conservation function is given by the amino group, which establishes a complementary relationship with the R-group.

Amino acids are biologically organic compounds integrated by amine and carboxylic functional groups, driven by a side-chain specific to each amino acid. The key elements of an amino acid are carbon, hydrogen, oxygen, and nitrogen, though other elements are found in the side-chains of some amino acids.

Amino Acid Structure

Hydrogen

Amino   Carboxyl

R-group
(variant)

Amino acids are the building blocks of peptides and proteins. They are composed of amine and carboxylic acid groups, separated by the alpha-carbon but the side chains on the alpha carbon vary with the acid. They are the subunits of proteins: amino acids make peptide chains, peptide chains make polypeptides, polypeptides make proteins.

Amino acids are the structural units that build proteins. They join together to form short polymer chains called peptides or longer chains called either polypeptides or proteins.

These polymers are linear and unbranched, with each amino acid within the chain attached to two neighboring amino acids.

Peptide Formation

Amides can be thought of as forming from the reaction of an amine and a carboxylic acid. In the same way, two amino acids can combine to form a dipeptide, held together by a peptide bond.

Peptides

A fourth amino acid would form a tetrapeptide, a fifth would form a pentapeptide, and so on. Short chains are referred to as peptides, chains of up to about 50 amino acids are polypeptides, and chains of more than 50 amino acids are proteins. Amino acids in peptide chains are called amino acid residues.

Classification of Amino Acids

Acidic amino acids and their amides: aspartic acid, asparagine, glutamic acid, glutamine.
Basic amino acids: histidine, lysine, arginine.
Aromatic amino acids: phenylalanine, tyrosine, tryptophan.
Sulfur containing amino acids: cysteine, methionine.
Imido acid: proline.
Hydrophobic side chains: glycine, alanine, valine, leucine, isoleucine.
Hydroxylic amino acids: serine, threonine, (tyrosine).

Evidence II:
The Structure of Atoms

The ontogenetic intelligence of nature defines that every living being has a purpose, an active principle and an energy conservation principle.
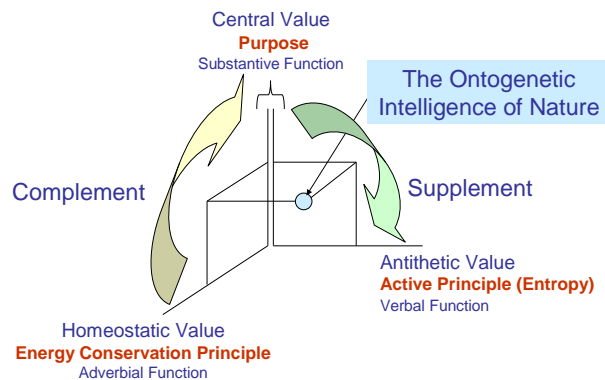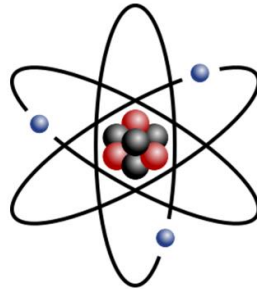

The purpose can also be defined as the substantive function, the active principle as the verbal function and the energy conservation principle as the adverbial function.

In physics atoms are defined by having a central nucleus, composed by positively charged protons and neutral neutrons, surrounded by negatively charged electrons.
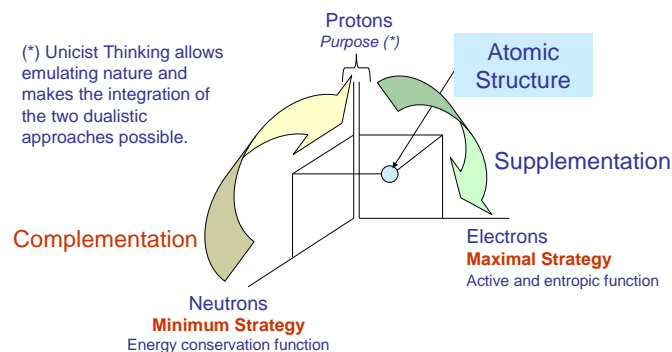

The positively charged protons are homologous to the substantive function, the neutral neutrons are homologous to the adverbial function and the negatively charged electrons are homologous to the verbal function.

An atom, having an equal number of protons and electrons, is electrically neutral.

Living beings are continuously evolving and involving which implies that there is always disequilibrium between their purposes and their active functions which is homologous to the disequilibrium of protons and electrons.

This disequilibrium is what defines the energy and the influence of an ontogenetic structure in the environment.

The active function and the purpose are antithetic and supplementary implying that both are charged with energy.

The energy conservation function and the purpose have a complementary relationship which is evident in atoms where the neutrons allow the integration of the protons.

The mass of an element is basically given by the nucleus of an ontological structure meaning that the mass is given by the purpose and its complementary energy conservation function. But the evolution of a living being is given by the power of the active function in the environment.

Evidence III:
The Structure of Biological Entities

The unicist ontology of a "biological entity" defines its structure and functionality in an environment.

The genotype defines the genetic structure of the entity that rules its evolution and generates the phenotype of the being.

The objective of the genotype is to ensure the permanence of species, its reproduction and production.

The phenotype defines the morphologic, behavioral and materialistic characteristics of the entity.
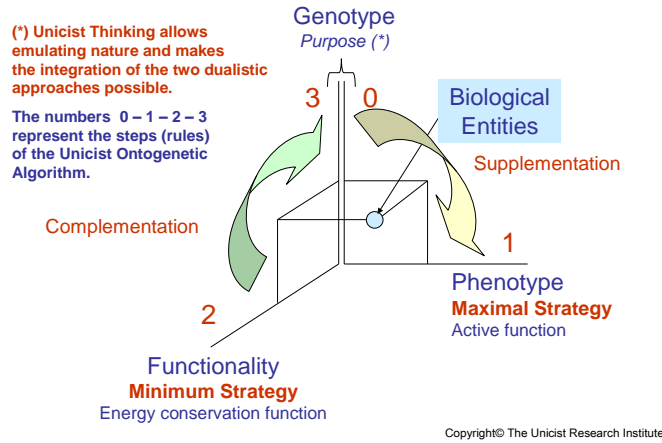
It defines the functional characteristics, the functional power of the entity and the functional assurance. Functionality defines the effectiveness of the phenotype measured as the consequence of the adaptation of the biological entity to the environment.

Functionality is measured in the capacity of adapting and growing on the one hand, and surviving, on the other hand.

The understanding of the ontology of "biological entities" helps to follow the laws of nature when dealing with genetic engineering processes and use it to apprehend the nature of beings with "artificial life" such as institutions.

Unicist Ontology of Biological Entities
in Unicist Standard Language

(*) Unicist Thinking allows emulating nature and makes the integration of the two dualistic approaches possible.

The numbers 0 – 1 – 2 – 3 represent the steps (rules) of the Unicist Ontogenetic Algorithm.

Genotype
Purpose (*)

3   0

Biological Entities

Supplementation

Complementation

1

Phenotype
Maximal Strategy
Active function

2

Functionality
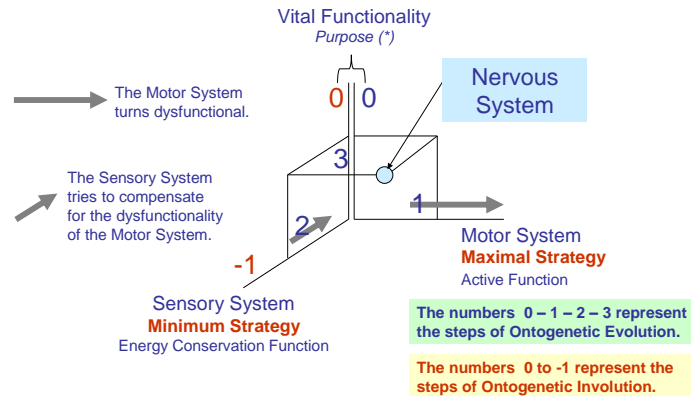**Minimum Strategy**
Energy conservation function

Evidence IV:
The Nervous System

Evolution of a given reality, once we know the *concepts map*, starts with a modification of an action.

If we observe the functionality of the human nervous system and assess it in a conceptual way, we will notice that if the motor system performs dysfunctional actions to the vital function, such as, putting a hand on fire, the sensory system shall have to develop maximum capacity to endure the pain to avoid the situation from destabilizing.

The Concept of the Nervous System
Ontogenetic Map in Unicist Standard Language

Vital Functionality
Purpose (*)

The Motor System turns dysfunctional.

0   0

Nervous System

3

The Sensory System tries to compensate for the dysfunctionality of the Motor System.

2   1

Motor System
Maximal Strategy
Active Function

-1

Sensory System
Minimum Strategy
Energy Conservation Function

The numbers 0 – 1 – 2 – 3 represent the steps of Ontogenetic Evolution.

The numbers 0 to -1 represent the steps of Ontogenetic Involution.

But if the sensory system can no longer compensate the dysfunctional action performed by the motor system, the withdrawal of the hand from the fire takes place, or a functional alteration in the hand that the man has placed on the fire, hence losing the vital functionality of the said one. The functionality area of the member disappears and its function becomes "0" (zero).

It ceases to comply with its function within the living organism that will need to make up for its lack with other functions capable of complying with the same role and task.

Evidence V:
Similarity between Natural and Social Objects

The behavior of human organs and the fallacies of organs is an evidence that the objects in nature have a similar behavior than objects in social life.

Objects are adaptive systems that generate value in an adaptive environment. They are autonomous interdependent entities that integrate a complex system. Objects generate fallacies to survive when their existence within a living being is endangered.

It is also the case of social roles, which are objects in social or institutional environments. Fallacies are created when the existence of a social role is endangered in order to survive.

The paradox is that these fallacies produce a short term survival of the object although the whole system is endangered. But individual survival actions always prevail over collective survival. The behavior of social objects and organic objects is similar.

The case of the fallacious behavior of kidneys as objects, will be presented as an example for their behavior in the human body.

The fallacies of organs are either movement or inaction fallacies. They are natural responses when the survival of the object-organ is being threatened by the "system" that pretends to ensure the survival of the organ in spite of the consequences on the whole body.

Fallacy of Kidney's Behavior

The kidney generates fallacious responses when it is threatened by dysfunctional blood flow. The kidney decides to survive itself in spite of the consequences on the organism.

Among other causes, renal failure is produced when the kidney is left with insufficient blood flow. This can be produced by:

1) Low blood pressure

2) Reduced blood flow

3) Low blood volume

The kidney needs to compensate this lack of blood pressure by developing fallacious responses. The fallacies of the kidney drive to chronic diseases or to destroying the organism and dying with it.

Evidence VI:
Unicist Concepts as Stem Cells

The function of stem cells in the human body is homologous to the function of concepts in the field of human actions. While stem cells can give rise to specialized cells and thus organs, essential concepts allow building unicist objects.

Homology between Concepts and Embryonic Stem Cells
The Unicist Ontology in Unicist Standard Language
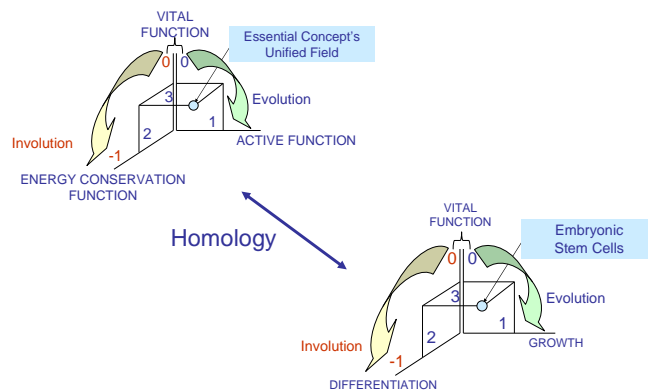
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Unicist objects are adaptive systems that have a concept and generate added value within a quality assurance system to fulfill the purpose of the concept. Unicist objects are interdependent entities that integrate a complex adaptive system.

The knowledge of the essential concepts is basic to build unicist objects because these objects are the materialization of a concept.

Under certain conditions, organs can be transplanted and this is also the case of unicist objects that can be replicated as long as they belong to homologous and analogous entities.

Objects are inserted into processes to produce specific results.

The same way stem cells have the potential capacity to give birth to human organs, concepts can give birth to objects to produce results.

The knowledge of the Unicist Theory allows using a double dialectical approach to reality to emulate the organization of nature using an object driven organization.

Nature is organized by objects which can be observed in the ecosystem.

The human body is an example of the organization of nature, where organs are homologous to unicist objects.

That is why the transplantation of organs became possible.

While the structure of the different organs of the body derives from the stem cells, the unicist objects derive from the essential function of an entity that is defined by its concept.

Properties of Stem Cells and Concepts

Stem Cells	Concepts
They are unspecialized	They are universal
They are capable of self-renewal	They are timeless
They can give rise to specialized cells	They allow building operational functions

Thus, stem cells and concepts are homologous.

While essential concepts allow the construction of objects to insert into human adaptive processes, stem cells allow the building of organs that work as unicist objects to sustain the functionality of a complex adaptive system such as the human body.

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Evidence VII:
Thinking Processes and the
Functionality of Electricity

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Direct Current

An electric current that flows continuously in a single direction is called a direct current, or DC.
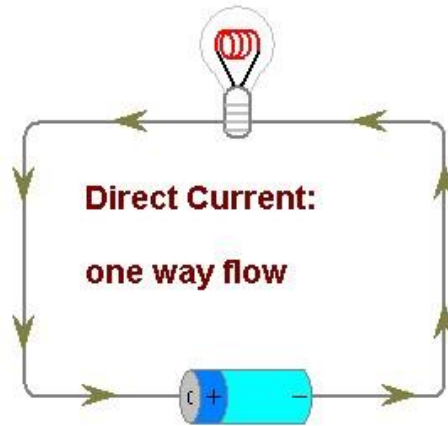
DC (direct current) is the unidirectional flow or movement of electric charge carriers. The intensity of the current can vary with time, but the general direction of movement stays the same at all times.

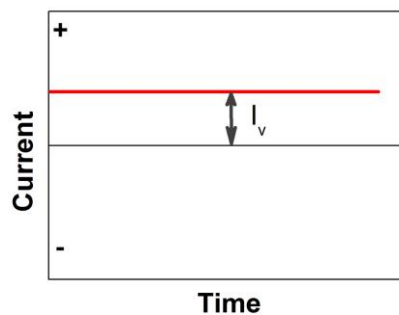The positive end of the battery is always positive relative to the negative end, and the negative end of the battery is always negative relative to the positive end. This constancy is what pushes the electrons in a single direction.

To transform the voltage of direct current it is necessary to change its nature.

Dualistic Thinking (Logic)

Dualistic thinking is functionally homologous to direct current and is ruled by analogous principles.

Dualistic thinking is based on moving in a single direction to avoid the influences of the environment. It requires using the disjunction "or" to avoid changing the direction of the action.

Dualistic thinking cannot be modified during the process if a change to improve the production of results was necessary. Dualistic thinking is functional to follow

operational methods. Without the use of dualistic thinking operational behavior cannot exist.

Dualistic thinking cannot be transformed into double dialectical thinking. To transform dualistic thinking into double dialectical thinking it is necessary to change the environment. Unicist reflection, the process of action-reflection-action, is the context needed to transform a dualistic approach into an integrative, double dialectical, approach.

Alternating Current

In electricity, alternating current (AC) occurs when charge carriers in a conductor or semiconductor periodically reverse their direction of movement.
An AC waveform can be sinusoidal, square, or sawtooth-shaped. Some AC waveforms are irregular or complicated. An example of sine-wave AC is common household utility current (in the ideal case).
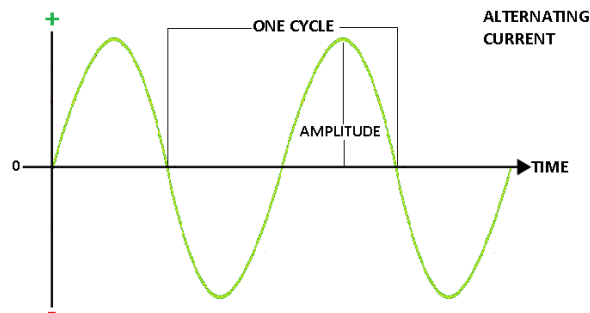
Square or sawtooth waves are produced by certain types of electronic oscillators, and by a low-end uninterruptible power supply (UPS) when it is operating from its battery. Irregular AC waves are produced by audio amplifiers that deal with analog voice signals and/or music.

The electrons in an AC circuit don't really move along with the current flow. Instead, they sort of sit and wiggle back and forth.

They move one direction for 1/60th (for example) of a second, and then turn around and go the other direction for 1/60th of a second. The net effect is that they don't really go anywhere.

Alternating current can easily be transformed towards higher or lower levels of voltage and rectified in order to be changed into direct current.

Double Dialectical Thinking (Logic)

The double dialectical thinking is homologous to the functionality of the alternating current and works in an analogous way.

It is based on the integration of two dualistic pairs, purpose-active function and purpose-energy conservation function, which move back and forth following the cycles defined by the synchronicity with the context.

These cycles have to be unperceivable by the context in order to work. This is achieved when the cycles are fully synchronic with the environment. In the field of human adaptive systems the alternation is between expansion and contraction and freedom and security (see anthropological invariables).

The double dialectical thinking can easily be transformed into dualistic thinking in order to sustain operational actions.

Annex 2
Comparison with Coexisting Solutions

Dealing with Complex Adaptive Systems

The more adaptive a system is, the less energy it consumes to generate a predefined value. Adaptive systems require using predictors to deal with the adaptive aspects of the reality that is being managed. This requires using a unicist logical approach to define the rules that regulate adaptiveness and allow designing the architecture of the system.

Designing adaptive systems implies dealing with the complexity of such systems and developing operational solutions that can be managed by everyone to expand businesses and save energy. Complexity science can be defined as the scientific approach to complex adaptive systems.

Comparison of the Approaches to Complexity Sciences

Aspect	Peter Belohlavek's approach to Complexity Sciences (*)	Preexisting approaches: Bateson, Förster, Lorenz, Maturana, Morin, Prigogine and others
Field of Study	Complex adaptive systems	Complex adaptive systems
Approach	Pragmatic - Structural - Functionalist	Empirical
Definition of the field of study	A specific reality as a unified field that includes the restricted and wide contexts and the emergence of the system	Based on the emergence of the system
Possibility of external observation	Inexistent	Inexistent
Research method	Unicist Ontological Research	Systemic research
Boundaries of the system	Open	Open
Self organization	Concepts – analogous to strange attractors	Strange Attractors / undefined
Structure	Double Dialectics Dynamics Purpose - active function - energy conservation function	Variables
Relationship between the elements	Following complementation and supplementation laws	Undefined
Evolution / Involution	Based on the evolution/involution laws of the ontogenetic intelligence of nature	Undefined
Processes	Object driven processes	Undefined
Certainty	Dealing with possibilities and probabilities	Dealing with probabilities
Demonstration	Real applications	Real applications
Emulation in mind	Double dialectical thinking (using ontointelligence)	Complex thought
Emergence	Results	Results
Chaos	Inexistent	Existent
Influence on the system	Based on actions and driving, inhibiting, entropy inhibiting, catalyzing and gravitational objects.	Based on actions
Validation	Destructive and non-destructive tests (real applications)	Systemic research validation methods

Comparison of Ontologies with the Unicist Ontology

Comparison of:	Ontology (Philosophy) Aristotle, Wolff, Kant and others	Ontology (Information Science) Gruber, Sowa, Arvidsson and others	Unicist Ontology (Complexity Sciences) Peter Belohlavek (*)
Purpose	Knowledge acquisition	Information and knowledge acquisition	Managing complex adaptive systems and adaptive processes
Foundations	Discovery	Shared expert opinions	Ontogenetic Intelligence of Nature and discovery of functionalities
Use in business	To apprehend reality	Artificial Intelligence and building of complex information systems	Manage human adaptive systems and adaptive processes
Scope of application	Universal	Artificial Intelligence, Information Systems	Development of ontogenetic maps for the individual, institutional, business and social fields.
Language used	Natural	Web Ontology Language and others	Unicist Standard Language and natural language
Results to be achieved	True knowledge	Valid knowledge and information	Value generation
Evolution / Involution laws	Inexistent	Inexistent	Unicist laws of evolution
Validation model	Inexistent	Inexistent	Unicist logic
Taxonomic structure	Inexistent	Based on shared validation	Defined by the Unicist Algorithms
Mathematic validation	Inexistent	Inexistent	Following the Unicist Logic
Deals with	Ideas	Categories and objects	Algorithms and business objects
Oneness	One ontology for each aspect of reality	Depending on the consensus of the expert opinions	One ontology for each functionality

Comparison of the main concepts included in the objects of nature, programming objects and unicist objects

Objects Oriented Programming Main concepts of objects in IT programming	Complex Adaptive Systems Main concepts of unicist objects	Adaptive Systems in Nature Main concepts of objects in nature (e.g. a tree)
Class	Restricted Context	Species
Object	Business Object	Entity
Inheritance	Homologous Inheritance	Inheritance
Method	Method	Functionality
Event	Action	Action
Message	Information System	Nervous System
Attributes	Fundamentals	Morphology
Abstraction	Ontogenetic Map	Genotype
Encapsulation	Unified Field	Phenotype
Polymorphism	Polymorphism	Polymorphism
-	Synchronicity	Synchronicity
-	Critical Mass	Critical Mass

Structural comparison of the applied research in the field of Human Adaptive Systems
(Individual, social & cultural behavior;
institutional & business processes; future research)

Aspect	Unicist Logical Approach	Alternative Approaches
Theoretical Framework	Pragmatism, Structuralism, Functionalism	Empiricism
Starting Point	Possibilities	Needs
Goal	Produce Results	Produce Results
Attitude	Solution Building	Problem Solving
Objective	Complex Adaptive Systems Development	Complex Problems Solving
Tools	Logical Tools	Empirical Tools
Processes	Objects Driven	Variables Driven
Diagnoses	Based on Ontogenetic Maps	Based on Variables
Future Forecasts	Based on Logical Inferences & Projections	Based on Projections

Annex 3
Main Discoveries and Applications
in Complex Adaptive Systems

Main Researches
on Complex Adaptive Systems
made at The Unicist Research Institute

Discoveries - Basic Sciences

• Unicist Ontogenetic Intelligence of Nature
• Unicist Logic: The Double Dialectical Logic
• Unicist Anthropology
• Unicist Ontology to deal with adaptive systems
• The Ontogenetic Structure of Concepts
• Analogy between the Nature of Concepts and the DNA
• Unicist Mechanics & Quantum Mechanics
• Unicist Ontology of Evolution
• Unicist Ontology of Human Intelligence
• The Ontogenetic Maps
• Homology between the unicist ontological structure, the atomic structure, biology and electricity
• The Unicist Complexity Science Research to deal with Adaptive Systems

• The Nature of Semiosis
• What are Complexity Sciences
• Discovery of the Behavior of Objects in Complex Adaptive Systems
• Development of the Mathematical Foundations of Reality Indicators
• Discovery of the Structure of the Emulation of Reality
• Synthesis of Conceptual Psychology
• Functionality of Dualistic Logic in Complex Environments
• Discovery of the Structure of Aprioristic Fallacies
• Discovery of the Unicist Ontology of Complementation

Life Science Research

• The Unicist Ontology of Health
• The Unified Field of Healthcare
• The Unicist Ontology of Amino Acids
• Homology between Concepts and Stem Cells
• The Ontogenetic Intelligence of Nature
• Unicist Destructive Tests in Biology
• Unicist Non-destructive Tests in Biology
• The Fallacy of Organs and Chronic Diseases
• The Unicist Structure of Viruses
• The Ontogenetic Map of Chronic Diseases
• The Ontogenetic Map of Addictions
• The Ontogenetic Map of Stress
• The Ontogenetic Map of Cure
• The Ontogenetic Map of Immune Systems
• The Ontogenetic Map of Therapeutics

• The Ontogenetic Map of Diseases
• The Ontogenetic Map of Medical Specialties
• Unicist Universal Diagnoses
• The Ontogenetic Map of Patients
• Conceptual Psychology
• The Roots of Human Intelligence
• The Universal Structure of Evolution and Involution
• The Ontogenetic Map of Complex Adaptive Systems
• The Ontogenetic Map of Clinical Trials
• The Ontogenetic Map of Research & Researchers
• The Ontogenetic Map of Healthcare Organizations
• The Ontogenetic Map of Prevention
• Unicist Universal Quality Assurance
• Unicist Universal Decision Making

Basics of Future Research

• The Unicist Ontology to Infer the Future
• The Unicist Ontology of Evolution
• The Basics of Social Evolution
• The Unicist Ontology of Cultural Evolution
• The Unicist Ontology of Cultural Involution
• The Unicist Ontology of Psychopathy in Leadership
• The Unicist Human Spiral Evolution & Involution
• The Unicist Ontology of Human Evolution and Involution
• The Unicist Laws of Evolution
• The Unicist Ontology of Social Mutation

• The Unicist Ontology of Institutional and Cultural Adaptiveness
• The Nature of Cultural Stagnation
• The Unicist Anthropology
• The Unicist Logic and its Mathematics
• Unicist Thinking: The double dialectical thinking
• The Unicist Ontology of Time Management and Time Drivers
• The Unicist Ontogenetic Algorithms
• The Structure of Unicist Ontogenetic Maps
• The Unicist Ontology of Change Agents
• Fundamental Analysis & Technical Analysis

• The Unicist Fundamental Technology
• Discovery of the Structure of the Unicist Ontology
• The Discovery of Ethical Intelligence
• Confirmation of the Functionality of Ethical Intelligence in Future Research
• Development of the 10-year Scenario for Consumer Markets (2014-2024)
• Development of the 10-year Scenario for Healthcare (2014-2024)

• Development of the 10-year Scenario for Virtual Collaboration (2014-2024)
• Development of the 10-year Scenario for Marketing (2014-2024)
• Development of the 10-year Scenario for Internet (2014-2024)
• Development of the 10-year Scenario for Superior Education in Business (2014-2024)

Main Discoveries in
Businesses and Institutions

The discovery of the unicist ontology of institutions and the development of the ontogenetic maps and the unicist ontogenetic algorithms of their functions made institutions and businesses reasonable, understandable and predictable.

Business Modeling
• The Unicist Ontology of Natural Models in Business Evolution
• The Unicist Ontology of Institutions
• The Unicist Ontology of Enterprises
• The Unicist Ontology of Entrepreneurs
• The Unicist Ontology of Business Modeling
• The Unicist Ontology of Business Process Modeling
• The Principles of Organizational Equilibrium
• The Unicist Ontology of Butterfly Companies
• The Unicist Ontology of Human Complex Adaptive Systems
• The Unicist Ontology of Organizational Meta-models

Business Strategy
• The Unicist Ontology of Universal Strategy Building
• The Unicist Ontology of Specific Strategy Building
• The Unicist Ontology of the Strategic Attitude
• The Unicist Ontology of Non-Influential Strategies
• Responsibility and its relation with the amplitude of a unified field in business
• The Unicist Ontology of Family Businesses
• The Unicist Ontology of Proactive Responsibility
• The Unicist Ontology of Organizational Strategy towards Natural Organization

Business Growth
• The Unicist Ontology of Economic Growth
• The Unicist Ontology of Business Synergy
• The Unicist Ontology of Credibility
• The Unicist Ontology of Market Confrontations of Supremacy
• The Unicist Ontology of Dominance Market Confrontations
• The Unicist Ontology of Market Confrontations of Conquest
• The Unicist Ontology of Negotiations
• The Unicist Ontology of Object Driven Value Generation

Business Architecture
• The Unicist Ontology of Architecture & Architects
• The Unicist Ontology of Functional Business Architecture
• The Unicist Ontology of Organizational Design
• Unicist Project Management
• The Unicist Ontology of Adaptive Systems for Work
• The Unicist Ontology of Client Centered Management
• The Unicist Ontology of the Organizational Immune System
• Unicist Hyperrealism in Business
• The Unicist Ontology of Adaptive System Design
• Development of Unicist Virtual Collaboration

Business Diagnostics
• The Unicist Ontology of Diagnoses
• The Unicist Ontology of Business Diagnostics
• The Unicist Ontology of Decision Making
• The Unicist Ontological reverse engineering approach
• The Unicist Ontology of the Apprehension of a Unified Field in Business
• The Unicist Ontology of Pilot Testing

Production Management
• The Unicist Ontology of Continuous Improvement
• The Unicist Ontology of Quality Assurance
• The Unicist Ontology of Insourcing
• The Unicist Ontology of Outsourcing
• The Unicist Ontology of Cybernetics

Object Driven Organization
• The Unicist Ontology of the Object Driven Organization
• The Unicist Ontology of Natural Organization
• The Unicist Ontology of Business Objects Design
• The Unicist Standard for Business Objects Design
• The Unicist Ontology of Business Platforms Building
• The Unicist Ontology of Object Driven Management
• The Unicist Ontology of Performance Management

Business Objects
• The Unicist Ontology of Cognitive Objects
• The Unicist Ontology of Objects
• The Unicist Ontology of Functional Objects
• The Unicist Ontology of Operational Objects
• The Unicist Ontology of Systemic Objects
• The Unicist Ontology of the Functionality of Business Objects

Marketing & Sales
• The Unicist Ontology of Marketing Mix
• The Unicist Ontology of Functional Segmentation
• The Unicist Ontology of Market Segmentation
• The Unicist Ontology of a Commercial Catalyst
• The Unicist Ontology of Object Driven Marketing of Rational Products / Services
• The Unicist Ontology of Object Driven Marketing of Ethical Products and Services
• The Unicist Ontology of Object Driven Marketing of Impulsive Buying
• The Unicist Ontology of Aesthetics
• The Unicist Ontology of Institutional Selling
• Discovery of the Structure of Subliminal Decision-making
• Development of Unicist Network Marketing
• Development of Unicist Commercial Objects
• Development of Unicist Semantic Objects
• Development of Unicist Virtual Collaboration

Information Technology Architecture
• The Unicist Design Methodology: Unicist XD
• Unicist Project Management
• The Unicist Ontology of Workstation Automation
• The Unicist Ontology of Robotics
• Development of Unicist Adaptive Robotics
• Development of Unicist Business Robots
• Development of Predictive Interfaces

Human Resources
• The Unicist Ontology of Peopleware

• The Unicist Ontology of Professionalism in Business
• The Building of Human Capital: an ontological approach
• Unicist Ontology of In-Company Corporate Universities
• The Unicist Ontology of Human Process Catalysts
• The Unicist Ontology of Doers
• The Unicist Ontology of Leadership
• The Unicist Ontology of the Adults' Learning Context
• The Unicist Ontology of Human Learning
• Discovery of the Structure of Subliminal Decision-making
• Development of Unicist Virtual Collaboration

Innovation, Change Management and R&D
• The Unicist Ontology of Innovation
• The Unicist Ontology of Change Management
• Ontological Structure of the Unified Field in Business
• The Unicist Ontogenetic Algorithm
• The Unicist Ontology of Intellectual Capital
• The Unicist Ontology of Research
• The Unicist Ontology of Unified Fields in Nature
• The Unicist Complexity Science Research to deal with Adaptive Systems

Business Therapeutics
• The Unicist Ontology of Evolution and Involution Cycles in Unicist Institutional Therapeutics
• The Unicist Ontology of the Cure for Businesses
• The Unicist Ontology of Institutional Syndromes and Cures
• The Unicist Ontology of Business Hackers
• The Unicist Ontology of Business Viruses
• The Unicist Ontology of the Factor Zero
• The Unicist Ontology of Social Viruses at Work
• The Unicist Ontology of the Context for Business Virus Multiplication
• The Unicist Ontology of the Segments of Business Viruses
• The Unicist Ontology of Business Viruses that Destroy Competitiveness

Main Discoveries in
Adaptive Educational Processes

The R&D in the field of education began in the seventies. It was centrally focused on finding the drivers of human learning in the field of adaptive behavior. It drove to the discovery of the structure of those learning processes that promote adaptiveness and the generation of added value in an environment.

Intrapersonal Intelligence
• The Unicist Ontology of Inner Freedom
• The Unicist Ontology of Reflection
• The Unicist Ontology of Consciousness
• The Unicist Ontology of Assimilation / Introjection Processes
• The Unicist Ontology of Discrimination Power
• Stages of the Consciousness Building Process

• The Unicist Ontology of Internal Speed
• The Unicist Ontology of forward-chaining and backward-chaining thinking
• The Relation between Complexity Management and Human Fears
• The Unicist Ontology of Languages as Reasoning Structures

• The Unicist Ontology of the Apprehension of Ontologies
• The Unicist Ontology of Decision Making

Interpersonal Intelligence
• The Unicist Ontology of External Freedom
• The Unicist Ontology of Proactive Responsibility
• The Unicist Ontology of the Solitude of Power
• The Unicist Ontology of Credibility
• The Unicist Ontology of Ambiguous Language
• The Unicist Ontology of Ambiguous Perception
• The Unicist Ontology of the Use of Words in the Building of Minimum and Maximal Strategies
• The Unicist Ontology of Language
• The Unicist Ontology of Messages

Human Learning Basics
• The Unicist Ontology of Human Learning
• The basics of Learning New Skills to Solve Complex Problems
• The Unicist Ontology of Personal Power
• The Unicist Ontology of Learning Processes

• The Unicist Ontology of the Adults' Learning Context
• The Unicist Ontology of the Ethical Intelligence
• The Unicist Ontology of Wisdom
• The Structure of Ontointelligence
• The Unicist Ontology of Doers
• The Unicist Ontology of Reading the Nature of Reality
• The Ontogenesis of Ethical Intelligence
• The Unicist Ontology of Emulation of Reality
• The Unicist Taxonomy of Complex Problem Solving
• The Unicist Ontology of Innovation
• The Unicist Ontology of Fundamental and Technical Analysis
• The Unicist Ontology of Leadership
• The Unicist Ontology of Ambiguity
• The Unicist Ontology of Research
• Discovery and Development of Learning Objects
• Development of the Unicist Ontology of Erudition and Wisdom
• Development of Unicist Semantic Objects
• Development of Unicist Learning Objects
• The Unicist Ontology of Words' Functionality
• The Unicist Ontology of Figurative Communication

Main Discoveries applied to the Healthcare Business

The discovery of the ontogenetic intelligence of nature opened the possibilities of understanding the ontological structure of living beings and dealing with complex problems like medicine. This was materialized in the unicist approach to health and healthcare management which promotes an adaptive medical objects-driven approach that integrates the feedback of medical actions.

Life Science Research
• The Unicist Ontology of Health
• The Unified Field of Healthcare
• The Unicist Ontology of Amino Acids
• Homology between Concepts and Stem Cells
• The Ontogenetic Intelligence of Nature
• Unicist Destructive Tests in Biology
• Unicist Non-destructive Tests in Biology
• The Fallacy of Organs and Chronic Diseases
• The Unicist Structure of Viruses
• The Ontogenetic Map of Chronic Diseases
• The Ontogenetic Map of Addictions
• The Ontogenetic Map of Stress
• The Ontogenetic Map of Cure
• The Ontogenetic Map of Immune Systems
• The Ontogenetic Map of Therapeutics
• The Ontogenetic Map of Diseases
• The Ontogenetic Map of Medical Specialties
• Unicist Universal Diagnoses
• The Ontogenetic Map of Patients
• Conceptual Psychology
• The Roots of Human Intelligence
• The Universal Structure of Evolution and Involution
• The Ontogenetic Map of Complex Adaptive Systems

• The Ontogenetic Map of Clinical Trials
• The Ontogenetic Map of Research & Researchers
• The Ontogenetic Map of Healthcare Organizations
• The Ontogenetic Map of Prevention
• Unicist Universal Quality Assurance
• Unicist Universal Decision Making

Business Diagnostics
• The Unicist Ontology of Diagnoses
• The Unicist Ontology of Business Diagnostics
• The Unicist Ontology of Decision Making
• The Unicist Ontological reverse engineering approach
• The Unicist Ontology of the Apprehension of a Unified Field in Business
• The Unicist Ontology of Pilot Testing

Operation Management
• The Unicist Ontology of Continuous Improvement
• The Unicist Ontology of Quality Assurance
• The Unicist Ontology of Insourcing
• The Unicist Ontology of Outsourcing
• The Unicist Ontology of Cybernetics
• Development of Unicist Virtual Collaboration

Object Driven Organization
• The Unicist Ontology of the Object Driven Organization
• The Unicist Ontology of Natural Organization
• Development of Patient Centered Management

Medical/Business Objects
• The Unicist Ontology of Cognitive Objects
• The Unicist Ontology of Objects
• The Unicist Ontology of Functional Objects
• The Unicist Ontology of Operational Objects
• The Unicist Ontology of Systemic Objects
• The Unicist Ontology of the Functionality of Business Objects
• Development of Unicist Virtual Collaboration
• Development of Patient Centered Management

Business Modeling
• The Unicist Ontology of Natural Models in Business Evolution
• The Unicist Ontology of Institutions
• The Unicist Ontology of Enterprises
• The Principles of Organizational Equilibrium
• The Unicist Ontology of Human Complex Adaptive Systems
• The Unicist Ontology of Organizational Meta-models

Business Strategy
• The Unicist Ontology of Universal Strategy Building
• The Unicist Ontology of Specific Strategy Building
• The Unicist Ontology of the Strategic Attitude

Business Architecture
• The Unicist Ontology of Architecture & Architects
• The Unicist Ontology of Functional Business Architecture
• The Unicist Ontology of Organizational Design
• Unicist Project Management
• The Unicist Ontology of Adaptive System Design
• Development of Unicist Virtual Collaboration
• Development of Patient Centered Management

Innovation, Change Management and R&D
• The Unicist Ontology of Innovation
• The Unicist Ontology of Change Management
• Ontological Structure of the Unified Field in Business

• The Unicist Ontogenetic Algorithm
• The Unicist Ontology of Intellectual Capital
• The Unicist Ontology of Research
• The Unicist Ontology of Unified Fields in Nature
• The Unicist Complexity Science Research to deal with Adaptive Systems

Business Therapeutics
• The Unicist Ontology of Evolution and Involution Cycles in Unicist Institutional Therapeutics
• The Unicist Ontology of the Cure for Businesses
• The Unicist Ontology of Institutional Syndromes and Cures
• The Unicist Ontology of Business Viruses that Destroy Competitiveness

Marketing
• The Unicist Ontology of Marketing Mix
• The Unicist Ontology of Functional Segmentation
• The Unicist Ontology of Market Segmentation
• The Unicist Ontology of a Commercial Catalyst
• The Unicist Ontology of Object Driven Marketing of Ethical Products and Services
• The Unicist Ontology of Aesthetics
• The Unicist Ontology of Institutional Selling
• Development of Unicist Network Marketing
• Development of Unicist Commercial Objects
• Development of Unicist Semantic Objects

Information Technology Architecture
• The Unicist Design Methodology: Unicist XD
• Unicist Project Management
• Development of Unicist Adaptive Robotics
• Development of Unicist Business Robots
• Development of Predictive Interfaces

Human Resources
• The Unicist Ontology of Peopleware
• The Unicist Ontology of Professionalism in Business
• The Building of Human Capital: an ontological approach
• Unicist Ontology of In-Company Corporate Universities
• The Unicist Ontology of Human Process Catalysts
• The Unicist Ontology of Doers
• The Unicist Ontology of Leadership
• The Unicist Ontology of the Adults' Learning Context
• The Unicist Ontology of Human Learning

Main Discoveries in
Social Behavior (on Cultures and Countries)

The discovery of the unicist anthropology and the ontological structure of cultures made the definition of countries' archetypes possible, making country scenarios transparent and allowing the prediction of their evolution.

Basics for Future Scenario Building
• The Unicist Ontology to Infer the Future

• The Unicist Ontology of Evolution
• The Basics of Social Evolution

- The Unicist Ontology of Cultural Evolution
- The Unicist Ontology of Cultural Involution
- The Unicist Ontology of Psychopathy in Leadership
- The Unicist Human Spiral Evolution & Involution
- The Unicist Ontology of Human Evolution and Involution
- The Unicist Laws of Evolution
- The Unicist Ontology of Social Mutation
- The Unicist Ontology of Institutional and Cultural Adaptiveness
- The Nature of Cultural Stagnation
- The Unicist Anthropology
- The Unicist Logic and its Mathematics
- Unicist Thinking: The double dialectical thinking
- The Unicist Ontology of Time Management and Time Drivers
- The Unicist Ontogenetic Algorithms
- The Structure of Unicist Ontogenetic Maps
- The Unicist Ontology of Change Agents
- Fundamental Analysis & Technical Analysis
- The Unicist Fundamental Technology
- Discovery of the Structure of the Unicist Ontology
- The Discovery of Ethical Intelligence
- Confirmation of the Functionality of Ethical Intelligence in Future Research
- Development of the 10-year Scenario for Consumer Markets (2014-2024)
- Development of the 10-year Scenario for Healthcare (2014-2024)
- Development of the 10-year Scenario for Virtual Collaboration (2014-2024)
- Development of the 10-year Scenario for Marketing (2014-2024)
- Development of the 10-year Scenario for Internet (2014-2024)
- Development of the 10-year Scenario for Superior Education in Business (2014-2024)

Future Scenario Building
- The Unicist approach to Scenario Building
- Discovery of the Unicist Anthropology
- The Unicist Complexity Science Research to deal with Adaptive Systems
- The Unicist Ontology of Country Archetypes
- The Unicist Ontology to be used in Future Research applied to the Evolution of Societies
- Unicist Ontological drivers of the Evolution of Countries
- The Unicist Ontology of Historical Evolution
- The Unicist Ontology of the Collective Unconscious
- Development of the Unicist Ontology of Social, Economic and Political Democracy

Economic Scenario
- The Unicist Ontology of a Country's Economic Scenario
- The Unicist Ontology of Economic Behavior
- The Unicist Ontology of Economic Growth
- The Unicist Ontology of Economic Power
- The Unicist Ontology of Innovation
- The Unicist Ontology of Social Critical Mass
- The Unicist Ontology of Wealth and Poverty
- Synthesis of Conceptual Economy

- Functionality of Religions in Social Behavior
- Innovation Blindness
- The Relation between Complexity Management and Human Fears

Political Scenario
- The Unicist Ontology of a Country's Political Scenario
- The Unicist Ontology of Democracy
- The Unicist Ontology of Absolute Ideologies and Fallacious Myths
- The Unicist Ontology of Ideologies
- The Unicist Ontology of Social and Individual Ideologies
- The Unicist Ontology of the State-Nation Concept
- The Unicist Ontology of Oedipus Complex and the Evolution of Species

Social Scenario
- The Unicist Ontology of a Country's Social Scenario
- The Unicist Ontology of Lifestyles
- The Unicist Ontology of Social Institutionalization
- The Unicist Ontology of Social Taboos
- The Unicist Ontology of Fundamentalism
- The Unicist Ontology of Social Myths and Fallacious Myths
- The Unicist Ontology of Social Power
- The Unicist Ontology of Social Utopias

Cultural Scenario
- The Unicist Ontology of Transcendent Goals
- The Unicist Ontology of Countries' Cultural Change
- The Unicist Ontology of Ideological Change
- The Unicist Ontology of Institutionalization as the Driver to Growth
- The Unicist Ontology of the
- The Unicist Ontology of Stagnant Survivors
- The Unicist Ontology of Inner Freedom

Educational and Scientific Scenario
- The Unicist Ontology of Educational Culture
- The Unicist Ontology of Language
- The Unicist Ontology of Fallacies
- The Unicist Ontology of the Adults' Learning Context
- The Unicist Ontology of Ambiguous Language
- The Unicist Ontology of Time Management and Time Drivers
- The Unicist Ontology of Leadership
- The Unicist Ontology of Credibility
- The Unicist Ontology of forward-chaining and backward-chaining thinking

Sustainable Globalization Scenario
- The Unicist Ontology of the Sustainable Globalization
- The Unicist Ontology of Cooperation Building
- The Unicist Ontology of Diplomacy
- The Unicist Ontology of the Power of Diplomacy
- The Unicist Ontology of Dissuasion Power
- The Unicist Ontology of Negotiations

• The Unicist Ontology of the Operational Power of Nations
• The Unicist Ontology of the Power of Nations

• Discovery of the Cultural, Institutional, Individual and Social Archetype

Main Discoveries in Human Intelligence and Behavior

The discovery that the concepts of individuals drive their attitudes and their ethical intelligence defines their intentions allowed integrating the psychological drivers and inhibitors with the conscious intelligence of individuals in a unified field to expand the possibilities of personal evolution.

Strategic Intelligence
• The Unicist Ontology of Universal Strategy Building
• The Unicist Ontology of Specific Strategy Building
• The Unicist Ontology of the Strategic Attitude
• The Unicist Ontology of Non-Influential Strategies
• The Unicist Ontology of Professionalism
• Unicist Thinking: the Double Dialectical Thinking
• The Unicist Ontology of Time Management and Time Drivers
• The Unicist Ontology of Timing
• The Unicist Ontology of Emulation of Reality
• The Unicist Taxonomy of Complex Problem Solving
• The Unicist Ontology of Innovation
• The Unicist Ontology of Fundamental and Technical Analysis
• The Unicist Ontology of Leadership
• The Unicist Ontology of Ambiguity
• The Unicist Ontology of Research

Interpersonal Intelligence
• The Unicist Ontology of External Freedom
• The Unicist Ontology of Proactive Responsibility
• The Unicist Ontology of the Solitude of Power
• The Unicist Ontology of Credibility
• The Unicist Ontology of Ambiguous Language
• The Unicist Ontology of Ambiguous Perception
• The Unicist Ontology of the Use of Words in the Building of Minimum and Maximal Strategies
• The Unicist Ontology of Language
• The Unicist Ontology of Messages
• The Unicist Ontology of Words' Functionality
• The Unicist Ontology of Figurative Communication

Intrapersonal Intelligence
• The Unicist Ontology of Inner Freedom
• The Unicist Ontology of Reflection
• The Unicist Ontology of Consciousness
• The Unicist Ontology of Assimilation / Introjection Processes
• The Unicist Ontology of Discrimination Power
• Stages of the Consciousness Building Process
• The Unicist Ontology of Internal Speed
• The Unicist Ontology of forward-chaining and backward-chaining thinking

• The Relation between Complexity Management and Human Fears
• The Unicist Ontology of Languages as Reasoning Structures
• The Unicist Ontology of the Apprehension of Ontologies
• The Unicist Ontology of Decision Making
• Development of the Unicist Q Method

Ethical Intelligence
• The Unicist Ontology of the Ethical Intelligence
• The Unicist Ontology of Wisdom
• The Structure of Ontointelligence
• The Unicist Ontology of Doers
• The Unicist Ontology of Reading the Nature of Reality
• The Ontogenesis of Ethical Intelligence
• The Unicist Ontology of Human Learning
• The basics of Learning New Skills to Solve Complex Problems
• The Unicist Ontology of Personal Power
• The Unicist Ontology of Learning Processes
• The Unicist Ontology of the Adults' Learning Context

Anti-intelligence (to build inhibiting objects)
• Discovery of the Unicist Ontology of Anti-intelligence
• The Unicist Ontology of the In-capacity to deal with Ignorance
• The Unicist Ontology of Psychopatic Manipulation
• The Unicist Ontology of Psychopathy in Leadership
• The Unicist Ontology of Smart Alecks in Business
• Unicist Ontology of Active Inaction
• The Structure of Innovation Blindness
• The Unicist Ontology of Human Essential Complexes
• The Unicist Ontology of Oedipus-Complex and the Evolution of Species
• The Unicist Ontology of Inferiority and Superiority Complexes
• The Unicist Ontology of Anti-Institutions
• The Anti-Object Driven Organization
• The Unicist Ontology of Anti-Credibility
• The Unicist Ontology of Anti-Professionalism in Business
• The Unicist Ontology of Anti-Strategies
• Innovation Blindness

• The Unicist Ontology of Fallacies
• The Unicist Ontology of Stagnant Survivors
• The Unicist Ontology of Perception Fallacies

• The Unicist Ontology of Pseudo Freedom
• The Unicist Ontology of Anti-consciousness

Scientific applications of the Unicist Theory that changed paradigms of existing Sciences:

In Scientific Research - 1980: Development of a unicist ontological methodology for complex systems research, substituting the systemic approach to research adaptive systems. **2014:** The integration of the unified field of macro and micro behavior. **2015:** Development of the destructive and non-destructive tests to research adaptive environments.

In Life Sciences - 1988: Discovery of the functional structure that regulates evolution and the unicist ontological structure of living beings as a unified field. **2006**: Discovery of the unicist ontological algorithm of evolution and involution. **2008:** Discovery of the two types of integration, complementation and supplementation, of elements in complex adaptive systems. **2012:** Discovery of the unicist ontology of biological entities. **2013:** Confirmation of the unicist ontology of viruses. **2014:** Discovery of the ontological structure of chronic diseases. **2014:** Discovery of the structure of therapeutics. **2015:** Discovery of the ontological structure of health.

In Complexity Sciences - 1998: Development of the unicist ontology emulating the ontogenetic intelligence of nature. **2003:** Discovery of the anti-concepts that work as antimatter. **2006:** Development of objects to manage human adaptive systems emulating the structure of nature. **2011:** Discovery of the unicist ontology of complex adaptive systems. **2014:** Discovery of the behavior of objects in complex adaptive systems. **2015:** Discovery of the essential opposition but operational complementation between the active function and the energy conservation function of concepts.

In Information Sciences – 2002: Development of unicist ontogenetic based ontologies replacing the empirically structured ontologies. **2014:** Development of unicist adaptive robotics. **2015:** Development of prototypers.

In Future Research and Strategy - 1984: Modeling of the ontological structures that allow inferring the evolution developing the ontogenetic maps of human adaptive systems. **2014:** Confirmation of the functionality of ethical intelligence in future research. **2015:** Discovery of the unicist ontology of personal strategies.

In Logic - 1986: Development and formalization of the integrative and the unicist logic. **2013:** Functionality of Dualistic Logic in complex environments. **2013:** Discovery of the structure of aprioristic fallacies.

In Anthropology - 1986: Discovery of the "invariables" of human behavior. **1997:** Discovery of the double dialectical behavior. **2008**: Discovery of the anthropological lifestyles. **2010:** Discovery of the institutional and social viruses. **2012:** Discovery of the integration of ontogeny and phylogeny. **2012:** Discovery of the stagnant survivors' role in societies. **2012:** Discovery of the unicist ontological structure of aptitudes, attitudes and intentions. **2013:** Development of the unicist ontology of cultural adaptiveness & over-adaptiveness. **2014:** Synthesis of Conceptual Anthropology.**2014:** Discovery of the Cultural, Institutional, Individual and Social Archetypes.

2015: Discovery of the functionality of rationalism and subjectivism as social and individual addictions.

In Economic Science - 1989: Discovery of the unicist ontological structure of Economics. **1998:** Discovery of the unicist ontological algorithm of the price elasticity of demand. **2004:** Discovery of the ontogenetic structure of economic models and their functionality. **2011:** Discovery of the ontology of currency and inflation. **2012:** Discovery of the ontology of the industrialization level. **2012:** Discovery of the unicist ontology of the overcoming of scarcity. **2012:** Pricing of Futures and Options. **2012:** Discovery of the unicist ontology of speculative manipulation. **2014:** Synthesis of Conceptual Economy. **2015:** Discovery of the unicist ontology of economic freedom.

In Political Science - 1990: Development of the ontological algorithm and the ontogenesis and phylogeny of ideologies and their functionality. **2013:** Development of the unicist ontology of Social, Economic and Political Democracy.

In Social Sciences - 1993: Discovery of the collective unconscious and the unicist archetypes of cultures. **2012:** Discovery of the role of stagnant survivor elites in the stagnation of segments or cultures.

In Linguistics – 2004: Discovery of the unicist ontological algorithms of natural, ambiguous and figurative languages and the unicist ontology of words. **2014:** Development of semantic objects. **2015:** Discovery of the ontological structure of subliminal communication.

In Mathematics - 1996: Development of the conceptual basis of interdependent, dependent and independent variables. **2014:** Development of the mathematical foundations of reality indicators.

In Philosophy - 1994: Development of the unicist ontology integrating philosophy, science and action in a unified field. **1997:** Refutation of Hegel's and Marx's dialectics and the formulation of the laws of the double dialectics.

In History - 2000: Development of a historical analysis methodology based on the unicist double dialectics.

In Cognitive Science - 2001: Development of a methodology to construct knowledge with existing information through an integrative logic. **2002:** Development of the unicist reflection methodology to deal with the nature of reality. **2006**: Discovery of the object driven organization of mental processes and the development of cognitive objects. **2008:** Development of the ontological algorithms of fundamental analysis. **2013:** Development of the unicist ontology of erudition and wisdom (observers vs. participants). **2014:** Discovery of the structure of the emulation of reality. **2015:** Discovery of the unicist ontology of conceptualization.

In Education - 1979: Discovery of the ontogenetic algorithms of learning which has given scientific sustainability, amongst others, to Piaget. **2014:** Discovery and development of learning objects. **2015:** Development of Reflection Driven Education.

In Psychology - 1984: Discovery of human ontointelligence to deal with adaptive systems. **2003:** Discovery of the unicist ontological structure of fallacies, the functionality of anti-intelligence and anti-intuition. **2004:** Discovery of the double dialectical thinking process. **2005:** Discovery of the unicist ontology and evolution laws of human essential complexes. **2011:** Discovery of the ontology of conscious behavior. **2012:** Discovery of the ontology of

complementation of thinking processes. **2012:** Discovery of the unicist ontology of psychopathy. **2014:** Discovery of the structure of subliminal decision-making. **2014:** Synthesis of Conceptual Psychology. **2015:** Functionality of concepts as behavioral objects.

In Semiology - 2012: Discovery of the unicist ontology of semiosis as a complex adaptive system. **2015:** Development of semiotic role objects.

Annex 4
Research Methodology

Complexity Science Research

Complexity Sciences are defined as the scientific approach to deal with complex adaptive systems. The unicist theory expanded the frontiers of sciences making the scientific approach to complex adaptive systems possible without needing to use arbitrary palliatives to transform complex systems into systemic systems in order to be able to research them.

The Unicist Standard for Complexity Research was developed based on the characteristics of adaptive systems considered in their complexity.

Some of the characteristics of such systems are:
- Open boundaries
- Bi-univocity of its components
- The existence of conjunctions without disjunctions
- The inexistence of observers

The consequence was the substitution of an epistemologically invalid approach to complex problems, dividing them into variables, which are inexistent, by a unicist ontological approach driven by objects, in which objects are integrated as subsystems in adaptive systems, following the rules of the ontogenetic intelligence of nature.

The development of the unicist ontological research methodology allowed discovering the unicist ontogenetic maps and ontogenetic algorithms of human adaptive systems making them reasonable, understandable and predictable.

The unicist approach to complexity sciences integrates ontology, science and actions in a unified field. Therefore the research on human complex adaptive systems cannot be done through artificial experiments or simulations. It has to be done in an environment of real action. In the unicist approach doing and researching are integrated in a unified field.

The unicist ontological research model enabled the definition of the field of possibilities of an adaptive system and to enter then in the field of probabilities of the occurrence of events. The concepts of falsification and validation, applicable to systemic sciences, were replaced by the use of destructive and non-destructive pilot tests.

The presentation of the knowledge of complex adaptive systems includes two different levels of information:
a) The synthesis: that includes the discoveries of the unicist ontological structures and the ontogenetic maps written in unicist standard language.
b) The research process: that describes the steps of the research process.

Complexity Science Methodology
to Research the Ontology of Human Adaptive Systems

There is a general research methodology that has to be followed to define the validity of an ontological structure that is needed to deal with human adaptive system.

The basic steps are:

1) Develop the hypothetical structure of the ontology.
2) Analyze the ontology and divide it into sub-ontologies following the laws of complementation and supplementation (only when necessary and possible).
3) Define observable results that need to be considered to validate the ontology.
4) Define the application fields of the ontology to validate its functionality.
5) Develop the applications beginning with destructive and non-destructive pilot tests to forecast reality.
6) Develop at least five experiences in the application field differing completely one from the other.
7) Develop forecasts of at least three periods with full certainty.
8) Restart the research process every time a deviation occurs.