The Research of the Functionality of Adaptive Environments

The Functionalist Approach to Science

A pragmatic, structural, and functionalist approach

The Unicist
Research Institute

Pioneers in Research since 1976

The Functionalist Principle
The functionalist principle explains the functionality of the universe and allows managing the functionality of things

The functionalist principle defines that there is nothing in the universe, which is part of a system, that does not work with a purpose, an active and entropic function, and an energy conservation function.

The functionalist principle is based on the fact that the real world works as a unified field, which requires that the different functions are driven by the same principle to work as an integrated unit.

Their interaction defines the functionality of the binary actions that produce results.

Binary actions are two synchronized actions that, on the one hand, open possibilities establishing a functional context and, on the other hand, close processes to generate results.

The functionalist principles of things are defined by the intrinsic concepts that manage their functionality and the extrinsic concepts that manage their use. They are based on the ontogenesis of evolution that was discovered by Peter Belohlavek.

The discovery of the functional structure of binary actions made the systematic design of synchronized binary actions possible, which simplified and ensured the results of processes of any kind.

Managing the Functionality of Things

The functionalist approach to science built a bridge between operational knowledge and metaphysics, developing the category of functionalist knowledge, which defines the functionalist principles that drive the functionality, dynamics, and evolution of things. It is based on the use of functionalist knowledge to manage the real world that integrates the know-how and the know-why of things.

The unicist functionalist approach to science was developed by Peter Belohlavek at The Unicist Research Institute. This approach opens the possibility of dealing with adaptive environments and understanding and influencing the evolution of things.

The Functionalist Approach to Science provided:

1. The unicist logic to manage the functionality of the real world
2. The functional structure of things to make them work
3. Synchronized binary actions to ensure results
4. Unicist AI, based on the unicist logic, that emulates human decision making

This document includes:

1) Preface: The unicist ontological approach
2) A synthesis of the functionalist approach to science
3) Evidence of the functionalist principles of things
4) Functionalist Knowledge
5) The theoretical framework
6) The basics of the functionalist approach
7) The unicist logic
8) The unicist research methodologies
9) The unicist epistemology

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Preface: The Unicist Ontological Approach

The Unicist Ontology describes the Functionality of Things

The unicist ontology defines and describes the functionality of things. Its knowledge is needed to define the functionalist principles and the synchronized binary actions that make things work.

The purpose of developing the unicist ontology was to define the nature of things based on their functionality to generate a bridge between metaphysics and empirical science that allows managing the principles of the functionality of things based on a scientific approach. It gave birth to functionalist knowledge that describes the functionality of things. This development was led by Peter Belohlavek at The Unicist Research Institute.

Unicist Ontological Reverse Engineering

The unicist ontology describes the functionalist principles of facts, ideas, individuals, and things. The unicist ontology gave birth to functionalist knowledge, which is the bridge between science and metaphysics and integrates functionality with operationality. The research of the unicist ontology of things is based on using unicist ontological reverse engineering that begins with the operational facts and ends with the discovery of the functionalist principles that define the unicist ontology.

The unicist ontology is a universalization of the discovery of the ontogenetic intelligence of nature that defines the nature and functionality of an entity. The ontogenetic intelligence of nature is defined by a purpose, an active and entropic principle, and an energy conservation principle that are integrated into their oneness defining the functionality of the entity.

The active principle drives the evolution while the energy conservation principle sustains the purpose. The ontogenetic intelligence of an entity in nature defines its intrinsic functionalist principle that regulates its evolution.

The unicist ontology describes the nature and functionality of reality by emulating the ontogenetic intelligence of nature. Therefore, there is an ontological logic to understanding the nature of reality. Nature is not a question of opinion. From a functional point of view, the nature of a specific reality is unique. That is why there can only be "one" unicist ontology of the functionality of something, which has been named as its functionalist principle.

The Functionalist Principle

The functionalist principle defines that there is nothing in the universe, which is part of a system, that does not work with a purpose, an active and entropic function, and an energy conservation function. Their interaction defines the functionality of the binary actions that make the functionalist principles work.

These functionalist principles integrate the unified field of things. There are two different unicist ontological structures of things, the intrinsic structure that describes the functionality of something in itself, and the extrinsic structure that describes the functional use of things.

A metaphor clarifies this:

The cost of a glass is in its solid.
Its value is in its hollow.
Its cost has no value.
Its value has no cost.
But both of them are within the glass.

The Unicist Functionalist Approach to Science

As it was mentioned, the purpose of the unicist functionalist approach to science is to define the actions that make "things" work. It is based on the use of functionalist knowledge to manage the real world that integrates the know-how and the know-why of "things".

This approach is based on the discovery of the triadic structure of the intelligence that underlies nature that defines the principles of its functionality and led to the development of the unicist logic that allows managing the intelligence that manages the functionality of "things".

This approach uses the unicist ontological approach to describe the triadic functionality of the fundamentals of "things" defined by a purpose, an active function, and an energy conservation function. It provides functionalist knowledge, which allows for defining the binary actions that make "things" work.

Such functionality is driven by supplementary and complementary relationships between the entities of a system and the binary actions that ensure functional operation.

The Unicist Paradigm Shift in Science

| Comparison of Scientific Approaches	Pragmatic Structural Functionalist Approach	Empirical Approach
Structure of the real world	Triadic (purpose - active function - energy conservation function)	Unknown
Application Field	Adaptive and non-adaptive Systems	Systemic Environments
Actions	Binary Synchronized Actions	Independent/Interdependent Actions
Knowledge	Functional Knowledge (know how - know why)	Empirical Knowledge (know how)
Research	Real application based	Experimentation based
Logical Reasoning Processes	Abductive - Inductive - Deductive	Inductive - Deductive
Validation of knowledge	Destructive Testing	Falsification
Benchmarking	Homology based	Analogy based
System type	Any kind of systems - needed for adaptive systems	Systems with closed boundaries
Type of solutions	Functional and Operational Solutions	Operational Solutions
Adaptive System Approach	Managing Functionality, Objects and Catalysts	Managing Variables

Universal Applications

The unicist approach defines that the functionality of things aims at a purpose, which is defined by an objective to be achieved, is driven by an active function that is based on the use of binary actions, and is sustained by an energy conservation function defined by the underlying conceptual structure.

From Physics to Genomics

The triadic structure of the atom, defined by the proton, the electron, and the neutron, is an example of functionality in physics. Unicist mechanics and quantum mechanics are essentially homologous, which allows the understanding of their functionality. This knowledge allows for influencing the unified field of entities and actions in the real world.

Amino Acid Structure
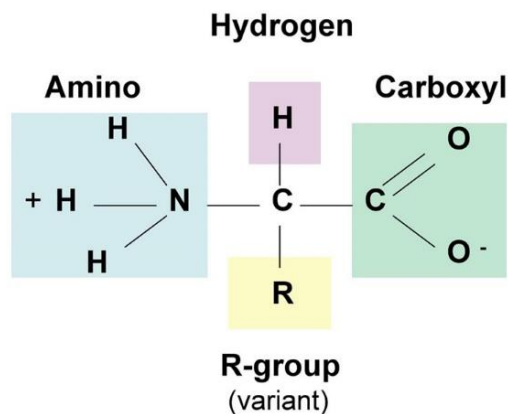
The functionality of chemical elements, which can be part of a molecule, is focused on the purpose of achieving a level of stable energy, the active functions are the valences, and the energy conservation functions are the bonds they build.

In genomics, you will find its triadic functionality in all its functions. E.g., nucleotides, integrated by sugar, nitrogenous base, and phosphate; amino acids integrated by hydrogen and amine and carboxylic acid groups; codons that are a specific sequence of three consecutive nucleotides that is part of the genetic code. The triadic structure of the unicist ontology of DNA and RNA viruses explains their functional structure. Epigenetic functions work as inhibitors or catalysts that affect the behavior of genes.

From Microcosm to Macrocosm

The unified field of the macro and the microcosm is beyond the operational solutions developed in physics and needs to be found at the functional level of the "system".

The microcosm is the active function, and the macrocosm is the energy conservation function while the purpose is blurred or subject to speculation or religious beliefs.
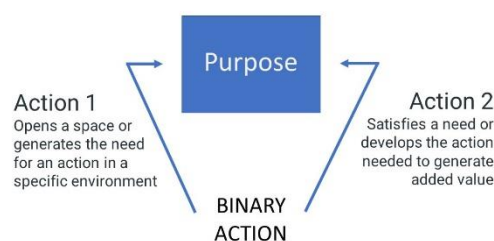
The macro and the microcosm are evident in social and economic systems, where family and society or microeconomics and macroeconomics are, respectively, the active functions and the energy conservation functions of the systems that have evident purposes.
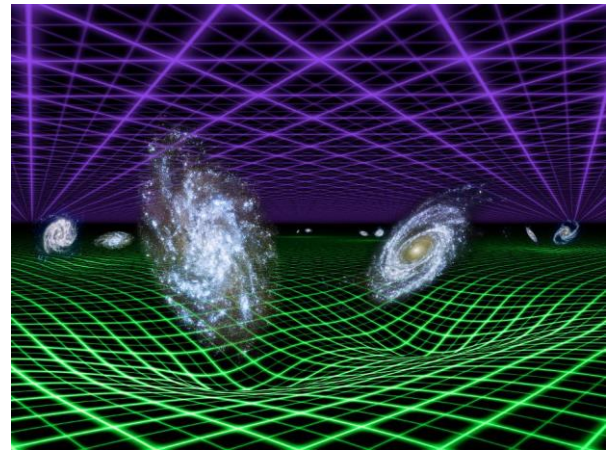
From Univocal Actions to Binary Actions

Univocal actions work in controlled environments where natural reactions can be inhibited. But it has to be considered that the triadic functionality of any system requires that there are two synchronized actions that, on the one hand, integrate the active function with the purpose, and on the other hand, integrate the energy conservation function with the purpose.

Synchronized actions include the reaction as part of the system. This behavior applies to any adaptive environment, including the social, economic, and business fields.

In the field of business, binary actions are two synchronized actions that aim at the same purpose. Every business function is defined by a triadic structure that defines its purpose, its active function, and its energy conservation function.

The active function, aiming at the purpose, and the energy conservation function, sustaining the same purpose, are binary actions in businesses.

Evidence of the Functionalist Principles of Things

It is strongly recommended to begin by accessing the evidence to see the functionality of things in everyday life.

Examples in Everyday Life

The Functionalist Principle of Airplanes

The purpose of flying an airplane can be considered to move from one airport to another.

The active function is given by their propulsion and the energy conservation function is given by the lift provided by the wings.

The binary actions to make an airplane fly begin by producing the propulsion that generates the necessary speed of the airflow on the wings of the airplane to generate the lift.
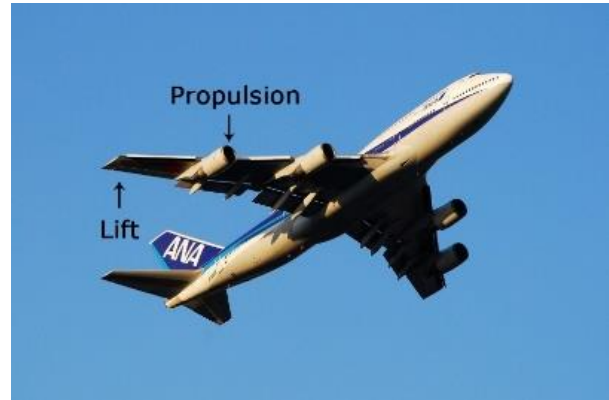
The Functionalist Principle of Relationship Building

The purpose of relationship building is to establish complementation between two or more people. This applies to all types of relationships, whether they are familiar, personal, business, or social relationships.

The active function of relationship building is the demonstration of the existence of a functional value, which means that the participation of the person who is building a relationship is necessary.

The energy conservation function is the existence of a personal common space that can be shared.

The binary actions of the process are, on the one hand, the demonstration of the value that is being added and, on the other hand, the finding of a personal common goal that integrates the participants.

The Functionalist Principle of Democratic Governance

The purpose of democratic governance is achieving consensus among the members of a society or group, which is given by the existence of a parliamentary power that has different shapes depending on the environment.

The active function is given by an executive power that assumes the responsibility for transforming the definition of the parliament into actions that ensure efficiency and consensus.

The energy conservation function is given by a judiciary power that adopts many shapes but in

all the cases needs to complement the parliamentary power to ensure the functionality of the system.

The binary actions are, on the one hand, the work of the executive power to make things happen for the present and future generations and, on the other hand, the assurance of the fulfillment of the rules of the system.

The Functionalist Principle of an Electric Motor

The purpose of an electric motor is to convert electrical energy into mechanical energy. DC motors and AC motors are based on the same essential principles that define their triadic structure.

Their active function is based on transforming electrical energy into magnetic energy. The energy conservation function transforms the magnetic energy into mechanical energy.

The binary actions of the process are, on the one hand, the transformation of electrical energy into magnetic energy and, on the other hand, the transformation of the magnetic force into mechanical energy. These processes happen within the rotor and the stator of an electric motor.

The Functionalist Principle of Selling Processes

The purpose of a selling process is to satisfy the needs of a customer. This sales process applies to products, services, or ideas, selling at a personal, familiar, business, or social level.

The active function of the selling process is the discovery of the buying argument of the potential customers, which requires understanding the needs to be satisfied.

The energy conservation function is the building of the selling argument that is complementary with the buying argument and needs to satisfy the needs and establish a common space of exchange.

The binary actions of the process are the research and confirmation of the buying arguments of customers, and on the other hand, the development of complementary selling arguments that allow closing sales.

The Functionalist Principle of Economic Systems of Countries

The purpose of the economic system is to generate stable economic growth that ensures the wellbeing and evolution of a society. This applies to all kinds of economic or ideological models.

The active function of an economic system is the existence of a productive system that generates a maximal added value with a minimum level of energy consumption.

The energy conservation function is given by the distribution system of a society that ensures a fair distribution of the value generated by the productive system.

The binary action of the process begins with the functionality of the productive system to ensure the generation of the maximal added value possible and continues with the system that distributes the produces among the members of the society.

The Functionalist Principle of Hammers

A hammer is a tool with a metal head mounted at right angles at the end of a handle. The purpose of a hammer is to fulfill a task for which it is suitable.

The active function is the handle, which generates the acceleration that produces the force to make the work possible. The energy conservation function is the mass of the head that ensures the results.

The binary actions that define the use of the hammer begin by the functionality of the handle and continue with the functionality of the head of the hammer.

The Functionalist Principle of Leadership

The purpose of leadership is to ensure the authority of a leader by driving people toward the achievement of something. It applies to all kinds of leadership, whether they are in familiar, social, or business environments.

The active function is given by the participation of the members of a group who aim at achieving their goals while they challenge authority.

The energy conservation function is based on the non-exerted power the authority has to sustain the functionality of the participation and the achievement of goals.

The binary actions are, on the one hand, the participative activities between the leader and the members and, on the other hand, the existence of the necessary power to influence people without needing to exert it.

Unicist Functionalist Knowledge

Adaptive systems and environments are continuously evolving. It can be said that all things are adaptive, what varies is the speed of change. Therefore, the scientific approach to adaptive environments required a new approach to knowledge.

It became necessary to build a bridge between metaphysics and empirical knowledge. Metaphysics approaches things based on principles and empiricism approaches them based on operational knowledge.

The unicist functionalist knowledge established a bridge by providing a functionalist approach that deals with the functionality of things that integrate principles with the operation. The name unicist implies that things are approached based on the unified field that integrates them with the context.

Unicist Functionalist Knowledge

There are two basic conditions to enter the world of functionalist knowledge in adaptive environments. Functionalist knowledge is defined as the integration of the "know-how" of adaptive systems and environments with the "know-why" of their functionality. These two approaches are integrated by a reasoning process that allows for making knowledge reasonable, understandable, and provable.

The access to the functionalist knowledge of adaptive systems requires accepting that all types of adaptive systems have a functional structure that is implicit in the intelligence of nature, which means that they have an implicit purpose, an active function that defines their possibility to expand, and an energy conservation function that ensures their survival.

This requires approaching adaptive systems using a unicist ontological approach that defines the existence of adaptive systems and environments based on their functionality.

The Use of Functionalist Knowledge for Adaptive Solution Building

The unicist evolutionary approach is based on the development and use of functionalist knowledge to develop solutions in adaptive environments.
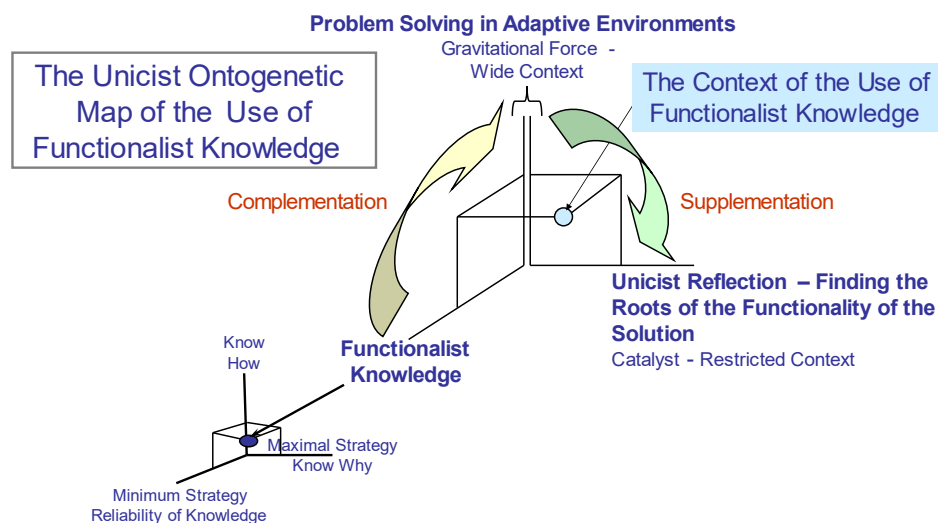
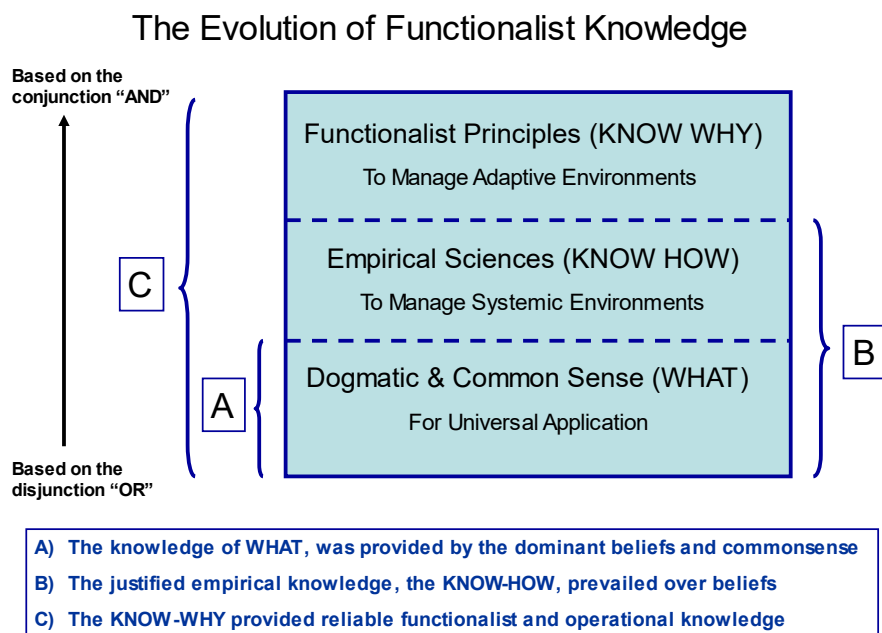Functionalist knowledge is such when it provides the confirmed functional actions and operational procedures of an adaptive solution.

Functionalist knowledge requires integrating the "know-how" of solutions with the "know-why" that defines the fundamentals of the solutions, using the necessary reasoning patterns that allow the development of adaptive solutions.

The "know-how" is based on the use of reliable knowledge that requires emulating the solution in mind using the specific fundamentals and having the procedural knowledge of the binary actions of what needs to be done.

The "know why" is an epistemological approach that requires knowing the concepts and fundamentals of what is intended to be done and the justifications and foundations that make the knowledge reliable.

The Evolution of Functionalist Knowledge

Based on the conjunction "AND"

Based on the disjunction "OR"

C

A

B

Functionalist Principles (KNOW WHY)
To Manage Adaptive Environments

Empirical Sciences (KNOW HOW)
To Manage Systemic Environments

Dogmatic & Common Sense (WHAT)
For Universal Application

A) The knowledge of WHAT, was provided by the dominant beliefs and commonsense

B) The justified empirical knowledge, the KNOW-HOW, prevailed over beliefs

C) The KNOW-WHY provided reliable functionalist and operational knowledge

The functionality of abductive, deductive, and inductive reasoning processes sustains the development of solutions in adaptive environments and requires the use of the unicist logic (double dialectical logic) to manage their functionality, dynamics, and evolution.

The gravitational force that allows the development of functionalist knowledge is the need of developing structural solutions in adaptive environments.
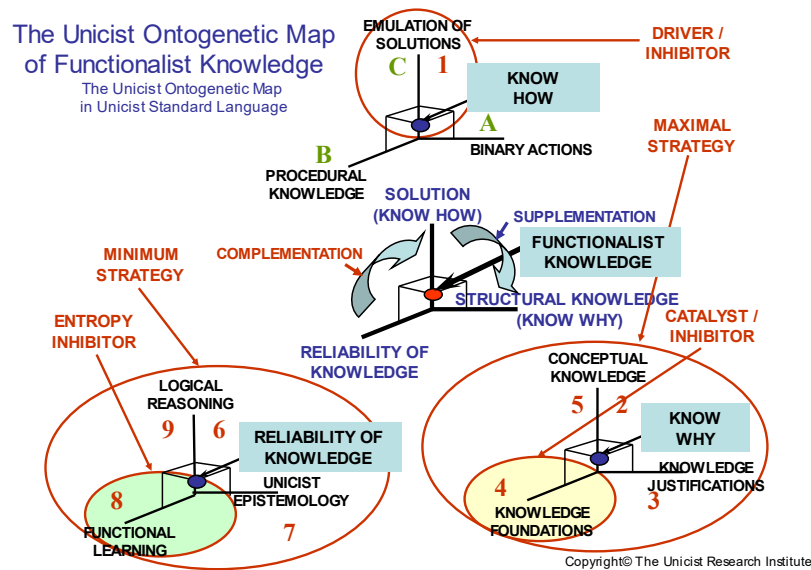
The catalyst that sustains the building and use of functionalist knowledge is the use of pilot tests driven reflection processes. This occurs only when the people involved have decided to assume the responsibility for ensuring the results of these solutions.

The Ontogenetic Structure of Functionalist Knowledge

The driver of functionalist knowledge is solution thinking, which is necessary to deal with adaptive environments.

It is based on having the "know-how" of problem-solving, which requires, on the one hand, having the knowledge of the binary actions that need to be installed to ensure the functionality of the processes and, on the other hand, having the necessary procedural knowledge to define the processes.

Functionalist knowledge implies defining fully reliable actions that have been confirmed through pilot testing processes.

The Unicist Ontogenetic Map of Functionalist Knowledge

The Unicist Ontogenetic Map in Unicist Standard Language

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The Maximal Strategy

Solution thinking begins when the idea of a concept has been achieved. When the concept of the solution has been envisioned, it is necessary to understand the functionality of such solution.

This implies understanding the "what for" that defines the justification of the actions. The true "what for" establishes the basics to be considered to confirm the validity of the conceptual knowledge that defines the "know why" of functionalist knowledge.

It has to be considered that the justification of actions implicitly defines their true purpose, which is frequently hidden when the actions occur in social environments. Finding the true justifications is a basic condition to access the true functionality of a solution.

After the justifications are evident, it is possible to confirm if the foundations of the solutions are available. The foundations establish the validity of the functionality of the fundamentals that integrate concepts.

This fundamental structure is the catalyst of the functionalist reasoning process. It establishes the framework of the functionalist knowledge that is being acquired.

It is necessary to have developed destructive tests to confirm the functionality of the foundations. When the foundations have been confirmed, the conceptual knowledge becomes confirmed.

The Minimum Strategy

The reasoning process begins by making an abductive approach to the solution that is being sought. Unicist abductive reasoning is based on the development of unicist reflection processes, which require the development of pilot tests and destructive tests to confirm the functionality of knowledge and measure its scope of application.

The inductive process that follows is based on these pilot tests, which are sustained by the fundamental structure that has been defined before. The unicist inductive process is a fundamentals-driven induction.

The deductive process that follows is action driven. The objective of the unicist deductive process is to confirm the functionality of the binary actions that are supposed to drive a solution.

The unicist abductive reasoning becomes validated when this deductive reasoning has been completed. The unicist approach implies that the whole reasoning process occurs within the framework of a unicist reflection process.

This approach has been developed to deal with adaptive systems and environments. It is unnecessary in operational environments.

Reflection Processes use Abductive, Inductive and Deductive Reasoning

Unicist Reflection can be defined as the process that integrates abductive, inductive, and deductive reasoning to define the functionality, dynamics, and evolution of adaptive systems and environments.

The final objective is to define the necessary actions that ensure the functionality of adaptive systems.

Unicist reflection is a pilot-test-driven reflection process that includes the initial pilot tests until a system is working, the destructive tests to extend the use of a system beyond the limits of the initial functional boundaries until the system becomes dysfunctional and the non-destructive tests that allow measuring the results that can be achieved within the functional boundaries.

The functionality of the different reasoning processes included in the unicist reflection process can be synthesized in:

Abductive reasoning is based on a conceptual mindset and allows:

1. Managing complex adaptive environments
2. Discovering new solutions
3. Creativity
4. Designing maximal and minimum strategies
5. Backward/Forward chaining thinking
6. Conceptual design
7. Expanding the boundaries of knowledge
8. Hypothesis-based approach
9. Bottom-up and Top-down approaches
10. Destructive and non-destructive testing
11. Homological confirmation of knowledge

Inductive reasoning is based on an operational mindset and allows:

1. Managing operational environments
2. For integrating particular effects with universal causes
3. Learning processes
4. Testing maximal and minimum strategies
5. Backward chaining thinking
6. Functional design
7. Confirming the boundaries of knowledge
8. Observations-based approach
9. Bottom-up approach
10. Destructive testing
11. Functional confirmation of knowledge

Deductive reasoning is based on an analytical mindset and allows:

1. Managing systemic environments
2. Deducing from theories or premises
3. Studying processes
4. Planning maximal and minimum strategies
5. Forward chaining thinking
6. Systemic design

7. Reasoning within existing boundaries
8. Logic based approach
9. Top-down approach
10. Non-destructive testing
11. True knowledge based on theories or premises

The abductive approach implies managing the concepts and fundamentals of things.

One must consider that the basic schooling systems are based on teaching inductive reasoning and mainly deductive (analytical) reasoning, disregarding the use of the abductive reasoning approach.

The unicist reflection process requires managing the unicist logic that allows the integration of the abductive, inductive, and deductive processes.

The unicist logic was developed to consciously manage the unified field of complex adaptive systems. Conscious reasoning allows the development of fallacy-free decisions and actions to ensure the results of what intends to be achieved.

The Use of Functionalist Knowledge

There are four stages that are necessary to transform ideas into actions.

1. Functionalist Principles Finding
2. Fundamental Analysis
3. Solution Building
4. Pilot Testing

The Ontogenetic Map of Functionalist Knowledge
The Unicist Ontogenetic Map in Unicist Standard Language
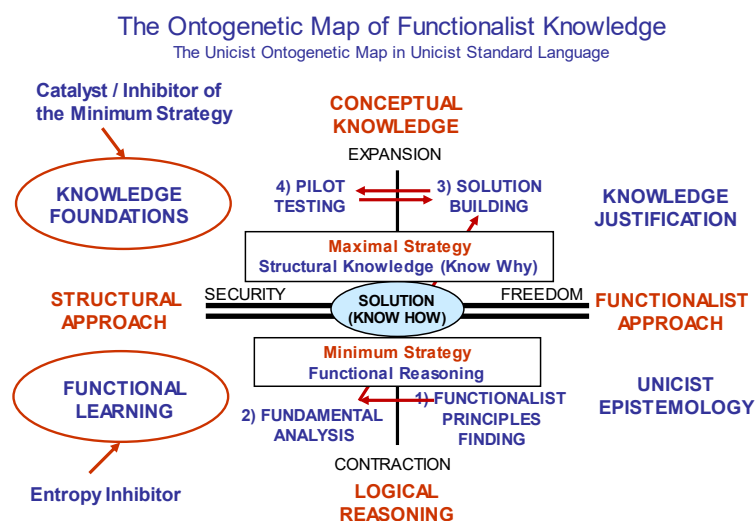
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Functionalist Principles Finding

The finding of the functionalist principles, concepts, and fundamentals of a solution is an inductive process guided by the need of building the ontogenetic map that describes the functionality of the solution that is being built.

It might be the case that the ontogenetic map has already been discovered. In this case, it is necessary to rediscover it to transform semantic information into live functional concepts that describe a solution.

This inductive process is based on the rules established by the unicist logic and the unicist ontology of evolution. It allows describing the structure of a solution and defining the threshold that is functional for each fundamental that integrates the functionalist principles.

Fundamental Analysis

The conceptual functional structure of a solution needs to be divided into its sub-concepts that define the purpose, the maximal strategy, and the minimum strategy.

This division is what allows confirming the functionality of the conceptual structure by developing logical tests following the complementation and supplementation laws and by making the necessary pilot tests to confirm the functionality of the solutions that are implicit.

The fundamental analysis ends with a universal ontogenetic map of a solution and the specific ontogenetic map that responds to the characteristics of the environment and enables the development of solutions.

Solution Building

The building of solutions is driven by the specific concepts and fundamentals that were found and confirmed and is based on the "what for" of the solution that is being built.

These solutions require using a unicist functional design to build on one hand, the functional solution that ends with a functional design, and, on the other hand, an operational solution that transforms the ontogenetic map into binary actions.

In adaptive environments, that are feedback-dependent, it is necessary to build binary actions that fit into the concepts of the solution to the problem. To define these binary actions, it is necessary to envision the concept of the solution and have sound operational knowledge to ensure their functionality.

Pilot Testing

There are three different types of pilot tests that need to be done. The first pilot tests are to confirm if the functionality of the actions has been achieved. This functionality needs to fulfill the objectives that have been defined as possible.

The second pilot test is done when the functionality has been confirmed. Its objective is to measure the limits of the knowledge of the solution. It consists of extending its use until it loses its adaptability first and its functionality afterward. These are the unicist destructive tests that confirm the limits of functionalist knowledge.

The third pilot test is done to measure the quantitative results that can be achieved by the solution. They consist of measuring quantitatively the real application of the solutions.

Conclusion

The use of functionalist knowledge is basic to influence adaptive environments. It allows the development of adaptive solutions to influence the environment and manage its influence. It requires using a pragmatic, structural and functionalist framework to develop the functionalist design of adaptive systems and solve problems in adaptive environments.

The Theoretical Framework

The objective of the theoretical framework was to establish a structural approach to the knowledge of things that enables accessing and managing their functionality and operation.

The Framework of the Unicist Approach to Science

There is nothing in the universe, which is part of a system, that does not work with a purpose, an active function, and an energy conservation function, integrated by complementation and supplementation laws, that define its concept.

This was based on the discovery of the ontogenetic intelligence of nature that allowed the development of the unicist logic and applied it to all that happens in the universe. This is materialized in the ontogenetic maps of things that define and describe their functionality.

The breakthrough in science and the research works that allowed the development of the unicist functional technologies were led by Peter Belohlavek at The Unicist Research Institute.
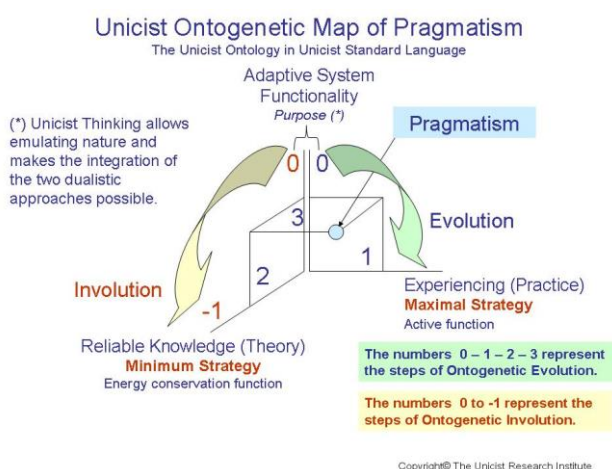
All "things" have a functional structure that emulates the ontogenetic intelligence of nature and is integrated by three elements:

The Functionalist Approach to Science
The Scientific Framework of the Unicist Approach

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1. A purpose that is homologous to the "purpose" in nature.
2. An active function that is homologous to the active principle in nature.
3. An energy conservation function that is homologous to the energy conservation principle in nature.

This drove the integration of a pragmatic, structural and functionalist approach to research in the field of complexity sciences to deal with adaptive environments, which is the framework used in all the research works done at The Unicist Research Institute.
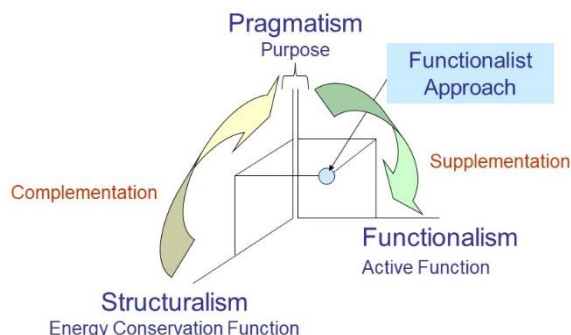
Pragmatism

The research in the field of complex adaptive systems does not allow artificial experiments because they change the conjunction of elements that integrate them.

Unicist Ontogenetic Map of Pragmatism
The Unicist Ontology in Unicist Standard Language

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Therefore, a pragmatic approach that integrates practice and theory is needed. This implies that complexity science requires the integration of reliable knowledge (theory) with experiencing (practice) to define the functionality of a complex adaptive system.

Unicist pragmatism is based on the integration of theory and practice based on the knowledge of the ontogenetic maps of the specific aspects of reality which include their fundamentals.

Unicist pragmatism is based on the unicist reflection process (action-reflection-action) and the use of destructive tests to establish the limits of theoretical knowledge and non-destructive tests to put pragmatism into action.

If you are not aware of the meaning of the word pragmatic, we strongly recommend researching the concept "pragmatism".

Functionalism

Complex adaptive systems need to be approached based on the emergence they generate. A functionalist approach is needed to apprehend the functionality of the system.

Apprehending the functionality implies integrating the purpose, which is implicit in its emergences, with the active function and the energy conservation function. This allows for defining the functionality of a complex adaptive system.

The conceptual structure of a given reality defines its ontogenetic map and drives its action process and evolution.

Unicist functionalism is based on the apprehension of the conceptual structure of a given reality to understand its functionality and evolution. It is measured based on the consequences of actions.

Conceptual structures cannot be taught because they require being able to emulate a specific reality in mind. Therefore, their apprehension can only be fostered. This requires using the unicist pragmatic approach to apprehend a concept.

If you are not aware of the meaning of the word functionality, we strongly recommend researching the concept of "functionalism".
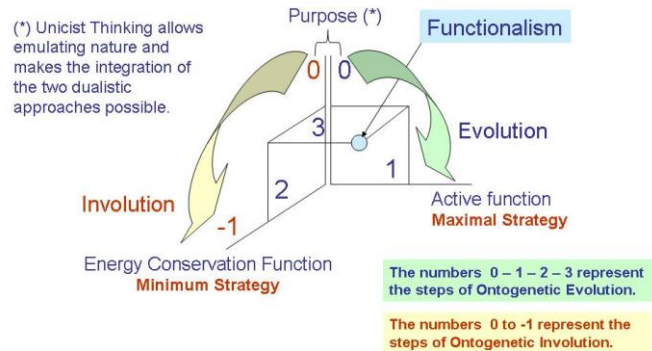
Structuralism

A complex adaptive system has, by definition, open boundaries. That is why it is required that the system be integrated with the restricted and wide contexts that influence it.

Therefore, a structural approach is necessary to integrate the system with its context and the environment to make it reasonable, understandable, and predictable.

The unicist ontological structuralism is based on apprehending the unified field of a specific aspect of reality integrating its ontogenetic map with the unicist ontological structures of the restricted and wide contexts.

The unicist ontological structure requires apprehending the drivers, inhibitors, entropy inhibitors, catalysts and gravitational aspects that are included in the unified field.

If you are not aware of the meaning of the word structural, we strongly recommend researching the concept "structuralism".

The Basics of the
Functionalist Approach to Science

The objective was to build a bridge between the principles that are managed by metaphysics and the operation in the real world. This became possible due to the discovery of the principles of the intelligence that underlies nature and their transformation into a logical model. This gave birth to the unicist logic that allows managing the functionality of things.

The Triadic Structure of the Intelligence of Nature

The objective of this research was to develop a technology that allowed predicting the evolution of specific aspects of complex adaptive systems and developing solutions to exert influence on such evolution.

The research dealt specifically with complex adaptive systems such as living beings, their behaviors, actions, and deeds.

It is necessary to accept that dealing with the intelligence that underlies nature is a complex problem that is extremely abstract and can only be understood by using it in the real world.

This discovery made complex adaptive systems reasonable, understandable, and predictable in those cases in which the structure of the intelligence that underlies their nature has been found.

The Unicist Logic is an emulation of the ontogenetic intelligence of nature
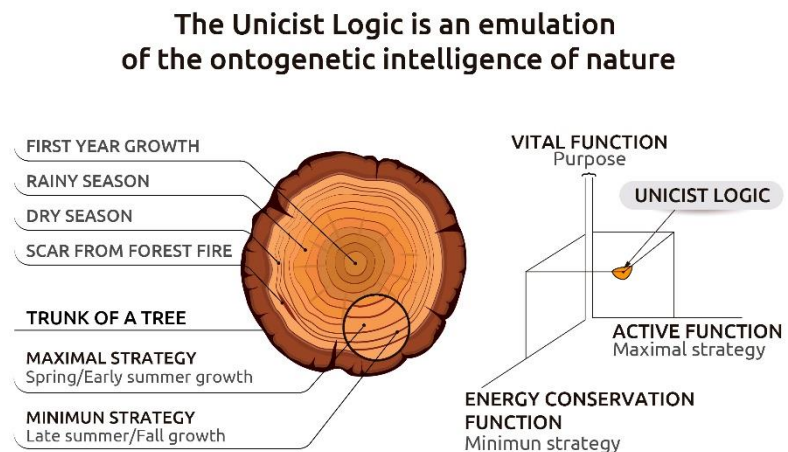
This research process that began in 1976 was a step-by-step approach.

It began with the development of what has been called the "three-dimensional multivariable analytical methodology" – that allowed apprehending and managing the nature of human actions and deeds – and ended when the Theory of Evolution was completed and the emulation of the organization of nature became possible.

The research began in the field of social, economic, and behavioral sciences. Then, it evolved, driven by homologies with confirmed knowledge, towards life sciences and ended with physics to confirm the validity of the unified field. This process demanded almost 40 years and is still ongoing.

Ontogenetic Intelligence of Nature

This segment deals with the ontogenetic intelligence of nature named concept and its structure, defined by the unicist ontology.

The ontogenetic intelligence of nature defines the nature of an entity. As such, its structure was named unicist ontology and the name given to this intelligence was "concept".

The name concept was used because if "the concept of a concept" used in philosophy is studied, it becomes evident that the idea of something pretends to define its nature.

It has to be considered that the research of the intelligence that underlies nature needs to be measurable, that is why this could only be done in a unified field where the results were measurable.

This research has been developed using the methodology of complex adaptive system research where all the elements are integrated by the conjunction "and" and there are no univocal cause-effect relationships.

The ontogenetic intelligence of nature discovered defines that there are only two types of relationships in the world: a complementary relationship and a supplementary relationship, integrated in a triadic function.

This led to the development of the unicist double dialectical approach that allows dealing with complex problems using a logical approach. The unicist double dialectical approach is a rational emulation of the ontogenetic intelligence of nature that allows apprehending the dynamics of evolution. This made the development of the Unicist Logic possible.

Unicist Logic to Manage the Functionality of the Real World

The discovery of the ontogenetic intelligence of nature gave birth to unicist logic. The unicist logic defines the intelligence of things by describing their functionality. The reasoning process, based on the rules established by unicist logic, opens the world of a functionalist approach to the real world, expanding the possibilities for developing functional solutions in adaptive environments.

The unicist logic is based on the discovery of the ontogenetic intelligence of nature that allowed defining the unicist functionalist approach to deal with the real world. The functional design uses the unicist logical approach to design the intelligence of things.

This logic was developed to explain the functionality of things and allowed managing the triadic structure of such functionality defined by their purpose, their active function, and their energy conservation function.

The unicist logic has a scientific origin because it is an emulation of the functionality of nature. This approach is universal. The integration of Yin and Yang uses the triadic structure of the unicist logic. Both the TAO and the unicist logic explain the structure of the unified field of the functionality of a specific reality including its dynamics and evolution.

The unicist logic provides the structure and rules for abductive reasoning. The discovery of the triadic functionality of mental processes allowed defining the unicist logical reasoning process and made abduction reasonable and usable to develop reliable solutions. This opened the possibility of managing the functionality of the real world.

About Evolution

The unicist ontology of evolution explains and predicts the evolution of living beings, their produces, and their actions in a unified field, ruled by concepts and their natural laws. These natural laws have been named "Ontogenetic Intelligence".

The research of the unicist ontology of evolution did not enter the field of the origin of life or the origin of the universe. The purpose of the research was to discover the origin of the rules of evolution, to diagnose and influence it.

The most relevant application fields are future research, strategy, institutional evolution, individual development, and learning processes.

This theory enables the analysis of complex realities and the development of alternative actions to influence them. Its reliability has been proven in its application during the last three decades.

The development of this theory started in 1976 and ended in 2003 with the discovery of the origin of fallacies. Fallacies have been and remain a major obstacle to overcome for the understanding of institutions, countries, and individuals.

The discovery of the structure of concepts ruling the evolution of living beings set the grounds for The Unicist Ontology of Evolution.

The theory fathoms into the most censored aspects of human behavior: human evolution. That is why it is a taboo and must be treated as such.

The consideration that concepts define the ontogenetic intelligence of living beings is recent. The consequence of this statement is that the intelligence of living beings is necessarily based on the double dialectic self-organized approach to reality.

The dysfunctionalities of ontogenetic intelligence endanger the evolution of the living being.

The lack of the conservation principle fosters "explosion", and the lack of the action principle promotes "implosion".

The applications of the unicist ontology of evolution to biological, individual, institutional, and social forecasts were the fields in which this theory was validated and falsified (at the level that is falsifiable).

This ontology approaches evolution in the world of possibilities to discover concepts and operates in the world of probabilities to influence them.

The Basic Principles

Ontogenetic intelligence defines the basic laws of evolution. It is a set of what can be called natural laws which rule the evolution of living beings. It was researched to find an approach to forecast and influence evolution.

Ontogenetic intelligence is defined by two principles of nature:

- **The action and entropic principle** that sustains growth and evolution. It is driven by freedom.
- **The energy conservation principle**, which sustains survival and avoids involution. It is driven by security.

The Ontogenetic Intelligence of Nature

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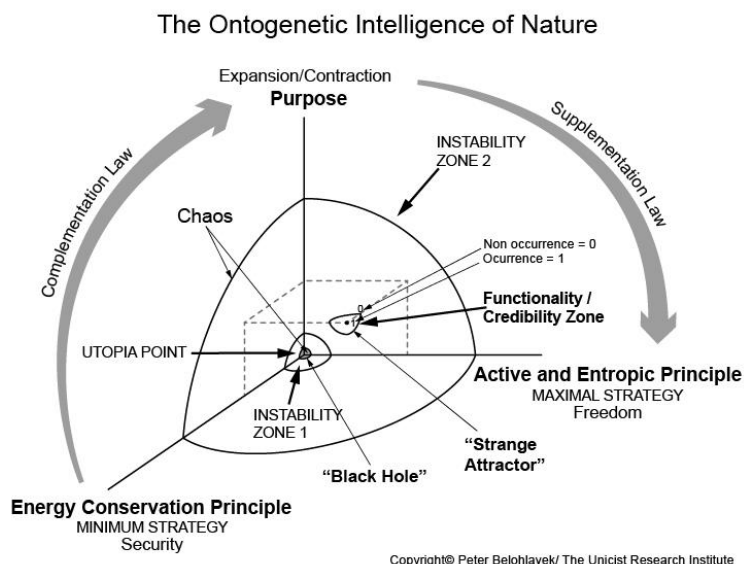
In the field of human behavior, the action principle gives birth to the active function, which makes the fulfillment of purposes possible. The entropy produced by action produces changes in the goal of purposes.

To avoid changes and sustain the purpose, the energy conservation principle produces homeostasis. The homeostatic value complements the purpose and ensures that action occurs within the established limits.

But the consequence of this interaction is never deterministic. The change produced by the interaction of the living being with the environment produces evolution or involution.

In nature, both principles sustain the evolution of living beings. Their effects can be observed in bacteria, viruses, cells, and other living beings.

At a more operational level, besides the expansion and contraction principles, there are functions that provide security and functions that provide freedom to living beings.

These functions are implicit in the upper-level functions (expansion – contraction).

Ontogenetic intelligence provides the basic rules to adapt to an environment. It sustains the living being's unstable equilibrium. When, for any reason, the ontogenetic intelligence is inhibited, the living being loses its equilibrium and its survival is endangered.

These principles are active in individual beings and in the living environment, they are part of.

The Concepts of Living Beings

What has been described is the functioning of ontogenetic intelligence which we consider included in the meaning of the word concept.

The word concept has been used in the past with multiple meanings. But considering the root of the meaning, it always refers to the "nature" of something.

That is why we use the word concept defining its ontogenetic intelligent structure which sustains the adaptive behavior of living beings.

Concepts describe the living creatures' essences and their evolution laws. That is what we call their ontogenetic intelligence.

Living creatures possess intrinsic concepts. This means that these concepts exist in themselves and only need to be discovered.

On the other hand, inanimate beings have extrinsic concepts, which are deposited on them according to their functionality.

Concepts determine the ontological behavior of living creatures. As there is a generic concept for each species that defines its purpose, its expansion action (entropy), and its conservation function, such a concept is cross-cultural and timeless, as long as the species does not become extinct.
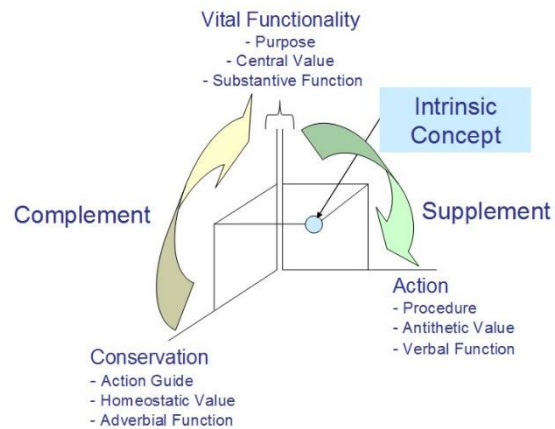
Functionality/Credibility Zone

Intrinsic concepts are functional. They do not exist because someone believes them or not. On the other hand, extrinsic concepts describe the ontology of a living being and depend, for their existence, on the fact that they are believed. While intrinsic concepts are defined by their functionality zone, extrinsic concepts are defined by their credibility zone. In both cases, concepts are not integrated by three different elements, they are "one".

Concepts Behave as Strange Attractors

Unicist Double Pendulum
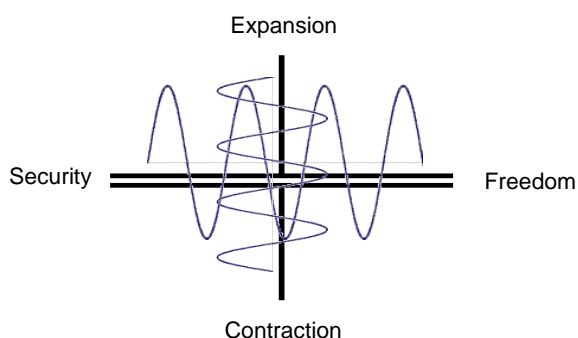
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Behavior oscillates, with higher or lower frequency, between expansion and contraction, and at the same time between security and freedom.

This double oscillation makes concepts behave as strange attractors. When a given behavior moves towards freedom, it will return to seeking security.

The amplitude or importance of the qualitative and quantitative modification does not necessarily determine the amplitude or importance of the next move. The same phenomenon happens when moving towards expansion or contraction.

Therefore, within the credibility zone behavior appears chaotic, but follows the patterns of the behavior of strange attractors. Possibilities define the existence of a functionality/credibility zone while probabilities define the behavior within the functionality/credibility zone.

In intrinsic concepts, possibilities define the existence of a functionality zone, but probabilities define the behavior within such a zone.

In extrinsic concepts, possibilities define the existence of a credibility zone, but probabilities define the behavior within such a zone.

Complementation and Supplementation Laws

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 active 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 relationship 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.

Complements sustain the weaknesses of the purpose to avoid the entropy produced by the action.

When the homeostatic value can buffer the changes produced by the active function, the functionality/credibility zone is relatively stable.

The Complexity of Nature – The Conjunction "AND"

The structure of nature, as a complex system, is sustained by the conjunction "AND". There is no "OR" in nature.

This implies that the three functions: vital function (purpose), active function, and energy conservation function define a "conjunction" that integrates what we called the essential concept of a living being.

This integration implies using mathematics to analyze the functionality of a concept. The multiplication of these three functions defines the capacity to adapt to reality.

To do so it is necessary to have hard information about the concept's functionality considering its possible substitutes, succedanea, its restricted context, and its wide context.

The Evolution of Nature is Purpose Driven

The evolution of nature is random and purpose-driven. The research developed at The Unicist Research Institute concluded that each living creature's evolution is ruled by its ontogenetic

intelligence, which 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 principle (entropic function) and an energy conservation principle.

The research was focused on the unified field of living beings. The basic assumption that sustains this development is that the evolution of living beings, their behaviors, actions, and deeds are driven by the same logical structural framework.

As it was mentioned, the ontogenetic intelligence of nature discovered defines that there are only two types of relationships in the world: a complementary relationship and a supplementary relationship, integrated into a triadic function.

This led to the development of the unicist double dialectical approach that allows dealing with complex problems using a logical approach.

The unicist double dialectical approach is a rational emulation of the ontogenetic intelligence of nature that allows apprehending the dynamics of evolution. This made the development of the Unicist Logic possible.

The Ontogenetic Intelligence of Nature

Purpose
Vital Function

Ontogenetic Intelligence of Nature

Complement

Supplement

Active and Entropic Principle
Maximal Strategy

Energy Conservation Principle
Minimum Strategy
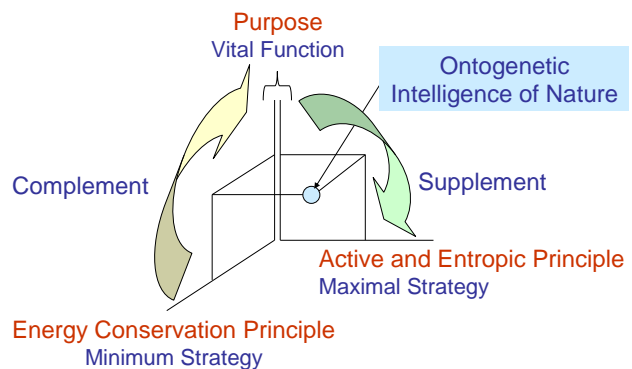
The Double Dialectics of Unicist Concepts

Immanuel Kant (1724-1804) gave the term concept a functional meaning, considering it as the framework of any possible action. The unicist ontology went further.

It introduced a complexity science approach to deal with complex adaptive systems that integrated philosophy, science, and action in a unified field: reality.

The approach to what were called extrinsic concepts, which are the concepts deposited by humans on the elements of their external reality, defined that such concepts have a functional structure that emulates the ontogenetic intelligence of nature.

The Unicist Ontology of a Concept
Ontogenetic Map in Unicist Standard Language
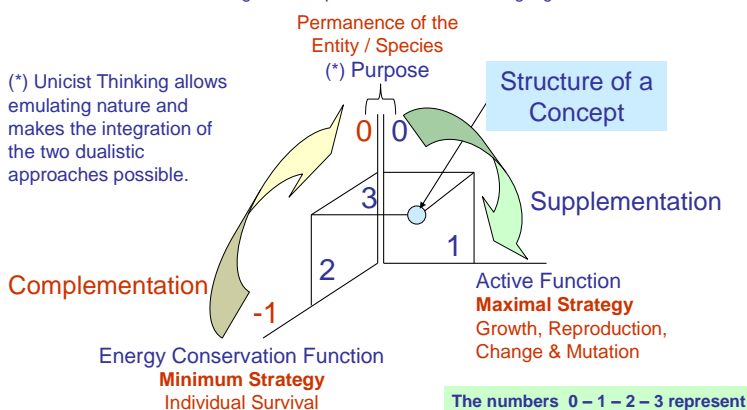
Permanence of the Entity / Species
(*) Purpose

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

Structure of a Concept

Supplementation

Complementation

Active Function
Maximal Strategy
Growth, Reproduction, Change & Mutation

Energy Conservation Function
Minimum Strategy
Individual Survival

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

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

Concepts define the intelligence of an adaptive system and are integrated by a purpose, an active function, and an energy conservation function.

The active function defines the maximal strategy of an entity to sustain growth, reproduction, and change while the energy conservation function defines the minimum strategy to ensure individual survival.

The knowledge of the concept and the maximal and minimum strategies allows for dealing with living beings or any complex adaptive system.

The Unicist Logical Approach was developed to deal with life sciences and personal, institutional, and social behavior to develop strategies to influence the environment.

Unicist Research Methodologies

The research of adaptive systems is based on developing real actions and applying a research methodology that allows for defining their functionality. The unicist approach to the research of complex adaptive systems is based on discovering the unicist ontology that describes their functionality, manages their operation, and regulates their dynamics.

The Ontological Reverse Engineering Process

Backward chaining thinking implies being able to think from the end to the beginning. Consider a mounting line. It is the capacity of an individual to decompose the final "product" into its components.

When we are talking about ontological reverse engineering it means that in this process the individual can find the nature of a specific reality. To do so, an individual must be able to discover the structure of the nature of that reality.

The ontological reverse engineering process is the basic approach to rediscovering the concepts of reality. And to do this, individuals need to discover the components of the "mounting line" that define the final reality until they had found the objects that integrate that reality.

The Structure of Ontological Reverse Engineering

The four segments that define the structure are:

1) Backward Creative
2) Backward Constructive
3) Forward Analytical
4) Forward Operational

Operational Concept of Ontological Reverse Engineering
The Unicist Ontology in Unicist Standard Language
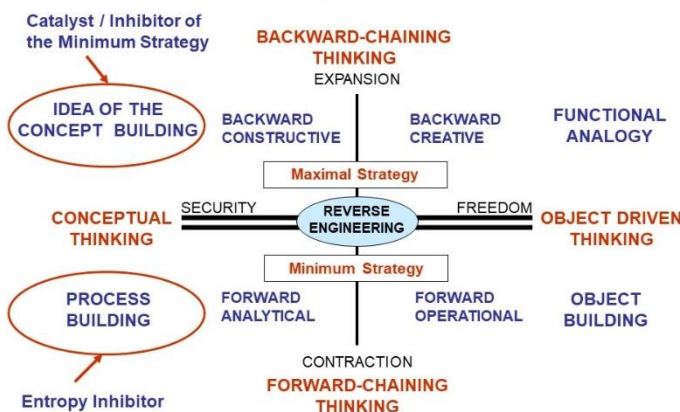
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Backward Creative

It is the segment that has the necessary creativity to think with a backward chaining thinking approach but opens the boundaries of the object that is being researched to find a functional analogy that obtains the same result in a wider field.

An example of this is the metaphor that is used in Extreme Programming methodologies. This segment is put into action by the capacity of developing operational solutions and is sustained by the analytical capacity.

Backward Constructive

It is the segment that deals naturally with the finding of the idea of the concept of the specific reality under research. Although those in this segment of reverse engineering consider the functional analogy, they need to clarify the idea of the concept that explains what a particular reality is for, how it works, and what it is intrinsically. This segment is put into action by analytical process thinking and is sustained by operational thinking.

Forward Analytical

This is the segment that deals with the building of processes for the existing objects. It uses cause-effect thinking to build functional efficient processes. It is a segment that considers the need for quality assurance to sustain the added value defined by the objects that have been built. This segment is put into action by backward constructive thinking and sustained by backward creative thinking.

Forward Operational

This segment deals with the building of objects to generate added value. It is the basic segment that develops the necessary solutions to ensure that objects work. It is based on cause-effect thinking to build the objects that are necessary to add value. The main goal of this segment is to ensure results in every object that has to be built. This segment is put into action by backward creative thinking and sustained by backward constructive thinking.

Steps of the
Ontological Reverse Engineering Process

Step 1: Definition of the value to be added

Step 2: Approach the nature of the problem in its oneness

Step 3: Find a functional analogy that is managed by the researcher/s

Step 4: Develop the idea of the concept integrating: what for, how, and what it is

Step 5: Describe the nature of the problem to develop the necessary objects

Step 6: Define the idea of a process to put the objects into action

Step 7: Build the necessary objects to produce the required results

Step 8: Build the process with the necessary quality assurance

Step 9: Define the process to be used to develop the added value

Step 10: Develop the pilot tests and recycle

Operational Concept of Ontological Reverse Engineering
The Unicist Ontological Algorithm in Unicist Standard Language
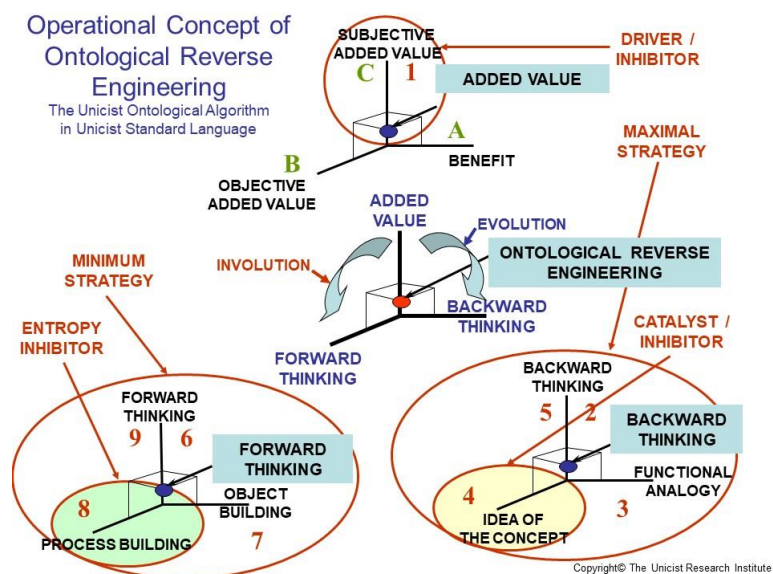
"Q" Method

The unicist "Q" method was developed for two different but compatible purposes. On the one hand, it was developed to solve the problem of dealing with apparently incompatible solutions, because it integrates them at a superior level. On the other hand, it is a method to empower intelligence by integrating incompatibilities. It drives to a superior level of intelligence by driving towards superior ethical intelligence, which generates the complementation of thinking processes.

The Functionality of the Method

Complex problem-solving sometimes drives to the opposite and incompatible positions.

These opposite positions provoke three possible behaviors:

1) Denying the problem

2) Using analysis to look for solutions

3) Integrating the opposite positions at a superior level

Managing Disagreements in Complex Problem Solving

The original problem is integrated into a superior solution

Unicist Logic

Integrative Solutions imply upgrade → **Evolution Conflict**

Action Driven ↑

Cooperation

$A \longleftrightarrow -A$ Disagreement

Operational Confrontation → **Power Conflict** → Responsibility Avoidance

Analytic solutions imply downgrade → **Involution Conflict**

Dualistic Logic

The original problem is disintegrated into its parts

Competition without cooperation degrades teamwork.
Cooperation without competition drives towards utopias.

Competition

Personal Risk Avoidance

1) The Denial of the Problem

Avoiding conflicts drives naturally towards inaction. Therefore, denial is a conflictive way to destroy things in the short or long run.

Confronting at an operational level is a sophisticated way of denial; it provides a natural way to avoid responsibility.

2) Analytical Solutions for the Problem

Analyzing problems is functional when some of the parts involved are wrong. This implies that in fact there is no confrontation: one is right, and the other is wrong. If that is the case, the division of the problem into parts allows for defining what is right.

When both parts are right and the difference is given by a non-compatible and not evident final purpose, analysis drives towards discussing the parts instead of solving the problem in its one-ness. In this case, the solution is necessarily a downgraded compromise.

3) Integration of the Opposite

Integrating the opposite positions into a superior solution requires having the knowledge of the fundamentals of the solution.

At least one of the parts needs to have conceptual knowledge but both parts need to consider that the other position might be right. This approach upgrades the solution developed.

Problem Solving in Teamwork
The Ontogenetic Map Unicist Standard Language

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

Problem Solving
Purpose (*)

Problem Solving in Teamwork

0 0

3

1

2

Evolution

Involution

-1

Competition
Maximal Strategy
Active function

Cooperation
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.

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Problem-solving in teamwork requires both competition and cooperation.

Cooperation necessarily follows competition: "if cooperation is the starting point, utopias will be the end".

If competition prevails, inaction or degradation are the consequence, but the personal risk of the competitors is not endangered.

Cooperation in diversity implies being able to integrate the evolution conflicts with power conflicts and with involution conflicts to transform them into actions to produce solutions for the parts involved.

The Framework of the Unicist "Q" Method

The use of this method requires having a cooperative attitude while focusing on solutions until they have been found and having the necessary technical-analytical and fundamental knowledge to be able to decide how to upgrade the preexistent solutions.

Competitive environments inhibit or hinder the building of integrative solutions. In these environments, the improvement of solutions is based on the existence of superior knowledge without considering the integration of the existing solutions. These solutions naturally generate change or innovation blindness or resistance.

Unicist "Q" Method
The Ontogenetic Map in Unicist Standard Language

Cooperative Attitude
Purpose (*)

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

0 0

Unicist "Q" Method

3

1

2

Evolution

Involution

-1

Focus on Solutions
Maximal Strategy
Active function

Technical & Fundamental Knowledge
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.

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The Unicist "Q" Method

1) Use the "5 Why Method" to understand the foundations of both opposite positions.

2) Develop a destructive test of one's position to find the limits of its validity.

3) Develop a non-destructive test of the controversial position to understand its validity.

4) Define the field in which both positions are compatible and find the concept that underlies this field.

5) Based on the concept previously found, discover the context that is ruled by it that includes both positions.

6) Develop the necessary destructive and non-destructive tests to confirm that both positions have been integrated.

At the end of this process, both parts will have learned about each other, and an upgraded solution will have been produced.

The Unicist Conceptual Engineering Method

The unicist conceptual engineering method was developed to use the conceptual structures of adaptive functions and processes to define their operational strategies and transform them into operational plans and actions.

The method is based on adapting universal functional definitions into specific definitions that allow building the necessary actions and catalysts to ensure and accelerate processes. The final stage transforms maximal and minimum strategies into segmented actions.

The Functionality of the Method

Unicist conceptual engineering allows managing the dynamics and evolution of adaptive systems and environments by managing the unified field of the functions involved.

This is based on the unicist evolutionary approach, which is a conceptual approach that manages the root causes of the functions involved in adaptive systems, which have open boundaries.

Conceptual Engineering
to Manage Adaptive Systems

The Discovery of Concepts

The discovery of the essential conceptual structure of adaptive systems and environments requires using the unicist research methodology. The first stage implies using the "unicist ontological reverse engineering method" to discover the root causes of the operational aspects of functions to define the underlying essential concepts.

The Rediscovery of Concepts

The use of essential concepts that have been discovered requires rediscovering them. This rediscovery process requires using conceptual benchmarking, which allows learning from previous experiences.

The discovery of universal or specific metaphors helps to apprehend the concepts without rationalizing them. This process allows storing the knowledge of essential concepts in the long-term memory.

The Use of Conceptual Engineering

The management of complex adaptive systems requires the use of concepts that have been discovered or rediscovered. This requires the use of conceptual engineering that ends when the destructive pilot tests have been completed.

The conceptual engineering process is simplified using unicist expert systems that allow people, who have experience in managing specific functions, to deal with the root causes of adaptive environments without needing to manage the underlying concepts.

This requires using a strict testing system, which begins by developing "Japanese park" experiences and ends with the destructive and non-destructive testing processes of the solutions defined.

The Basics of Unicist Conceptual Engineering

Conceptual Engineering was developed to manage the unified field of social, institutional, and business functions. It allows transforming the conceptual structures of these environments into roles, processes, objects, and actions that allow managing maximal strategies to grow and minimum strategies to ensure results.

The example of the structure of specific strategies will provide the guiding idea of what needs to be done in the conceptual engineering process.

The method goes from the essential concepts, defined by their ontogenetic maps, to the operational concepts and the definition of roles, processes, and objects.

Unicist Conceptual Engineering is based on a three-step method

Step 1:
Transforming Essential Concepts into Systemic Functions

Transform essential concepts into systemic functions, which have closed boundaries. The validation of this step is based on a logical confirmation using the complementation and supplementation laws.

Step 2:
Defining Maximal and Minimum Strategies

Transform the systemic functions into maximal and minimum strategies that allow defining these two differentiated roles.

It is necessary that each of the fundamentals of the concept included in the function be transformed into actions that allow their inclusion in the alternative strategies that need to be defined.

The nature of the actions defines their functionality in the alternative operational strategies. The validation of this step is based on the use of conceptual benchmarking.

Step 3:
Defining Segmented Actions

Transform maximal and minimum strategies into processes, objects, and UBAs (unicist binary actions).

Each of the strategies that are used is defined by the actions that are implemented, which depend on what is needed to be achieved and the actions that occur in the environment. The validation of this step is based on the use of destructive tests.

Synthesis

Actions depend on what needs to be done and not on what can be done. What needs to be done depends on having confirmed what is possible to be achieved.

A strategy should not be implemented if the actions that can be done do not fulfill the definition of what needs to be done.

The use of this method ensures the management of complex adaptive systems and environments by managing the concepts and fundamentals that define the root causes of their functionality.

Destructive Testing Method

The final objective of the unicist destructive testing method is to ensure the reliability of decision-making by avoiding threads and managing risks.

This method is based on confirming the knowledge functionality based on the use of an inductive approach applied to non-analogous and non-homologous cases.

This method expands the functionalist knowledge that has been achieved by developing clinics to test substitutes and succedaneous alternatives and by using complexity-research methods to expand the level of applicability of the solutions.

The Functionality of the Method

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.

There are different models of destructive tests:

Step 1:
Substitute Clinics

This approach implies developing a real solution, comparing this solution with its substitutes, and finding out the SWOT they both generate and the response of the environment.

Unicist Destructive Tests
Ontogenetic Map in Unicist Standard Language

Catalyst / Inhibitor of the Minimum Strategy

CONCEPTUAL LIMITS

EXPANSION

Ontological Benchmarking of Succedaneum

4) ONTOLOGICAL REVERSE ENGINEERING

3) SUCCEDANEUM CLINIC

Operational Benchmarking of Succedaneum

Maximal Strategy

ONTOLOGICAL BENCHMARKING

SECURITY

FINAL OPERATION

FREEDOM

OPERATIONAL BENCHMARKING

Minimum Strategy

Ontological Benchmarking of Substitutes

2) COMPLEXITY RESEARCH

1) SUBSTITUTES CLINICS

Operational Benchmarking of Substitutes

CONTRACTION

OPERATIONAL LIMITS

Entropy Inhibitor

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Step 2: Research of Complex Systems

It implies finding the limits of the validity of substitutes based on experiencing, using acceptable preexisting knowledge, and comparing it with the knowledge that is being tested. It includes the use of multiple conceptual benchmarks.

Step 3: Succedaneum Clinics

This is the final stage before real application. It requires developing a real solution for a real problem and allowing the context chooses between the succedaneous solutions and the one that has been developed.

It implies finding the SWOT that the solution generates and the response of the environment.

Step 4: Ontological Reverse Engineering

This implies using the technology of reverse engineering to compare succedaneous solutions with the solution that is being tested and redefining their conceptual structure.

Step 5: Real Operation

The real operation is what defines the final limits of the knowledge that is being tested.

Unicist Epistemology

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

The Epistemology to deal with Complex Adaptive Environments

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

The Unicist Ontology of the Unicist Epistemology
Ontogenetic Map in Unicist Standard Language

Pragmatism deals with the goal of this epistemology, which is to provide reliable knowledge to generate added value.

At the same time, structuralism is required to integrate the knowledge of an entity and its restricted and wide contexts. Finally, functionalism makes results be a core aspect of the validity of knowledge.

Knowledge is such when its use allows individuals to better adapt to an environment. But to be used, such knowledge 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.

This is a synthesis of the Unicist Epistemology that has been used since the ontology of destructive and non-destructive tests was developed, to build the knowledge objects of the applications.

This synthesis begins with the presentation of a major discovery, which is the fact that the concepts that individuals have stored in their long-term memory drive their actions. That is why the fundamentals that integrate these concepts are the drivers of human actions.

The validation of concepts and fundamentals requires that individuals develop destructive and non-destructive tests, while the confirmation of operational knowledge only requires using non-destructive tests.

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.

Language, as a tool of the conscious reasoning structure of humans, is a necessary condition to build conscious knowledge. Different types of languages allow the building of different types of knowledge.

The unicist epistemology includes the structure of the destructive and non-destructive tests that are used to confirm the validity of knowledge. It includes the description of how knowledge building is driven by perception and credibility and how the ontology of signs sustains the building of reliable knowledge.

Unicist Epistemology: What for?

The Unicist Ontology of Research

Innovation is the essential purpose of research. Research is developed to be able to innovate within a given reality. This innovation may consist in building, curing, developing, repairing, or whatever human needs require.

The essential concept of research is to find innovations to improve the value added. In order to do so, research builds foundations and explains the facts of that reality.

When researching the truth, in a non-religious sense, there is a great difficulty to develop "real" research, being limited by the capability to understand facts.

That means there is no possibility for a person who has the talent of researching beyond the accepted limits of knowledge to develop research works based on non-accepted knowledge. The personal histories of Galileo, Newton, and Tesla are examples of this assertion.

To understand the process of research one has to know the limits of one's knowledge to be able to accept evidence without being able to comprehend their groundings.

## Description of the Functional Concept of Research

The functional purpose of research is to build the groundings that sustain the knowledge of a given reality.

To do so the drivers are functional experiments based on universal secure knowledge.

The limits of acceptance of research are given by the capacity to explain facts based on artificial experiments that are sustained by specific secure knowledge.

But if the limits of acceptance prevail, research becomes fallacious.

There are four basic segments of research and a pseudo-research approach.

The Unicist Ontology of Research
Ontogenetic Map in Unicist Standard Language
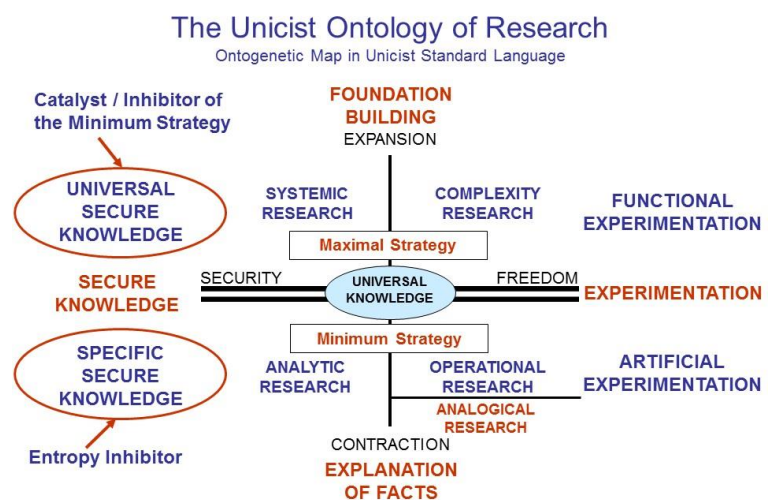
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Analogical Research – Pseudo Research Approach

This research is based on the comparison of a fact with analogical examples, opinions, or components. Its basic research tool is statistics, and its validation is given by the consistency between the analogy and the homology of the data being considered as valid in the research.

Operational Research

This research is based on finding the cause-effect relationship between the facts being researched and their immediate causes. Descriptions, statistics, mathematical inferences, and syncretic language are the tools of this research.

This research is functional in fields where corrective actions are functional and possible to achieve goals. When corrective actions are not possible or dysfunctional this research approach is valueless.

Analytic Research

This research is based on the logical and mathematical relations between the facts researched and their causes in a restricted field. An analysis is based on dividing reality into its components until finding secure knowledge.

After secure knowledge is found, the reconstruction of the wholeness of facts enters the world of probabilities. Logic, mathematics, and analytic language are the tools of this research.

Systemic Research

This research is based on finding the variables of a given reality and making all the functional experiences to secure the knowledge of facts. Descriptions, analyses, cause-effect relations, mathematics, and factual language are the research tools of this approach.

This research is functional in the field of materialistic research where probabilities are functional to approach reality. Where probabilities are not good enough, this approach is dysfunctional.
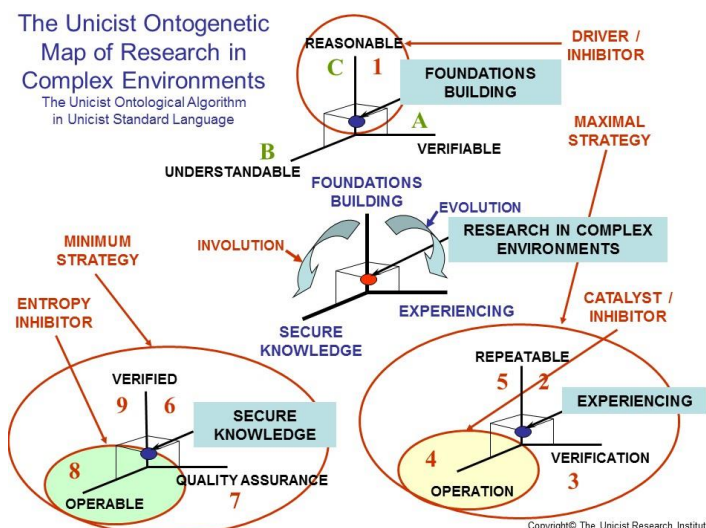
Complexity Research

This research is based on finding the ontological structure of a given reality to access its "know why." Descriptions, analyses, cause-effect relations, reflections, mathematics, and synthetic language are the inputs to find the ontological structure of a given reality.

This research is functional in the field of knowledge where the comprehension of its wholeness is necessary. This research is functional to integrate the preceding research approaches to secure conclusions on complex realities.

Functional Conceptual Structure
of the Complex Systems Research

Complex systems are studied seeking the foundation through experimentation based on preexisting secure knowledge.

This implies that the purpose of a research work is to build foundations that will eventually be used in the diagnosis to exert influence on a given reality.

Research necessarily implies experimentation, which must allow repetition. Regardless of the number of times that the experience is carried out the result should always be the same.

Results from experimentation must be verifiable, that is, they have to be able to be measured objectively, subjectively, or through the forecast.

In addition, the experimentation of the complex system under study must

"work", that is, this should be a real activity that produces a result for which such a system has been designed. To work means an actual activity that cannot be simulated.

Research is based on preexisting secure knowledge. This knowledge must have quality assurance, be operable and verified.

Research on complex systems cannot be built based on hypothetical knowledge. When there are only hypotheses then real foundations cannot be reached, instead, hypothetical foundations are built.

Research of Complex Adaptive Systems

Complexity Sciences are defined as the scientific approach to deal with complex adaptive systems.

The unicist functionalist approach 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 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:

1) Open boundaries
2) Bi-univocity of its components
3) The existence of conjunctions without disjunctions
4) The inexistence of observers

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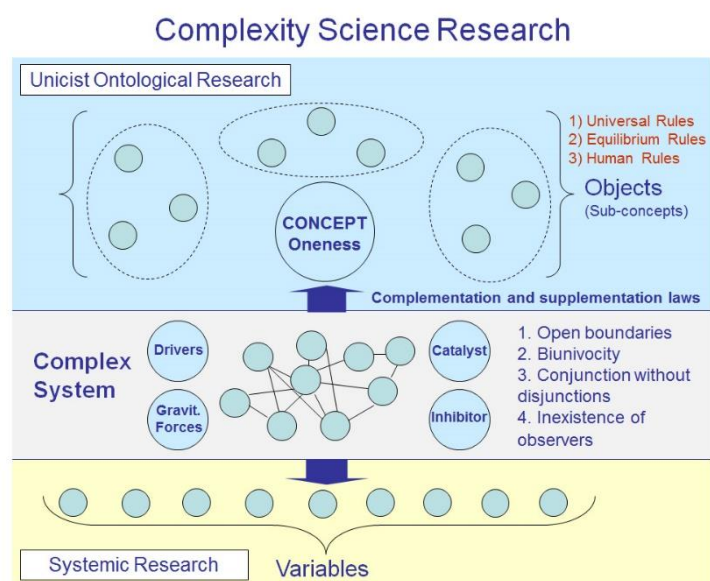
The consequence was the substitution of an epistemologically invalid approach to complex problems, dividing them into variables, which are inexistent, for a unicist ontological approach driven by objects, in which objects are integrated as subsystems in adaptive systems, following the rules of the ontogenetic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

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

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 into a unified field. That is why it is said that the unicist approach to complexity sciences integrates ontology, science, and actions in a unified field.

The unicist ontological research model enabled the definition of the field of possibilities of an adaptive system 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.

Understanding Complex Adaptive Systems

A paradigm shift in sciences was necessary to understand and influence complex adaptive systems. This was needed because such systems have open boundaries and no univocal cause-effect relationships. Therefore, they cannot be approached by systemic sciences.

This approach integrates, in a unified field, the "KNOW-WHY" required to apprehend complexity with the "KNOW-HOW" provided by empiricism. It simplified complex adaptive systems making them reasonable, understandable, and predictable. This approach has integrated systemic sciences with complexity sciences.

The unicist approach has introduced a paradigm shift in sciences applied to complex adaptive systems that drove from an empirical approach to a pragmatic, structuralist, and functionalist approach to deal with complex environments integrating the preexisting empiricism.

This is an upgrade in sciences that integrated complexity sciences with systemic sciences that allowed the emulation of the organization of nature by developing a logic-based and object-driven approach to managing the adaptive aspects of reality.

Contributions of the Unicist Functionalist Approach to Science

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 destructive and non-destructive tests to research adaptive environments. **2021:** Discovery of the universal functional structure of things.

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. **2016:** Development of the Scientific Foundations of Medicine. **2021:** Discovery of the unicist ontology of the DNA.

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. **2017:** Discovery of the unicist ontology that integrates the wide and restricted contexts. **2017:** Discovery of the origin of root causes in adaptive environments.

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. **2016:** Discovery of the nature of conceptual design. **2018:** Discovery of the ontogenetic map to emulate the unified field of adaptive environments. 2018: Development of the unicist cognitive systems. **2019:** Development of XD-Expert Systems. **2021:** Development of business cobots.

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. **2016:** Discovery of the nature of entrepreneurial strategies. **2017:** Discovery of the double dialectical tactics. **2019:** Discovery of business catalysts.

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. **2016:** Discovery of the nature of innovation processes. **2017:** Discovery of the context of social dysfunctional utopias. **2019:** Discovery of social catalysts.

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. **2016:** Discovery of the nature of social networks. **2020:** Discovery of the unicist ontology of evolutionary constructivism. **2020:** Discovery of the nature of counter cycle building.

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. **2020:** Discovery of the unicist ontology of the evolution of languages.

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. **2018:** Discovery of the triadic functionality of conscious intelligence. **2018:** Development of the Unicist Artificial Intelligence. **2020:** Discovery of the Unicist Ontology of Functionalist Knowledge. **2021:** Development of the unicist theory of functionality.

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. **2016:** Discovery of the nature of learning by teaching.

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. **2016:** Discovery of the nature of human metamorphosis. **2016:** Discovery of the functionality of thinking processes. **2017:** Discovery of the context of personal dysfunctional utopias. **2017:** Discovery of the nature of self-criticism. **2021:** Discovery of the functionality of neurosis.

In Semiology - 2012: Discovery of the unicist ontology of semiosis as a complex adaptive system. **2015:** Development of semiotic role objects. **2017:** Development of the semiotic research groups.

Learn about The Unicist Research Institute

Since 1976, The Unicist Research Institute has been the world-leading research organization that introduced the functionalist approach to science to research and develop the functionalist principles of the real world.

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