Beyond the Decisions-Making: The Psychic Determinants of Conduct and Economic Behavior

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ABSTRACT

The objective of this paper is to provide a useful tool to evaluate the impact of conduct and economic behavior in decision making. It is a research based on a theory of the psychic structure and operation with a marked neurobiological support. The use of a new method is introduced: the Transcurssive Logic, to investigate the subjective reality of which, the economy, forms part. Are corroborated the hypotheses suggested by Hayek in his treatise on Theoretical Psychology: *The Sensible Order* (1952), and they are given foundation to the psychic processes that give rise to both the behavior as the conduct. It constitutes a basic contribution to Economic Psychology.

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1. INTRODUCTION

The recent contributions of Economic Psychology and Neuroeconomics focus almost exclusively on the supposed psychic and neurological mechanisms involved in decision making, which appears as the only motive of economic conduct, forgetting that this conduct is given in function of a particular behavior.

Every person or social individual has a double need, one primary: that of survival, manifested as a desire; and a secondary one: that of knowing, expressed as a belief. The social in the person arises from a desire that 'represents' at the deep level (in his being) motivating a behavior, and a belief that characterizes superficially (in his seem) the object of that desire and thus conditioning his conduct. (Salatino, 2012, p.132)

The foregoing derives, in the sensible (as subject), in opposing manifestations that arise from the instinctive as externalizations that lead to self-preservation, which affects his life and originates fear or apprehensiveness for the present. From the emotional (as an individual) or those circumstances that support the adaptation that by affecting their relationship with the environment, sustain the affections but also the suffering and mistrust for what has already lived. Or from the emotional (as a person) where the fundamental objective is the recognition or social 'survival', provoking an emotion in the other, even if it bring rigged together to the hope put in a future, the anguish by its uncertain character.

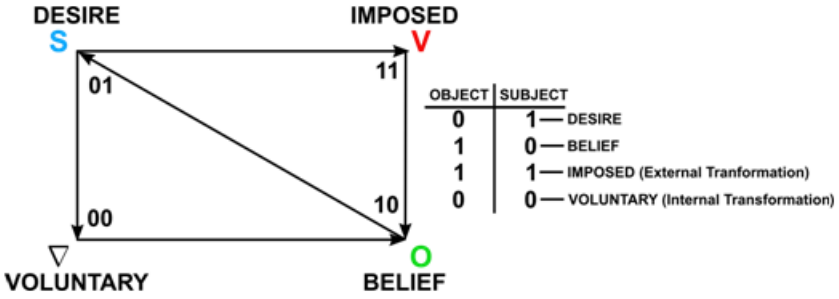
All this expressive baggage enables the emergence of a belief that is the sustenance of all knowledge, both own and surrounding.

From this belief it can be said that there are at least five ways of reaching it (Stebbing, 1965, p. 526): a) That we have always believed in something that we do not question and before which we are helpless against error; b) Based on the authority that recognizes two variants: i) acceptance of a truth out of respect and ii) acceptance of a truth for being told by an expert; c) In front of direct (apparent) evidence; d) By persuasion that is almost always subject to deception; and e) For conviction or reasoning, mechanism that is patrimony of the logic and therefore of the science. That is, a belief can be given by revelation, faith or superstition, by opinion, by presumption, by persuasion or by conviction or certainty.

As Tarde says (1895, p. 108), the elementary social act, in its form at least, has only as basic members a desire and a belief. Social relations, although potentially infinite, can be grouped according to the same author (*op. cit*., p. 12) into two groups: (i) those which are based on the transmission of a belief and are based on the apparent (Or how it should be according to a norm) and ii) those in which what is transmitted is a desire, expression of what is (the own being).

By basing ourselves on the individual element we could say that the social, in the last instance, arises from something 'profound' that is represented by the desire of a subject, and that is related to something 'superficial', as it is a belief that acts as an object. Excluding the mode of belief that is given by conviction or certainty that responds to a convention (or how science operates), beliefs either have an external foundation and can respond either to a voluntary act or that does not depend on the desire of the other, and where are excluded the modalities by opinion and presumption, or respond to an imposition of the desire of others as is the case of persuasion. All this allows us to establish logical relationships between the fundamental social elements as shown in Figure 1.

Fig. 1: Logic relations between the social elements



Legends: S = subject – O = object – V = apparent transformation - ∇ = hidden transformation

The previous figure confirms, on the one hand, the interrelations that are established between desire and belief in a social individual, that is, the imposed or voluntary character of each one of them and the emergence from there of the different beliefs. The codes assigned in the graph are due to having considered the desire as the subject's heritage, and belief as an object of that desire. On the other hand, this scheme corroborates, without a doubt, that the logical nucleus of any social act as we see it here, is an PAU (universal autonomous pattern), according to what is defined by the Transcurssive Logic (TL of here in forward) (See Appendix)

The needs that give rise to the social act are satisfied through the 'social patterns' that are evidenced, individually, in behavior as we have seen and socially, in conduct through a series of 'social figures'. (Salatino, 2012, p. 134)

These ‘social figures’ fulfill the non-trivial function of establishing the 'social role' which becomes evident through a determined conduct; That is, by that behavior that is limited by a norm; and they are:

(i) Indifference: coexistence without mutual influence of two poles of interests that generate two parallel instances that are only contacted superficially (in appearance) without interfering.

(ii) Agreement: coexistence with mutual influence of two poles of interests that have elements in common that bring them together and distinctive elements that are adapted by both parties to allow the 'fit' of the two instances making possible links at the superficial level through the appearance - the lie of a conduct - and the acceptance, by mutual agreement, of the profound level or the behavior of each one.

(iii) Conflict/Evasion: confrontation of two poles of interests to settle a shortage through the same object. The conflict disrupts the steady state or stable disequilibrium that is maintained in the social system by negative feedback (Salatino, 2009, p. 84), the one in which its dynamics are developed through 'controlled oscillations' between the superficial and the profound (the conduct and the behavior). This disturbance manifests itself as 'out of control oscillations'. Its behavior is comparable to that shown by physical oscillations increased in amplitude in exponential form by positive feedback. These 'oscillations' are caused by the influence between the superficial and profound levels in cross form and leading to a 'catastrophe'. It reaches the limit of what is tolerated by dynamic stability. Both systems are forced to choose, that is to say, they bifurcate out or it is passed to a level of greater complexity, taking away preponderance to the occasional 'opponent' becoming 'dominator' of the situation; Or on the contrary, becoming "dominated" or even more, disappearing directly from the conflictive situation.

(iv) Submission: coexistence of the poles of interests where one of them predominates because of the intact adaptability to the different avatars, made possible by the full use of the superficial / profound assembly (conduct / behavior) and thus to influence the other, that only handles the superficial level (the conduct) to the detriment of the profound level. This figure can have two variants: an absolute, where submission is total both in the seem (conduct) and in the being (behavior), and the other, relative, where such submission is only apparent (in the conduct).

Submission may be a consequence of figure (III). In addition, its evolution can follow different paths that lead to any of the above figures by rehabilitation of the profound (behavior) level.

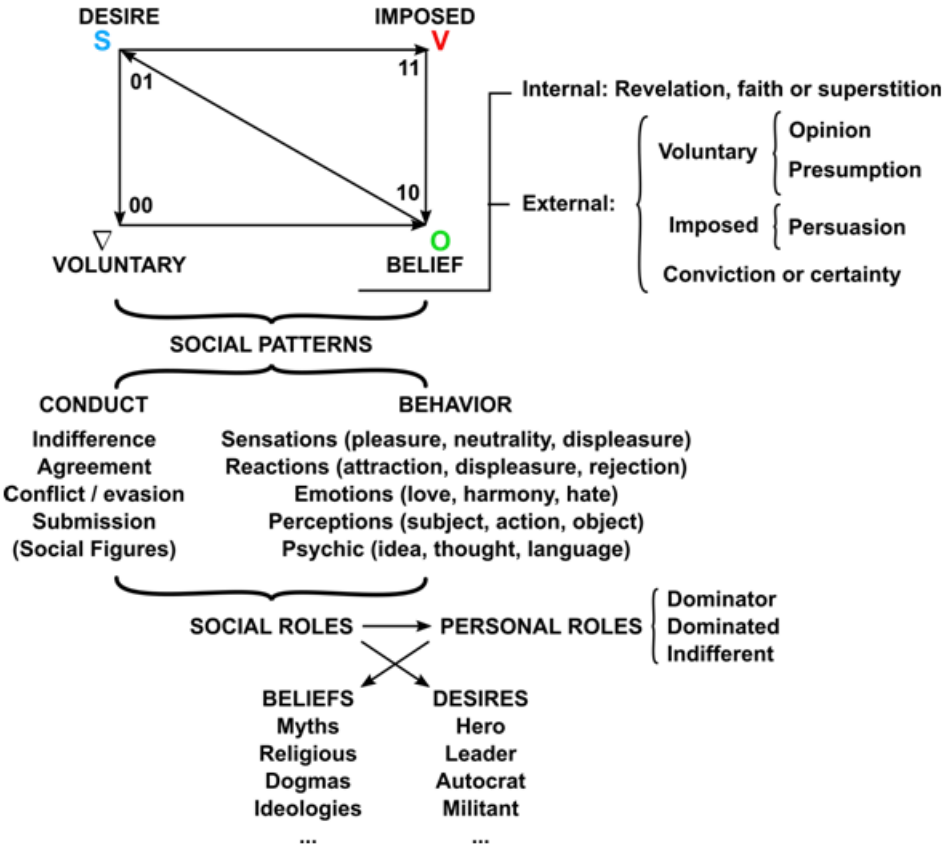
The specified figures highlight what is relevant at the sociocultural level, or what is equivalent, what we can research on the practical plane; in addition to confirming the relevance of the application of the Theory of Games to unravel some of the mechanisms involved in economic decision-making, something that will be discussed later.

Nevertheless, it is possible to probe through these figures, other planes of behavior and elements that arise from it, such as: sensations (pleasure, neutrality, displeasure); that of reactions (attraction, displeasure, rejection); the one of the emotions (love, harmony, hatred); that of perceptions (subject, action, object); that of the psychic (idea, language, thought); etc.

From the social roles raised as a result of the operability of the social figures, finally emerge what we will call 'personal roles' and that are: dominator, dominated and indifferent.

Assembling the logical relationships that link the elemental social elements with the personal roles, we have all the necessary ingredients to define, from the conducts that generate the beliefs (myths, religions, dogmas, ideology, etc.), to the fulfillment of a desire through behavior, both in its adequate form (to a norm) and excessive, from which emerge roles as those of the leader, autocrat, etc. Figure 2 summarizes the logic of social relations proposed.

Fig. 2: Logic of social relations



The objective of this work is to provide a method and a theoretical tool capable of analyzing behavior and human conduct, these 'complex manifestations' are heritage of subjective reality (Salatino, 2009), which are not usually addressed by objective science, but which can complete the explanation of why a decision making is made. With this contribution is intended to bring Psychology closer to the Economy, although from a different perspective than the one current proposed by the Cognitive Sciences.

In order to better understand our purpose, in this introduction, I have proposed as a real framework the logic that supports both a social act and also the relationships that a person maintains with others, as is conceived by the TL.

2. LITERATURE REVIEW

The search for antecedents of our position we must do it from different perspectives: (1) From the justification of a psychology based on central nervous system (CNS) physiology, (2) Through the approach of the economic conduct from the subject, (3) Showing the existence of common patterns underlying to phenomena Which in appearance are totally different., and (4) demonstrating the presence of the phenomenon of symmetry.

2.1 Psychology based on physiology

John Stuart Mill (1806-1873), English philosopher, politician and economist representing the classical economic school who theorized about utilitarianism and in his book *A system of logic* (1843-1889-1950) in the chapter on the logic of the moral sciences, Says: "There are a great number of social phenomena whose determining causes are the desire for wealth and the psychological law which refers to the preference of a gain greater than a lesser ... In reasoning about this law of human nature we can be qualified to explain and predict this type of phenomena, insofar as they depend solely on such circumstances, bypassing the influence of any other social situation." (Nagel, 1950, p.337)

Adolf Horwicz (1831-1894), a German philosopher who, in addition to writing about the nature and function of philosophy, did also about the history of the development of the will (1876), and his book on psychological analysis where he used Physiology as a guide for psychological research, that served as an inspiration to some of those who attempted to approach economics from a psychological perspective.

Gabriel Tarde (1843-1904), Sociologist, Criminologist and French Social Psychologist, has been the pioneer in the field of Social Psychology in talking about the causes of economic behavior, based on the interrelation between desires and beliefs (what we have already mentioned) (Quintanilla et al., 2005, p. 46) and in a Psychology interpreted from the physiology, although also based on the introspection, since according to the author, when it comes to observing inter-psychological phenomena (as he called to social phenomena) this form of meditation, he claimed, is the only method of subjective and objective observation at the same time. (Tarde, 1902, p.83) From 2009 the TL was added (see Appendix), which, with this same purpose, is based not on introspection but on Neurobiological Psychology.

Gustav von Schmoller (1838-1917), representative of the German historicist school, is perhaps one of the greatest enthusiasts in the task of approximating the Economy to Psychology. In the introduction of *Grundriß der Allgemeinen Volkswirtschaftslehre* (Principles of General Economic Theory (1901-1904)) gave to the Psychology a place of privilege. It says there: "Psychology is the key of all human sciences and therefore also of economics ... Nothing less than a psychological history of humanity, especially a history of the evolution of feelings as shown by Horwicz in his book of 1878: Psychologische Analysen auf physiologischer Grundlage." (Nau & Schefold, 2012, p 34)

Hans Vaihinger (1852-1933), German philosopher who in his *Philosophie des Als Ob* (The philosophy of the 'as if') also mentions the book of Adolf Horwicz *Psychologische Analysen auf physiologischer Grundlage* (The psychological analysis with physiological basis) that served him of inspiration and where it shows that "All psychology is based on the so-called 'reflex scheme': the sensory impressions following stimulation, ideas lead to thought, expressive movement and to the volitional action." Vaihinger, 1924, p.xxii)

Friedrich August von Hayek (1899-1992): *The Sensorial order* is a work on theoretical psychology written by this philosopher, jurist and economist, Nobel prize of Economics in 1974 for his contributions, among others, on the interdependence of the economy, the society and the

institutions. In this remarkable work, which will be discussed in some detail, it leaves a series of possibilities with regard to the functioning of the psyche, such as, for example, the formation of models with patterns of stimuli arising from the perception of the surrounding reality . (Hayek, 1952, p. 114) These writings on psychology laid solid foundations to support his ideas about economic knowledge and the problems that economic science had to solve.

2.2 Economic conduct from the subject

John Stuart Mill: also in the book *A system of logic* (*loc. cit*.) says, referring to the social phenomena derived from a psychological law: "Taking into account that they have no origin in other social facts and that no other circumstance can interfere , gave rise to have created a department of science called: Political Economy," making clear allusion to its subjective roots. In contrast, in the chapter devoted to the definition of economic policy, it says: "Economic Policy can be defined as the science of laws which regulate the production, distribution and consumption of wealth. Wealth is defined, as all material objects useful or agreeable to mankind, except such as can be obtained in indefinite without labor." (*ibid*., p. 412)

Austrian school of economics: this line of economic thinking emphasizes that individuals do not act automatically and in response to a rational elaboration that requires a total knowledge of the ends and means. An individual acts as a consequence of cognitive processes that allow him to perceive, recognize patterns, learn and understand the social reality that will determine the means and ends appropriate to his subjectivity to face an economic decision. That is, your decisions will always be individual and subjective. They are some of the outstanding figures of this school: Carl Menger (1840-1921) (Subjective value theory, Menger, 2007, p 114); Ludwig von Mises (1881-1973) (Praxeology: logical structure of human action, Mises, 1998, p. 30) Methodological individualism: all social phenomena, including economics, can be explained from individuals, their goals, their beliefs and their actions, Mises, *op. cit.,* p. 41); Friedrich August von Hayek (1899-1992): the methodological norms he adopted are a direct reflection of his perception of the subject. This is what he notes when says: "It is probably not an exaggeration if we say that any important advance in economic theory during the last hundred years was a further step in the constant application of subjectivism." (Hayek, 1955, p. 31).

2.3 Common patterns

Carl Gustav Hempel (1905-1997), a logical empiricist philosopher and epistemologist, who in his *Philosophy of Natural Science* states: "What scientific explanation, especially the theoretical ... is achieved by a systematic unification, by exhibiting the phenomena as manifestations of structures and common underlying structures and processes that conform to specific, testable, basic principles. If such an account can be given in terms that show certain analogies with familiar phenomena, then vey well." (Hempel 1966: 83) (Metaphorical by analogy method (Salatino, 2009) (see Appendix))

Milton Friedman (1912-2006) in one of the most influential works in economic methodology says: "A fundamental hypothesis of science is that appearances are deceptive and that there is a way to looking at or interpreting or organizing evidence that will reveals superficially disconnected and diverse phenomena to be manifestations of a more fundamental and relatively simple structure." (Friedman, 1966, p. 33).

2.4 Symmetry

Bastiaan Cornelis van Fraassen (1941-). American philosopher of Dutch origin specialized in philosophy of the science and logic. He defines symmetry as he does in mathematics and physics, but proposes it as a guide for the characterization of a scientific theory, since he considers it as the main key to understanding the theoretically constructed world through a model. (Van Fraassen, 1989)

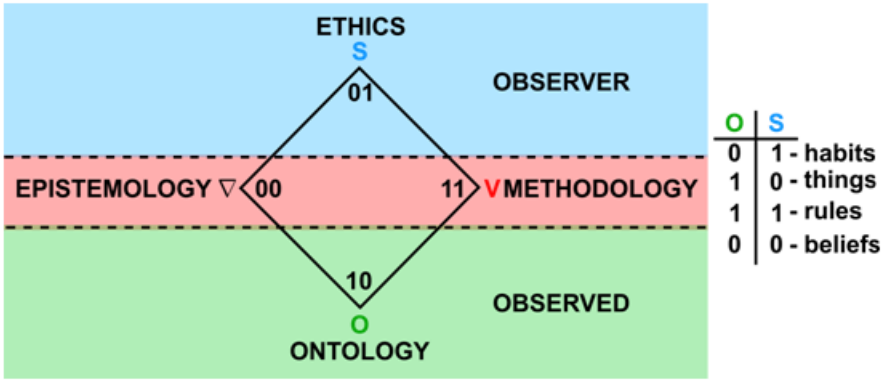
3. METHODOLOGY

According to the previous characterization and in conventional form we can distinguish four ways of approaching this research: from the ontology, the epistemology, the methodology or from the ethics. (Sum & Jessop, 2013) Ontological, in this case, refers to the structure and properties of what exists in that reality that we have raised. An important ontological derivative would be a set or group of elements whose existence may be known by an observer from their individual reality.

The epistemological approach encompasses that which is concerned with the nature of knowledge or the beliefs that arise in the exchange with such reality.

Finally, the ethical would have to do with a set of psychic and affective qualities that form the character as an expression of a knowledge or experience and condition the behavior of each individual in his real world. (Figure 3).

Figure 3: S = subject – O = object – V = apparent transformation - ∇ = hidden transformation



The above diagram shows the suggested interrelations between the modes of approach of the facts that occur in the reality that we are going to investigate. We mean by 'fact', the relations existing between a generic subject and an object, through a double transformation, where the subject is the source of those changes, while the object is the destination of them.

Of the transformations that determine the facts, one of them, which we identify as' apparent '(V) tells us how the things of reality relate to the customs of a subject, so we can also call it:' organization '.

The transformation designated as 'hidden' (∇) refers to the necessary coherence, which on an individual level, must exist between the facts that occur in reality and its representation. Since an individual, in his becoming, is linked to others and which together determine the progress of the social system, it is essential that in each of them a reorganization of the relations that seem to determine the facts, in order to cope with the demands of the system and thus allowing a sustained degree of evolution. For this reason we could call this transformation: 'disorganization'.

The proposed provision allows us to consider the coexistence of the true determinants of the events that occur in this reality that we are trying to characterize, as well as its consequences that condition its observation and experience. Characters and beliefs on the one hand, and things and rules on the other, define, as we are suggesting, the participation of subjects and objects (observers and observed) in those facts that we intend to analyze.

The factual sciences, whose object of study are real facts, require both observation as experimentation. In natural sciences such as biology, physics or chemistry this is basically ensured because it is easy to separate the observer from the observed; but in the social sciences, such as economics, for example, this is very difficult if not impossible.

One way of achieving some approximation to the scientific method as it is applied to the natural sciences, when trying to investigate economics, is to vary the point of view, or better, to adapt the real frame of reference that is adopted.

It will be said that the same methods that are used in physics have been successfully applied for a long time, as is the case when one wants to record the behavior of some economic variables, as

with the relation that links total utility and marginal utility, which in mathematical terms is its first derivative. (García, 2000) But this alone is not enough to justify that the economy, as a social science that is, is being approached 'scientifically', because here the participation of the subject is relegated to a mere equivalent, that to save the appearances, is establishes as real reference.

In this work we will use as a method the TL (see Appendix) which is based on two of the central ideas in science: 1) the unification or the possibility of demonstrating that there are phenomena, which, however disparate they may seem, respond to a single relational pattern ; and 2) symmetry or one of the guiding principles of nature.

The theme of unification is one of the key points of the philosophical framework on science defended by Philip Kitcher whose conception of the logic of science has been in favor of a view of scientific explanation as unification, at least as a regulative ideal, and that agrees with his presumption about the existence of a causal structure of the world. (Gonzalez, 2012, p. 55)

According to Kitcher, understanding phenomena is not simply a matter of reducing our fundamental incomprehensibility, but of seeing connections, patterns common in what initially seemed to be different situations. Thus, science increases our understanding of nature, showing us how to derive descriptions of many phenomena using the same derivation patterns, over and over again. By demonstrating this we are taught how to reduce the number of types of facts that we have to accept as 'ultimate' or 'fundamental.' (Kitcher, 1989, p. 432) For our methodological purposes, these words of Kitcher are vital, since it leaves established two of the most important aspects of our method . On the one hand, the use of structured patterns from the primordial aspects that define a fact; On the other, and the most relevant, helps to select a fact, among all those who respond in some way to the pattern, and that in TL is used as the 'object of study' of the research being done. The latter, perhaps, constitutes the most relevant methodological contribution of TL.

Explanatory unification is considered to be one of the greatest achievements of science. Examples of this are the works of Newton, Darwin, Bohr, or Maxwell, to name but a few. In economics, they show the same rank of unification, the supply and demand mechanism, or Samuelson's economic analysis. (Mäki, 2001, p. 489)

Samuelson in his analysis of the economy privileges the unification, which focuses on the maximization of economic behavior, which coincides in general lines with the proposal made in this work, as explicit in the following general principle:

> "Most economic treaties deal with the description of some part of the world, of reality or of the elaboration of particular elements abstracted from reality. Implicit in such analyzes are certain recognized formal uniformities, which are in fact characteristic of every scientific method. I propose here investigate these common characteristics in the hope of demonstrating how it is possible to deduce general principles that can serve to unify large sectors of current economic theory." (Samuelson, 1965, p. 7).

In addition to the previous explanatory unification we must require our method to leave evidence of the possibility of leading to an ontological unification, in order to make it operative. Ontological unification brings to a theory, referential and representational capacities and consists in re-describing seemingly independent and diverse phenomena as manifestations of the same and small number of entities and processes. (Mäki, 2001, p. 498) This supports the existence of an underlying relational pattern.

Finally, the other element on which the method presented here is based, the symmetry, has suffered, as it were, a kind of evolution since in the second decade of the last century, when the German mathematics Emmy Noether demonstrated in a theorem (Noether, 1918) why of the existence of conservation laws and magnitudes that do not change during the temporary unfolding of a physical system. Or put another way, it showed that natural laws do not change over time. (Salatino, 2016b, p.3)

Van Fraassen projects the concept of symmetry beyond physics or mathematics, attempting its application to any scientific theory, suggesting that 'similar problems have similar solutions'. On the other hand, it establishes as a method to individualize the relevant features or aspects of the solution. Although this proposal is similar to those already presented, it differs in that once the relevant parameters have been isolated, a group is formed with them. (*op. cit*., p. 259) This algebraic structure ensures that the solution to the proposed problem consists of a rule (a function) that depends only on those parameters; which is to say that, from the methodological point of view, the object of study has been isolated. (Salatino, 2015, p. 45)

In 2009 we focused our interest in the symmetry group and proposed some modifications that allowed us to adapt it as a tool for the analysis of some social phenomena, such as language. Among the modifications we can mention that the group is formed with only two elements and two transformations, arranged in two levels that represent the essential aspects of a problem, observed from two different frames of reference. The temporal evolution of the levels occurs in the opposite direction. There must be absolute simultaneity (t = 0) of the frames of reference, being verified the conservation (without changes in a frame of reference) and invariance (without changes between frames of reference).

In summary, the method presented is based on: a) economic facts, because they belong to the social sciences, depend on the subjective reality and not on the objective reality that frames traditional science; Or otherwise put, decision making (one of the basic economic behaviors) can not be simulated with an algorithm, unless we take into account that it is determined by a specific behavior; b) the selected basic elements must form a relational pattern; c) the minimum pattern must form a group to demonstrate the presence of symmetry; That is, it should make it possible to evidence the conservation and invariance of the fundamental laws governing the fact or phenomenon being studied; and d) the developed scheme must have ontological projection, that is, it must have strict relation with the facts that can be evidenced empirically.

4. FINDINGS & DISCUSSION

Why the method we have just presented can be useful to assess a decision making seen from the subject?

In order to answer the above question, we will base ourselves, in addition to our research, on two works written by the same Nobel Prize winner for economics: Friedrich August von Hayek. In *The Counter-Revolution of Science*, the author tells us:

> "The main reasons for keeping the terms 'subjective' and 'objective' for the contrast we are referring to [differences between the natural sciences and the social sciences], despite the misleading connotations that these terms may have, are on the one hand, that at least in economics [and also in psychological methods] the term 'subjective' has been used for a long time in the sense given here. On the other hand, and perhaps more importantly, the term 'subjective' emphasizes that the knowledge and beliefs of different people, although possessing that common structure that makes communication possible, make them different, and sometimes even contradictory in many ways. If we assume that all the knowledge and beliefs of different people are identical or if we conceive of a single mind, then it would not matter if we described them as an 'objective' or 'subjective' fact." (Hayek, 1955, p. 29)

This confirms that in economics the approach from the subject is an important current of thought that has contributed a different and useful knowledge about the economic phenomena that, without doubt, have origin in the psyche of a person. To support this latter hypothesis, we will take as a relevant reference a very particular work by Hayek: *The Sensory Order - An Inquiry into the Foundations of Theoretical Psychology*. (TSO) It is in this theoretical work in which Hayek built

the solid foundations on which to support his ideas about economic knowledge and what economic science should solve.

TSO represents the greatest approximation never shown between the subjective and the economic knowledge which, in addition, contributed to delimit the true object of study of the social sciences. He did not assign to the psyche (to the mind, as he calls it) any special 'substance', because otherwise it would ascribe to mental events attributes of whose existence there is no evidence (Hayek, 1952, p. 177), but defined it as the interaction of physical phenomena, such as the joint functioning of neurons in the cerebral cortex. Despite having succeeded in most of his appreciations, not having all the current neurobiological advances at that time, he had the disadvantage of confronting a 'mind' that *stricto sensu* is both observer and observed. This last problem, which we have already mentioned in Methodology, we will approach it from the TL, we will do the same with the 'correspondence' between the 'physical order' that shows us our environment and the 'mental order' that Hayek defines as consisting of 'classes related' and thus explain why our senses interpret reality in a disparate way as the physical sciences do; our position is quite similar, of course with other fundamentals.

The answer to the above question is supplemented by our theory of how the psychic apparatus is structured and how it works, presented in 2013.

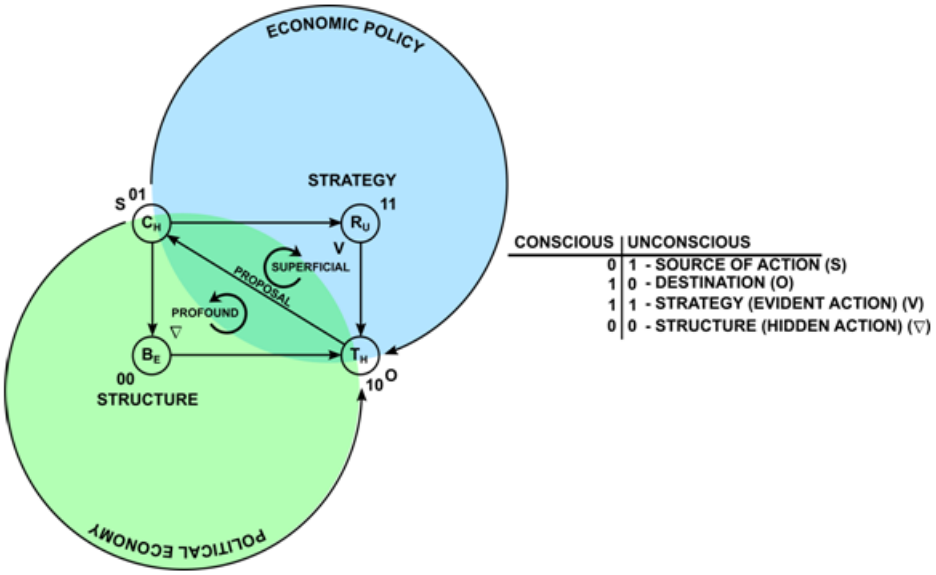
We will analyze, of the human being, the dynamics of their relationships, with himself which allows him to preserve his life, with the environment that gives him knowledge or experience, and with his peers that enables him to communicate his decisions. These relations have as unique objective to maintain the biological life, the psychic life and the social life, and in that sense, they are intentional.

The dynamics of these relationships are as follows: a) the environment is presented with its avatars, b) the subject acknowledges having received this impact (he perceives it), and c) elaborates an adaptive (and re-adaptive, as would say Piaget, (1947) 1975, p.14), thus indicating that he has found 'sense' to the surrounding reality and that he 'learned' what to do about it in order to remain alive in the three instances he has to face. This 'learning' has as a previous step going 'testing' alternatives to get as close as possible to an appropriate response. If this step is not fulfilled, that is, no response is given or given but it is not adequate, the human being dies socially, psychically and even, biologically, for not being able to adapt to the demands of the environment. (Salatino, 2016a, p.19) The latter case, in game theory, would be tantamount to losing the game.

As we shall see, the situation in which a subject finds himself interacting with the three instances of his reality, fits well with a variant presented in this paper of John F. Nash's approach to non-collaborative games (Nash, 1950). This way of approaching the decision making in economy is reflected in Figure 4, which we analyze below.

Nash made a vital contribution to the economy when he demonstrated that decision making is an interactive question where selfishness ('the intention to survive') prevails, and that the best results for a group in the short and medium term, despite that decisions are taken individually, are achieved when a very particular type of equilibrium is reached between pairs of opposing and simultaneous strategies.

Fig. 4: C_H = character – T_H = things – R_U = rules – B_E = beliefs



The above figure is intended to reflect a real framework for decision making something different from what was previously stated. The variant is the fact of focusing the problem from the subject and not only of what results from their interaction with others. In other words, making a decision here is much more selfish than in the case of non-cooperative games, because here what really is at stake is life itself.

Without making of this approach somewhat dramatic, we mean that decision-making, for example, the dictating of norms that is forged in the theoretical building of political economy, arises from a subject that interacts in a group, not a group which contains a subject, because they are sustained in their behavior. Therefore, the application of these standards in the practice of economic policy, which regulate their conduct, should reflect part of that normative origin; However, it does not, far from it, proposes a supposed "scientific equity" (according to the Nietzschean expression - Nietzsche, 2004, p. 80) that conceals the true affections that underlie them, such as the ambition of dominion or the craving for possession.

The graph of Figure 4 may very well represent a situation similar to that evidenced in a non-cooperative game between two players: a subject with his character and therefore with his ethics, and the environment with his things and his other subjects . There are two well-defined levels: the superficial or apparent level or that where the future of the players is settled according to a strategy chosen consciously and unconsciously by the subject according to certain imposed rules; and the profound level, where the rules of the game (structure) are proposed that depend on the individual beliefs, and to which he has no access, nor can modify any of the players (the structural is neither conscious nor unconscious, it's biological). This double state of our psyche, to call it somehow, is already pointed out by Hayek in TSO:

> "What, then, are the special attributes of conscious behavior by which we distinguish it from behavior which also seems to be coordinated and intentional but of which the person acting is not 'conscious'? Such unconscious behavior can occur either because the person's attention is in the particular moment otherwise compromised, or because it's completely unconscious as is the case in some states of sleepwalking and hypnotic trances." (Hayek, 1952, p. 134)

We must clarify that Hayek confuses, in some way, the unconscious with a lack of consciousness (unconsciousness). The unconscious is that functional state of a psyche that governs the automatic outputs (habits) of our psychic apparatus and therefore our behavior. Consciousness takes care of the inputs (especially those that require attention, although there are inputs that are

unconscious, much of the perceptive process is unconscious) as well as the cognitive aspect and our intentional behavior. (Salatino, 2014, p.15)

A system (a couple of players: the subject and its environment) represents a repose dynamic state that accuses a certain organization (determines a specific behavior), a certain stable disequilibrium that promotes an exchange that is projected as an evident action (a conduct that fits to norms or rules).

The irruption of a proposal or challenge from the environment (the equivalent of point a) of the dynamics already specified) causes a deviation in the subject that perceives it (point b) (S) that leads to submit that 'organization' previous to the rules of the game, those general rules that define the generating structure of their behavior in relation to the situation, as something disorganized that the profound structure reorganizes.

This reorganization is carried out elaborating either a defense that arrived at as an adaptive response to the environment (O), or as a change of level of complexity that allows it, by means of a strategy, to respond with an attack, which causes that the environment behave as a subject who receives a challenge and the alternatives of the game are repeated until that one of the two does not adapt and 'die', that is lose the game, or they reach an agreement and declare that the game is over.

The situation raised, necessarily, will lead to some of the social figures that we raised in the introduction. Or in other words, depending on the outcome of this 'game', will face a reality where there will be raised a conflict / evasion or an agreement. From the resolution of this proposal will arise the social and then personal roles of Dominator and Dominated if the proposed circumstance is of a general nature, the role of indifference will never arise.

To clarify the concepts a little more, we will analyze a more concrete example. Let us suppose that the central government of a Latin American country decides to implement an economic policy in line with globalizing currents in order to try to insert itself at the worldwide level, eliminating tariff barriers and allowing the free circulation of capital: financial capital (loans and international credits), productive capital (Raw materials, capital goods) and commercial capital (what is bought and sold). (García Echevarría, 1996)

The government of the country represents the 'environment' of the previous example.

Start the game. Government agents make the proposal, they pose a challenge, not to a local company, but to the common subject who gives life to these companies, saying: there will be lower production costs with the consequent reduction of prices, will increase employment there where multinational enterprises arrive, increased competition will lead to higher quality products, technological improvements that will increase production and facilitate economic transactions; as a direct consequence of all of the above, there will be greater accessibility to goods that are now not accessible. A disequilibrium has arisen.

The opposition on behalf of all the 'common subjects', instead of using the attack as a strategy showing all the disadvantages that can have, opt for a lukewarm defense against the onslaught of government and decides to take the opportunity to be linked to the government because they know that between one of the downsides of globalization is economic inequality that will occur in the country which would benefit directly the most powerful companies, which are almost always in collusion with power. The game is defined, the common subject loses.

They are defined, in the first instance, the roles of dominator (the governing) and dominated (the common subject).

We see in this example a situation, not strange in our countries, where the behavior of the subject, which ultimately constitutes the one that makes a country progress, is not taken into account. This subject has found, after hard experiences, a way of 'surviving', biologically, psychically and socially which has shaped the way he behaves. He has had to submit to norms indispensable for coexistence, but in no case this forced conduct, so far, canceled his behavior or crushed his beliefs.

The decision of third parties is supported in great academic developments defended by technocrats who decide what behavior that the common subject must observe to be in agreement with the conduct dictated by the norm imposed.

According to the final result of this hypothetical case, globalization tends to eliminate the stable disequilibrium that must exist between the Political Economy, whose ultimate basis should be the behavior of the common subject, and the Economic Policy that dictates the rules, in favor of the latter and in detriment of the first that collapses to reach a deadly stable equilibrium. In this way, what began as a 'non-cooperative game' was transformed into a 'zero sum' game. This split is what leads to 'mortal equilibrium.' That is to say, the appearance of economic conducts not sustained in a genuine economic behavior, which puts directly into force the social figure of submission.

Final consequences of a bad economic decision (not based on behavior): predation of the raw material, property of the common subject, to be more abundant and cheaper than in any global village. Not being able to pay even the interest of the loans taken for the technological update necessary to enter the world market (something non-existent), which forces him to give away the precious raw material, which in turn is bought by multinational companies disguised as regional enterprises, which pushes the common subject into a state of total submission. (Stay, 1993)

In order to finish answering the question posed at the beginning of this discussion we will make an analysis of the subjective reality. We have already defined the frame of reference where the subject develops. This is one of the real systems that define the TL: the socio-cultural, which as we saw is a composition of what is present, that is, of the facts as they are shaped by representing interrelations between subject and object, the two only components of subjective reality It is considered as the 'motor' that drives the gestation and regulation of the dynamics of other real systems. Its structural unit is the REM or real fact.

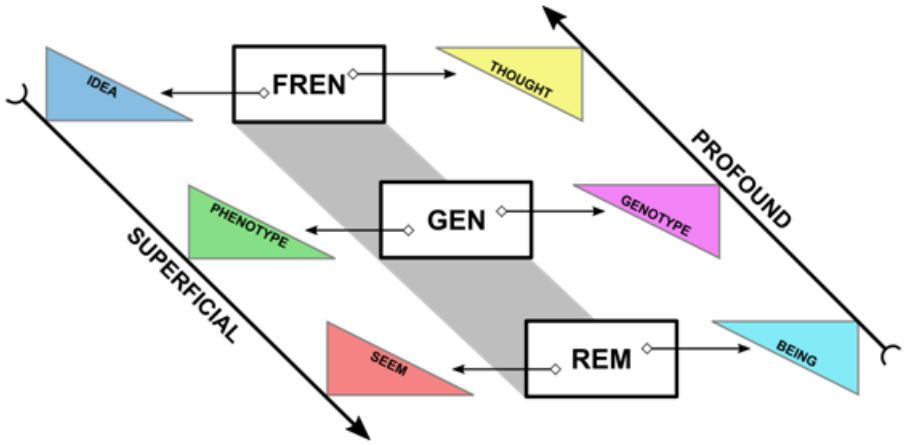
Another of the real systems is the bio-external: characterization from the logical point of view of the three major biological levels that record the physical aspects of life. These levels of life that can be qualified by TL are: a) unicellular or multicellular without central nervous system (CNS), which comprises simple animals and plants; b) multicellular with CNS, which include the animals themselves; and c) the animal that, through understanding, can use the sense it gives to its environment to adapt and evolve, the man. Its structural unit is the GEN.

Finally, the psycho-internal system: all living beings are autonomous and this autonomy becomes evident when they are observed as different from their surroundings. Little life can have a structure that ignores that it is different from what surrounds it. Setting a boundary between the 'inner' and the 'external' is a privilege of the living being. To the real system capable of sustaining this 'knowledge' and relating it to the environment, we will call it psycho-internal and it is the one that takes care of the concrete subjective aspects, both volitional and cognitive. Its structural unit is the FREN.

All units reviewed, show the same structure, that is, they are arranged on two levels, one superficial or evident and one profound or hidden, which arise from the interrelationship of the subject and the object (or their equivalents) through two transformations or changes. These two levels form a group and maintain a complex relationship with each other; that is, a triple relation of opposition, complementarity and concurrence or simultaneity, and with a common logical denominator: the PAU or universal autonomous pattern. (See Appendix)

The two levels that the units display are: in the REM, the superficial: the seem and the profound: the being; In the GEN, the superficial: the phenotype and the profound: the genotype; While in FREN, the superficial: the idea and the profound: thought. (Figure 5).

Fig. 5: Structural unit of the subjective reality



The psycho-internal system, our psychic apparatus, as we have seen, has a structural (relational) distribution identical to the socio-cultural system. We say that both are homeomorphic and not isomorphic as Hayek suggests (Hayek, 1952, p. 38). This condition allows facts that occur outside the psychic apparatus to be 'recorded', as it were, in the psychic structure as phenomena that give rise to the 'construction' of experience. A kind of 'structural memory'. A similar mechanism is pointed out as the origin of the experience in TSO (*op. cit*, p. 41). Hayek establishes as the central thesis of his psychological theory, saying: "*... a large part of the content of the sensory qualities* [mental contents] *is the result of an interpretation based on experience*." We could add that not only part but everything is understood in terms of experience, and when it does not exist, then we will have to learn or 'die'.

It is important to clarify why I use understand rather than interpret in the previous paragraph. The analysis that the subject does of its surroundings (to discriminate what he perceives) and the relation he makes of the obtained to experience (memory), if it exists, is in charge of a series of psychic processes (Salatino, 2014, p.159) These processes can be divided into *Superficial psychic processes* and *Profound psychic processes*:

Superficial psychic processes: (i) *Learn*: is related to the changes and is the one that occurs at the moment of perception; (ii) *Understand*: it is the analysis or division of what is perceived in the different real systems, to leave a real 'fact' in an idea (psychic structure = structural memory = experience); and (iii) *Explain*: it has to do with: I) inference or application of the inviolable principles of traditional logic, and II) with the association or implication based on previous experiences and knowledge, to give individual reading of a particular fact. It is related to the use of concepts through meaning.

Profound psychic processes: (i) *Know*: has to do with the differences between objects. It is which brings together all objects given their differences (is a disjunction) and for example, that the psyche can determine that the O^S (superficial object), or external object perceived is different from the S^S (superficial subject), or the subject itself considered as an object. Is directly linked to volitional thinking through which originates an embodied experience, that is, a 'incarnation' of learning to fulfill a particular desire. (ii) *Interpret*: Has to do with separating related similarities by a change or transformation not evident or profound (it is a conjunction). It is related to the 'sense' that acquires a fact when it becomes a phenomenon. Is the germ of the behavior of a subject, and (iii) *Comprehend*: Is the process that starts from an idea (psychic structure) and ends with its projection into a function: cognitive thinking. It is the one that allows, after an internal reorganization (re-adaptation) of the subjective slopes of the components of every real fact, to project towards the surface the sense of that fact, that is to say, a resurgence of the truth, our truth, that which allows us to respond from the subjective, not only with the will (behavior) but also to a strategy (conduct), to the proposals made by the environment. Finally, comprehension is what, in our feeling, establishes a belief. Belief is a functional affirmation of truth; and truth appears when a desire is satisfied and this is consistent with some belief.

5. CONCLUSION

Hayek, when he tries to demarcate the true individualism of false, points out that the true one represents a social theory because it tries, from the knowledge of the forces that determine social life, to elaborate political maxims. "*There is no other way toward an understanding to social phenomena but through our understanding of individual actions directed towards other people and guided by their expected behavior*." (Hayek, 1958, p. 6)

What is indicated by the previous quotation is what we have tried to show in this work, although with some nuances. It is clear from our analysis that the origin of the rules or the practical projection of the scope of a economic conduct must be, as Hayek says, based in the obliged knowledge that must have those who exercise power, of individual actions.

Such individual actions are manifested by a certain behavior which has as undoubted origin the structure and functioning of our psychic apparatus, as we have seen. The expected conduct that standards must safeguard is a direct consequence of our behavior. We have offered here a useful tool to assess the impact that individual desires and beliefs (which translate into actions or behavior) should have on the issuance of norms that regulate economic conduct; the only way for political economy to become the basis of our understanding, not only of economics but of social facts.

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APPENDIX

Transcurssive Logic

The method and the scientific tool that allows to analyze the primordial interrelation (or interaction of organizational nature) that exists between subject (S) and object (O), and that defines the dynamic evolution (the elapse) of the subjective reality, something which is beyond the reach of traditional science, to endorse the point of view of the observer.

Its main contribution consists in a modification of the traditional concept of what we understand by reality as we perceive it and how it influences our behavior and our conduct, according to the circumstances.

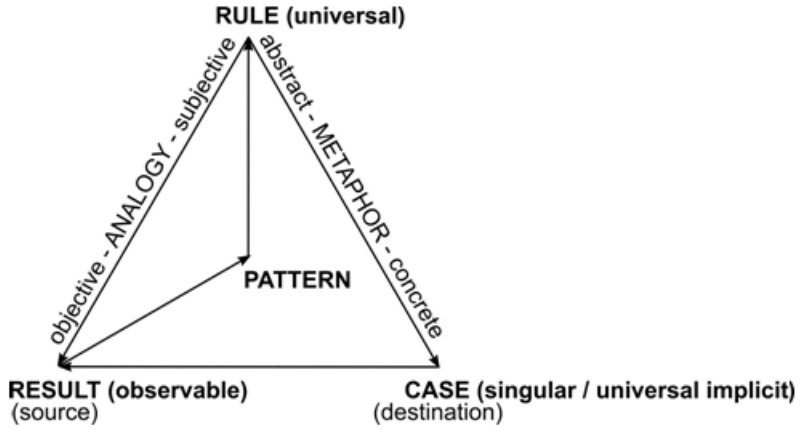
This approach, despite being based on the perspective that a subject has of the real facts that affect it, respects two of the central ideas in science: 1) unification: or the possibility of demonstrating that there are apparently independent phenomena that respond to a single relational pattern; and 2) the symmetry: which is one of the guiding principles of nature.

Given the two characteristics above allows scientific approach to social and humanistic aspects of reality, which is for what was created; although this form of approach can also be extended to any scientific discipline in order to discover the relationships existing between the fundamental aspects that define any real fact, and this with a double aim; on the one hand, as a method to facilitate the search of the object of study of an investigation and to put it in value. On the other hand, as a didactic tool to support the arguments that give rise to objective and verifiable knowledge, supported by observation and experimentation.

2.0 Methodological aspects

2.1 Based on unification: although science argues as a unifying element the same cause for apparently independent phenomena, here we will limit ourselves to propose the existence of multiple independent phenomena that respond to a common relational pattern. This is at the heart of a variant of Peirce's abductive reasoning, which we call metaphorical by analogy. (Salatino, 2009) (Figure 6)

Fig. 6: Method of Metaphoric by analogy



The analogy allows us to discover the hidden model that underlies every metaphor. The analogy is a going from the concrete (the observable) through a model or pattern, to the abstract (theory) or from the superficial to the profound. It applies to a known domain (source or observable results) to try to better understand or understand an unknown domain (destination). In other words, analogy makes more familiar a domain in which extreme or surprising phenomena occur (as Peirce called them). In this way, through the abduction it is possible to approach them doubly, on the one hand, generating explanatory hypotheses, and on the other hand, allowing their investigation.

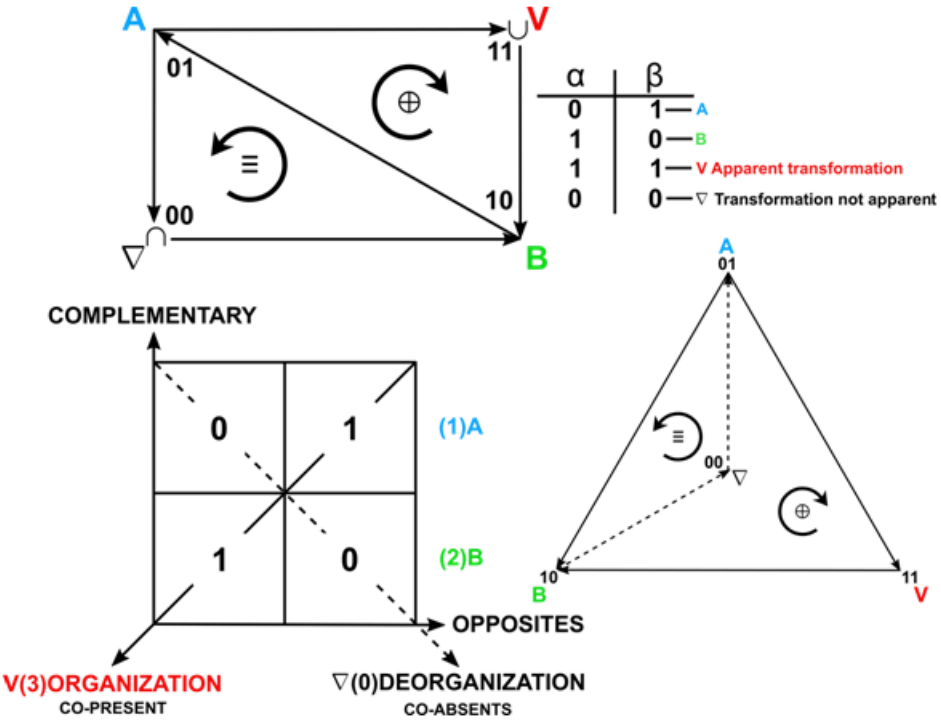
Through the metaphor is made the reverse way to that of analogy. It goes from the profound to the superficial, from the abstract to the concrete; (like the Greek term Aletheia: uncover), which

becomes evident in the change produced on the surface and which is nothing other than the impact of the transfer from the source domain to the destination domain, Which allows abduction to generate a hypothesis. In this way it is concluded that it is possible that the questioned (observed) domain shows a similar logical structure and therefore, a homologous functioning to the known domain, taken as reference.

In summary, then, we use the analogy in order to find some similarity between two domains that, superficially, appear as very different, opposite or even excluding. When the analogy is found, the metaphor (abduction) is responsible for giving an answer to that occult and mysterious phenomenon that we are trying to observe or study.

2.2 Based on symmetry: Symmetry is the language of group theory. Therefore, it is through a generic group that we can apply the principles of Transcurssive Logic to demonstrate the presence of symmetry, the only way to validate a scientific approach. The structure of this type of group consists of two opposing static elements (A and B) and two opposing dynamic elements. Each, alternately, occupies one to one of the four vertices of a rectangular parallelogram. All elements have a binary code that identifies them and that arises from a table of assignments with at least two basic attributes (α and β). If this is the case, both attributes must be opposites. (Figure 7).

Fig. 7: Generic group



The static elements, besides opposites are complementary and concurrent. Of the dynamic elements, one of them has the function of connecting by 'transforming' both of the static elements (V). From the logical point of view it behaves as a disjunction and its code corresponds to the co-presence of both attributes, which is equivalent to the union of the elements by their differences, so we will also know it as 'organization'. The other dynamic element represents a 'hidden transformation' whose function is to break the previous ligature, which will enable the future evolution of the system (∇). Logically behaves as a conjunction and its code arises from a co-absence of attributes, which is equivalent to a separation of elements by their similarities; We will also know it as 'disorganization'.

This arrangement which structurally represents a group of Galois, functionally represents a Galois connection; That is, the opposition of two aspects or concepts through another opposition, which here we will know as PAU (Universal Autonomous Pattern). The triangle of the figure is only to highlight the two levels that form this structure and its temporal evolution in the opposite direction. The rotation in both directions is obtained, to the right at the superficial level, applying XOR (⊕) [XOR : 0 ⊕ 0 = 0; 0 ⊕ 1 = 1; 1 ⊕ 0 = 1; 1 ⊕ 1 = 0.] to its codes; While to the left at the profound level, is achieved by applying the equivalence (≡) [≡ : 0 ≡ 0 = 1; 0 ≡ 1 = 0; 1 ≡ 0 = 0; 1 ≡ 1 = 1] (the opposite operation to XOR, since the profound level, from the logical point of view, is the negation of the superficial level)

In all cases, it is necessary to justify both the choice of the attributes that support the codes and to demonstrate that the result of the application of the operations to these codes produces a logical sequence of phenomena that are characteristic of the real fact being studied. In the case of social or humanistic applications, the static elements of the group must necessarily be subject and object.