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**HUMAN KNOWLEDGE FROM THE PERSPECTIVE OF THE NEW PARADIGM****\*Corneliu Augustin Sofronie**

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**Abstract**

The evolution of science in the last 200 years has known two major stages, marked by two reference paradigms. The first paradigm: - positivism, a paradigm that recognizes to be scientific, only what can be measured and determined quantitatively and repeated in laboratory conditions. Western thought has long dominated many authors, examining the preeminence of the principles of quantity in industrialization, the blind trust in statistics, the tendency to simplify things to the extreme, the hatred for hidden things, excessive rationalism, seeing in this age of quantity the signs of spiritual decadence. grinds the West. But a world that can be explained is a known world. Instead, in a universe devoid of illusions and light, Man feels alien. Science today is no longer a classical knowledge, the narrative of a new alliance can be deciphered. Far from excluding it from the world it describes, science once again raises the issue of man's belonging to this world, the need to know the hidden side of things. The twentieth century witnessed a rare event: a global paradigm shift. The aim of this paper is to highlight the superiority of the paradigm based on morphological theories (catastrophes, fractals), quantum theory, in the knowledge of man and society, the advantages that this paradigm brings from the perspective of developing predictions on human behavior, prevention risk situations, using Catastrophic Man and Fractal Man as a prototype, and as a methodology reveal the differences between closed and open systems and far from equilibrium. In the context of this article, we propose, as a tool of knowledge, personality typologies based on morphological theories: the catastrophic man and the fractal man.

**Keywords:** the structure of the scientific revolution, the catastrophic type, the fractal type.

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**Introduction**

The title of this article is inspired by the theory regarding the structure of the scientific revolution issued by Thomas Kuhn [Kuhn, 2019]. The well known American philosopher noticed that scientific revolution are preceded and announced by periods of conceptual chaos, where practices of the normal sciences (ongoing science) are gradually transformed into what he names extraordinary science (science of the next future). Sooner or later current practices of the normal science necessarily lead to the discovery of certain anomalies inside the science. In many cases, a certain equipment doesn't work as it was anticipated in the paradigm on which is based the normal science, it gathers multiple observations to which by no means one can find a place inside the conceptual existing system, or a problem that normally should be solved resists to the reiterated efforts of some remarkable professional representatives.

**Methodology and Theoretical Fundamentals**

**Towards a paradigm of complexity:** The performance of society at a given time is the result of a complex process of interactions between the individuals that make it up, themselves systems that are constantly transformed by the accumulation of history. A spectacular process of self-organization, difficult to understand and study in the light of the current paradigm limited by a linear approach, still dependent on a sharp residual reductionism, which is why sociology, psychology, economics or political science are of the same difficulty with understanding the Living and the Living. , being closer to Art than to science defined in the classical sense.

Although there is talk of socio-economic restructuring and the need to improve the quality of life and human performance in general, concretely the steps are still timid because there is a lack of critical mass of those who are aware of the conceptual limits of the current paradigm and can operate coherently. the series of consequences deriving from the new paradigm of Complexity. Under this title, new sciences, models and theories come together (quantum theory, fractal geometry, chaos theory, catastrophe theory, synergetics), based on a mainly non-linear approach to reality and which states, among other things, that: a complex system cannot be analyzed mainly by fragmentation into parts; it is made up of elements that make sense only in the intimacy of the system; it has an unpredictable evolution (at most in a short time called the time horizon); it can undergo sudden transformations, no matter how great, without obvious external causes; presents different aspects depending on the scale of analysis; the difficulty of prediction in such a system lies not in the inability of the observer to take into account all the variables that would influence its dynamics, but in the sensitivity of the system to the initial conditions, to which is added the effect of a process of self-organization. the very interactions between the component subsystems and which has as an effect the spontaneous appearance - unpredictable - of new relations of order); a complex system can be modeled and studied in an equivalent topological space, called the phase space, in which specific notions are defined: attractors and repulsors, attraction pool, trajectories, limit cycles, etc. In this context we can speak of a functional modeling, much more abstract and "untied" by the constraints imposed by a concrete "anatomy" and "physiology". While classical modeling starts by approximating what is "seen", functional modeling involves identifying an equivalent dynamic system whose behavior can be analyzed by specific methods with an extremely high degree of generalization; a complex system has an evolution that does not result from the analysis of the response to a given

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stimulus (dynamic analysis); in other words, the dynamics and evolution of a complex system are two different issues that require specific approaches.

**Complementary with shape measurement:** In the 1990s, in the context of widespread technological change and under the pressure of economic globalization, the concept of the knowledge society, which is structured around two great revolutions: the computer revolution and the quantum revolution, began to be used more and more. The knowledge society is gradually replacing the industrial one, which in turn has replaced the agrarian one, the last two being focused on the production of material values. The knowledge society is the one in which information means power in the most general sense - whether it is political, economic or financial power. But the need imposed by the characteristics of this social time is to direct research on information as the fundamental core of knowledge to the inner universe of the human being, in order to reveal the unseen part of Man, the hidden part, responsible for unpredictable events. It means placing Man at the center of the scientific theories that govern social activity. Contemporary scientific discourse brings to the fore the relationship between objective and subjective (the interaction between subject and object), putting it in a different light. The social sciences are increasingly based on morphological theories, fractal geometry, synergetics, catastrophe theory, fractal theory, chaos theories in general (34, Thom; 35, Mandelbrot; 6, Lorenz); this allows them to approach with more chances of success, the prognoses, the situations of risk and uncertainty, which constitute a *modus vivendi* of daily life. In his last term in the White House during the winter holidays, US President George W. Bush uttered a memorable phrase - a definition of the kind of social dynamic that characterizes the spirit of this social time: Today's world is a process, it is not, it's just happening. It is a sentence formulated based on the theory of chaos, the effect of the butterfly. We have here, in all its dimensions, the importance of the role that the evaluation of the human factor has, in all the spaces in which it manifests and with which it interacts. The theory of psychological space postulates the existence of a territory of individual protection, which includes four spaces: intimate space (or space of communion) - based on the feeling of love, friendly space (space of cooperation) - structured around the feeling of sympathy, organizational space (competition space) - dominated by detachment and the public or social space (the space of separation) in which the relations between individuals are built on indifference. This new social reality presupposes a different model of measuring it, a different type of tests compared to the tests in use, the psychometric tests. Following ten years of research and experiments on a group of 35,000 subjects from all professional and social categories, we created a type of measurement test by form, based on quantum theory, chaos theories and type logics. Fuzzy

### What does psychometric tests measure?

The experience of almost 40 years of testing that we have so far, highlights the fact that psychometric tests that measure skills, traits or psychological qualities take into account the general and abstract nature of that aptitude / trait / quality. They measure punctually: here and now, they do not take into account the dynamic character of the aptitude / feature / quality taken as a reference for testing, but only refer to the static aspect of the psychological entity. And, at the same time, the general appearance. That skill / trait / quality is not measured in a specific context, such as the relationship to workload. The

test excludes from its characteristics, both the time and the concrete space in which the subject exercises his aptitude, trait or quality. The results obtained with the help of psychometric tests are optimally found in Lewin's formula:  $C = f(P, M)$  - behavior is a function of Personality and Environment

### What does shapes measure?

Shape measurement tests allow contextualization and understanding of aptitude / trait / quality in its dynamics. Form is, in fact, the configuration of a thought understood as a complex structure signified by a scheme - as an inner representation of the outer reality. By testing we obtain the map of the territory [Korzybsky, 1946]. chosen as a stimulus for evaluation (workplace, relationship with family or organization, relationship with workload, etc.). A determined stimulus, concretely seen not as a static reality but, on the contrary, as a dynamic one, in its development, signifying in testing the unity of space-time. Measurement tests by form - measure the dynamics of the individual's personality, refer to the particular, concrete significance of the respective skills / traits / qualities. The obtained results are reflected in the type of equation  $\cdot q = N(q, \text{parameters, perturbations})$ , where the point indicates the deviation in relation to time,  $q$  is a state vector, can have several dimensions, specifying the state of the system, and  $N$  represents a nonlinear function of the state vector which may depend on the number of parameters, including time, as well as on the random forces acting on the system. With these tests we came to identify the typologies of personality-catastrophic and fractal, based on morphological theories. This type of measuring instrument is justified and validated in the context of synergetic theory which, as a theory of systems, postulates that: The whole is prior to the parts; the parts, the meanings, have autonomy in relation to the Whole, but on the other hand, within the Whole, as parts (and as potentialities), they are in a relationship of cooperation or competition between them and with the Whole; The perfection of the form of the Whole does not automatically presuppose the perfection of each part, just as the perfection of each part does not necessarily lead to the perfection of the Whole; there is no end point, no end brick.

### The closed system-the open system and away from balance:

From the point of view of openness, there are three types of systems: closed (machine, technical systems), open (nature, biological systems with lower psyche) and open and far from balance (man, society). We are particularly interested in the extremes: the closed system and the open system and far from equilibrium, also called archemosystem, ie system endowed with consciousness. The closed system is governed by classical logic, and the open system and far from the balance of fuzzy logics ... Classical logic is the logic of rigid and clearly determined sets. In rigid sets, any element is where it is - or vice versa. That is why everything is binary, true or false, open or closed. "Either it's where it is or it's not" means something separate from rigid borders. Western thinking has been and still is dominated by the rule of the excluded third party, by the idea that anything is either A or non-A. The logic of vague sets is different. Vague crowds acknowledge that, in reality, things are often a little A and a little non-A. Half an apple is still, to a certain degree, an apple. Vague crowds have no rigid, clear boundaries. They have no borders at all. Their members belong to them in certain degrees of belonging. Computer scientists are about to develop a new mathematical thinking to operate with the idea of degrees of membership of constituent members.

Table 1. Closed systems-open systems

CLOSED SYSTEMS. Technical systems, car. They are the prerogative of the exact sciences	OPEN SYSTEMS AND AWAY OF BALANCE (archaeal systems, consciously equipped systems). They are governed by the humanities
ENTROPY is in point 1-according to the definition and formula of Shannon [8,Shannon, 1948]	ENTROPY is in point 0.5 where good and evil, truth and falsehood are equiprobable. It was discovered, among others, by the Romanian Gh. Zapan [28,Zapan, 1984]
ARISTOTLE LOGIC-the logic of rigid sets	FUZZY LOGIC-the logic of vague, borderless sets
EQUALITY. It is the principle with which it agrees politically	FREEDOM as a political principle
DECISION. He considers Man a rational tool of optimization. The decision is of type 1 or 0. There is no question of the Platonic fold, of the appearance of a difference between thought and word; the two are considered ab initio to be identical	DECISIONS ARE OF A EURISTIC TYPE and are influenced by our ever-changing internal states (qualia phenomena), given that memory and perception are constantly reorganizing. Our choices are dictated by our needs. The truth can be found anywhere between 0 and 1. The space between thought and word, word and deed is uncertain
HUMAN BEHAVIOR. $C = f(P, M)$ –Kurt Lewin. Behavior is a function of Personality and Environment, [27, Lewin, 1959]	HUMAN BEHAVIOR. $C = N(q, T, M)$ –Sofronie, Zubcov. Behavior is a nonlinear function of the psychic system (qualia phenomena), time parameters and environmental. [24, Sofronie, Zubcov, 2015]
THE MEASUREMENT is of the quantitative type. It is done by calculation, it is based on statistics. Quality is dissociated from quantity. Argumentative, linear, logical, sequential	THE MEASUREMENT is of quantitative-qualitative type, is made by shapes and is based on morphological theories: the theory of catastrophes, fractals, chaos THINKING Intuitive, systemic, jumping, visionary thinking
APPROACH from certainty to uncertainty. STOCHASTIC UNCERTAINTY	APPROACH from uncertainty to certainty. EPISTEMIC UNCERTAINTY
THE PURPOSE OF CLOSED SYSTEMS – to be an instrument for man	THE PURPOSE OF OPEN SYSTEMS AND AWAY OF BALANCE- conservation of life on earth and the progress of the human being
SPACE DEPENDENTS	TIME DEPENDENT
STABLE BALANCE	DYNAMIC EQUILIBRIUM
OBSOLESCENCE	OPEN TO US

**Cognitivism in the context of the complexity paradigm:** As Jean Piaget remarks, [30, Piaget, 1950] of all the particular sciences, only physics may have had such a sinuous and dramatic trajectory as psychology. Maintained for two thousand years as the ashes of philosophy, after it finally managed to break away from it and declare itself an independent science, psychology has entered a process of deep and permanent inner turmoil, which has not concluded to this day. These turmoils were externalized in the form of exclusive antagonistic orientations and games, each of them claiming, in an explicit or implicit manner, universal supremacy, both theoretically and applied. The opposition between them was generated by the situation on unilaterally absolutizing positions in fundamental fundamental problems, such as: the nature and place of psychic reality in the universe, the internal composition and functioning of the psyche, the innate-acquired relationship in the structure of psychic life, biological relationship -cultural in the determinism of the human psyche and personality, the idiographic-nomothetic relationship in the construction of explanatory models, the quantitative-qualitative relationship in the analysis and interpretation of psychobehavioral facts, the method of investigation-knowledge of the psychic reality. This heterogeneous and internally contradictory picture that has characterized and still characterizes psychology must be attributed to the vice of the traditional, atomic-descriptivist paradigm, on which scientific knowledge was based, with effects to this day. Besides the fact that it is structured on the mechanistic principle *divido et composio*, the atomic-descriptive paradigm operates a categorical dissociation of opposites and a gross flattening of the qualitative differences between inferior-superior, simple-complex imposing the obligation to explain the phenomena based on causal connections. unambiguous and immanent mechano-physical laws. The way out of this epistemological crisis is possible only by finding a new paradigm, capable of overcoming and removing the limits of the atomistic paradigm; this new paradigm is in its infancy today, but on a firm path from a scientific point of view, all the discoveries made in science lately, coming to its support with undoubted arguments. The opportunity for such a paradigm is provided by the scientific framework of general systems theory. This new paradigm is based on the principles of interdisciplinarity,

relativity and complementarity. It is a paradigm that brings to the fore the interactions, the relationships, the informational side, the complexity, the probabilistic dependencies. Systems theory has identified three types of systems: closed systems (and are thus considered technical systems), specific to inorganic matter, open systems of organic matter (nature and biological forms with lower psyche) and open systems and far from equilibrium that refer to organic matter endowed with consciousness, respectively in Man (they are also called arhemo-systems). If closed and open systems are of a structural nature, open and far from equilibrium systems are of a structural-phenomenological nature. There are three different types of systems, governed by specific laws. The laws that govern open systems and far from equilibrium, consciously endowed systems are quasi-opposites to the laws that govern closed systems and show significant differences from open systems. The most relevant difference is the type of logic we use in interpreting and understanding the results obtained in the two types of systems placed at extremes: closed systems and open systems and far from equilibrium. In the case of closed systems, the formal logic operates, based on the excluded third party: true or false, 1 or 0. In the case of this type of system, the binary "brain" works, which is adequately suited to computational cognitivism. In the case of conscientious systems, fuzzy logics operate, based on the included third party, in which the truth can be anywhere between 1 and 0. The truth can therefore be anywhere between thought and word, between thought and deed, between word and deed (Platonic fold-Nicholas Nassim Taleb, in [31, Taleb, 2019]). This approach is typical of network cognitivism (the model of non-scaling networks) as opposed to computational cognitivism which imposes a unique truth, imposes the unconditional admission of the identity between thought and word, between word and deed. Through this, computational cognitivism practically reduces the complexity of the human brain to a computer brain ... The main danger of a cognitivist approach is the reductionist-mechanistic tendency in cascade, towards the assimilation of the psyche with the brain and its, in turn, with a calculating machine. Cognitivism reduces all types of psychic content to those of a cognitive nature, and these to physiological functions or logical operations.

## Results and Discussion

**Morphological types of personality: catastrophic and fractal:** One of the fundamental problems of the human spirit is that of the succession of forms. Whatever the ultimate nature of reality (assuming that this expression makes sense), we cannot say that the universe is chaos: we can distinguish in it beings, objects, things that can be called words. These beings or things are forms, structures endowed with a certain stability, they occupy a certain position in space and last a certain interval of time. The very fact that we can recognize the same being in the multitude of its external aspects poses a problem that only psychologists in the Gestaltist school have put in a geometric perspective, accessible to scientific interpretation.

**The world of forms:** Morphological theories have an innovative role in the landscape of contemporary science. First by their object of study - the world of forms - and then by their structural, qualitative and non-reductionist method. They aim to describe and explain scientifically, rigorously, the empirical forms. Their object of study is life itself. They are not dependent on particle accelerators - powerful and fascinating and mysterious cars, but with a gigantic size, almost unreal. It does not probe the frightening black holes in which entire galaxies collapse. He does not participate in the assertion of this giant that manifests itself even in the world of microparticles, a giant that imposes itself in a form that, according to scientists, seems to lead to its disappearance. The universe of morphological theories is the world close to us, so close that we often forget it: the universe of the objects around us. There are theories that study the rationality of the world we live in, of the sublunary world, thus defined by Aristotle, of the world subject to chance.

**The rationality of the palpable nature:** Classical physics united Heaven with Earth, but, according to Stephen Hawking, recently gone to Eternity, he did it for the benefit of heaven and to the detriment of Earth. The rationality of classical physics is the cosmic or astral rationality, not that of palpable nature. The growth of a tree, the budding, the leafing, the birth of a man, all these reveal a rationality of its own that escapes the mind that is stubborn to calculate. The universe of morphological theories is not, therefore, that of precision, but the uncertain world of everyday existence. The assertion of morphological theories gives the impression that the natural and human sciences have finally found, among the disciplines of mathematics, the instrument they lacked to describe, in its specificity, the world of forms - a world in constant motion, so complex that it cannot be subject to ordinary quantitative analysis. This tool allows us to advance beyond the Aristotelian barrier based on the idea that mathematics stops where nature begins and that the founders of modern mathematics have managed to overcome only by denying nature itself. Morphological theories can be seen as an revenge of Aristotle on Platon and even more so on contemporary reductionist science. From the perspective of knowing man, it is neither a fight nor a competition. Quantitative and qualitative are not two opposite categories, but complementary.

**Quantitative-qualitative unit:** Human behavior must be understood through the interaction between quantitative and qualitative, through their unity. Quality is a kind of quantity that reflects inwards, to the intimacy of the object. Quantity without quality generates chaos. The role of quality is to

organize intimacy in such a way that the object does not lose its identity in quantitative chaos. This is because in morphological theories mathematics, as a way of knowing the human being, is not a simple calculation tool, but also serves as the germ of some abstract structures (logos in catastrophe theory, archetype in analytical psychology, etc.).

### Catastrophic morphogenesis

**Disaster theory** is a theory of forms and we owe it to the French mathematician René Thom [2018]. The essence of his theory: the composition of mathematical models capable of taking into account the existence and stability of forms, their appearance and disappearance, in a word, morphogenesis. Thom's theory met with an exceptional destiny for a mathematical theory, quickly conquering the world of science. From its inception it was considered a revolution in mathematics, comparable to the invention of differential and integral calculus. Catastrophe theory provides a general method of studying discontinuous changes, qualitative leaps. It is considered by scientists that this theory gave high hopes to specialists of famous disciplines as non-formalizable by traditional mathematical methods: ethology, sociology, psychology, thus allowing these disciplines to enter the much desired area of scientific rigor. Scientists, such as the mathematician Cristopher Zeeman [Zeeman, 1977], began to build, on the theory of catastrophes, models with a strong psychological and sociological support for extremely diverse phenomena such as prison riots, stock market crises, the spread of nervous influx, the treatment of anorexia, etc.

**The disaster in the meaning of Rene Thom:** A catastrophe, in René Thom's scientific conception, occurs when a continuous variation of causes produces a discontinuous variation of effects. Thus, catastrophe contradicts the principle: the cause equals the effect and even the one according to which the effect is not superior to the cause. The central idea is that of discontinuity. "For me," says Thom, "catastrophe is associated with any phenomenological discontinuity. For example, when a function has a discontinuity at a point, in other words when it changes its value, the point will be considered catastrophic. "Thom uses a strictly topological analysis of the concept of form. For him, a form is distinguished, it is separated from a background, from a support space, a substrate space, whose phenomenological appearance varies depending on the point considered. If the background is perfectly homogeneous or if its properties change continuously, there is no morphology. For the appearance of a shape, a discontinuity in the qualitative properties of the support is needed. "What is proper to a form," says Thom, "is that it is expressed through a discontinuity of the environment." [34]

**Initial Function:** The major condition of catastrophe theory is the existence of an initial function, of an initiating logos. It can be a function of potential, energy, entropy, cost, probability. By minimizing this function, the system evolves, through slow, barely perceptible changes of the variables, to a state which, where the function is minimized, determines the appearance of a singularity considered to be equivalent to an elementary catastrophe. It signifies the division of a functional ladder to which the step of the ladder changes. The value changes. The point at which the division occurs, and to which we refer in the present case, is called a bifurcation. Referring to human behavior, at the bifurcation point the individual has a priori

availability for two diametrically opposed types of behavior. It's Dr. Jekyll and Mr. Hyde at the same time. God and the Devil. The catastrophe is produced by a factor that seems to be in his body a foreign body, tolerated for a long time, a factor against the nature of the catastrophic type. It is like a foreign body that at some point the catastrophic body rejects with positive or negative value.

### Irregular Shapes

Fractal Theory was also created by a Frenchman: Benoît Mandelbrot [2015]. As non-conformist as Thom, but at least apparently less concerned with rigor, precision, Mandelbrot concludes that, intuitively, the fractal is a geometric structure or a natural object that combines the following features: its parts have the same shape or structure as the whole (they are self-similar), even if they have different scales, and can be slightly deformed; its shape is either extremely irregular or extremely interrupted or fragmented, whatever the scale at which the examination is made, so that it cannot be described in the language of Euclidean geometry, neither locally nor globally; contains distinctive elements whose scales can be very varied and which cover a wide range; In the vast majority of cases it is defined by very simple rules. However, as the vast majority of scientists appreciate, the concept of fractal remains to be defined. Like Thom, Mandelbrot introduces a kind of logos, which he called the Initiator and Generator.

**Type of logos:** The initiator is the structure that underlies the fractal construction; the generator represents the set of rules that are passed from one stage to another during construction. If we judge the fractal in the informational register, the Whole represents a primordial Metainformation that is transmitted by an Initiator (the first divine engine to Aristotle) to a descending system, in order to generate in it a series of secondary information able to direct the evolution according to a certain program. Which is the Program of the Whole. The program involves, in the case of the fractal, the realization of a certain telephony by managing the depth of the Moments. And managing the Moment means knowing its value or non-value. This is the type of fracture bifurcation in the Moment; it is the science of the individual to choose, to decide correctly between value and non-value, both the moment and the distance between two moments. So, even in the case of fractal behavior we can talk about bifurcation moments, which occur even more often than in the case of catastrophic. But the amplitude, unlike the catastrophic bifurcation, where it reaches maximum values, in the fractal behavior oscillates around the minimum limit. There are, however, moments when, against the background of irrational behavior, the fractal type, even in the conditions of a bifurcation with minimum amplitude, can create a state of maximum disorder, with abominable consequences, of extreme aggression on his peers. It is the situational madness generated by disorder and not of the reverse order as in the case of the catastrophic. Thus, if the maximum catastrophic bifurcation causes a negative order which means the extreme opposite of the positive order, the minimum fractal bifurcation can create maximum disorder, the level at which the situational madness of the fractal is manifested. From a social point of view, there is generally more tolerance for disorder. But life has proved that the greater the tolerance, the more disorder becomes a more favorable environment for the emergence and development of corruption, crime, delinquency in general. As for the basis of the Cause, regarding the fractal all come from a Single Cause, a Cause that has its origin in the Primary Metainformation.

### The catastrophic

**Implied order of the world:** The life of the catastrophic type is an apparently continuous flow, a fullness, in which the seconds are wrapped in hours, hours in days, days in years ... It is the type of behavior that is inscribed, using a concept created by David Bohm [Bohm, 1995] in the implicit order of the world. To those around him it looks like a metronome, with an indecipherable inner universe. Catastrophic type lives permanently with the nostalgia of Eden. He lives deeply with the seeds of the Ideal deeply rooted in the abysses of his unconscious. It hides in its origin Man's desire for continuous survival. But after long periods of quasi-linear existence, a break occurs at some point. It's time to fork. It is the moment of singularization, when another EU of the subject takes the place of the one through which it manifested itself until then. At the bifurcation point the individual has a priori availability for two diametrically opposed types of behavior.

**Falling in time:** At the moment of bifurcation, what the philosopher Emil Cioran calls being the fall of time occurs. A fall from normal order to a reverse order, a fall from stable equilibrium. The subject's anti-ideal buries his ideal. There is a crack like a deep tunnel in the existential path imagined as destiny, which the individual has unconsciously incorporated, so that, for the catastrophic Man accident, the event are forms of being, are necessary events. In this moment of bifurcation, the catastrophic man travels with superluminal speed the distance from ecstasy to agony, from sublime to ridiculous, from dream to abyss, from normality to abnormality. At the bifurcation moment, the metamorphosis of Dr. Jekyll into Mr. Hyde, Man in the Insect. For the catastrophic Man Life has Kafkaesque accents.

**Anxiety of need:** Over time, through repeated and almost imperceptible accumulations, the catastrophe is overwhelmed by the anguish of necessity, lived as something final and deprived of freedom. Against the background of this anguish is born his desire to change, to escape from himself into an alter-ego. The catastrophic type can be compared to a lottery player who plays only once, unintentionally, but because he had a moment of intuition, of inspiration, an internal impulse to do it and wins, unexpectedly, a colossal amount. The catastrophic type explains the appearance of the Situational Madman (ignored for the time being by both psychology and psychiatry) - the one-second madman, who produces an anti-social fact in a moment of self-aggression or extreme aggression on the other, and then returns to normal life. With the explanation: I don't know what happened to me, I don't know how it happened! For the Situational Madman, the catastrophic moment lasts at most a bunch of moments, in which the individual becomes singular!

### Catastrophic type (Example)

**The Logos:** The conviction that he is good, full of virtue, balanced-integrity, stimulates his pride that he has on this earth a noble mission that he must carry out for the benefit of humanity.

**Logos Decoding (Currency):** You are fine or fine if you do what is right. For this type, the calm waters are deep. The court that has the greatest significance in his personality structure is the Superego. It considers success depending on the characteristics of the external environment, on the external

reality. In his opinion, real life consists in obtaining the best result in a certain situation. Evaluating things and achievements according to a system of universal values, he often opposes his environment, considering it necessary to correct everything. His basic need is the need for morality.

**How to accumulate ideas, affections, emotions, dreams:** It does so through a rational, controlled, principled and idealistic behavior at the same time. Evaluate things responsibly and tolerantly. He is a good planner, this being the most suitable role he can play in a team. He is aware of the need to live for a high purpose. It is the trunk on which his ambitions, desires, emotions, affections flourish.

**External perception of changes in the subject psychological universe:** Due to the subject's compulsion to accumulate frustrations without betraying himself (he does not accept to be surprised), others understand and feel too little of what is happening in his inner universe. From the point of view of the theory of catastrophes, his behavior is governed by the law of inaccessibility, being constantly obsessed with the fear of not making mistakes.

**The cause of the production of the bifurcation moment** (The way of minimizing the function represented by the initial logos): It starts when he is convinced that those in his friendly, protocol or social space consider him full of defects, evil, corrupt. It usually happens on the subject's desire to be honest and perfect in any situation, a desire that degenerates into an exaggerated criticism. In these situations his relationship with Time is affected. He lives permanently under the pressure of time, which makes his defense mechanisms very fragile.

**How it is manifested in the bifurcation situation:** The main vulnerabilities: it is presumptuous, contradictory, inflexible, punitive and sometimes vulgar. In situations of situational insanity: obsessive-compulsive disorder, debilitating guilt, outbursts of anger, intolerance and condemnation, tendencies to self-punish punishment.

### The fractal

**Express order** Unlike the life of the catastrophic, the life of the fractal type does not represent a continuous temporal flow, a fullness, but its time stretches like beads on the thread of life, moment by moment, each moment being distinct, having autonomy in relation to the Whole. subject. It is, referring to the same Bohm, the symbol of the explicit order of the World. It repeats itself, as a form on the same scale or on different scales, every second, unfolding like onion leaves from the Whole that is Personal Life itself. Metaphorically, we could imagine the life of the fractal as a series of breaths.

**Falling in time:** If in the case of the catastrophic we are talking about a fall in time, the fractal falls in time. Because the fractal individual is aware that Man is inexorably condemned to old age and death. He therefore produces a permanent fall in time, as an expression of dynamic balance, creating disorder when creating order in the noise of the day is no longer available to him. In this situation the fractal individual experiences the anxiety of change, ie the fear of losing the inner order. The unknown, the surprise, the risk, the unfamiliar, the challenge create internal tension, which disorganizes the rhythm and the rules of functioning of the Ego, and leaves it prey to the anguish of psychic death. It uses

precautionary attitude, caution, hesitation, doubt, procrastination to reduce internal tension, functioning as a barrier against perceived disorganizing stimuli of life. The falls of the fractal type are small; sometimes they can be acts of extreme aggression against others.

**Sufficient type:** Fractal life is the mirror portrait of the life of the catastrophic. It's enough face to face with the deep guy. The analytic face to face with the Synthetic. The fractal is much more realistic, so it has no ideals. It has goals, it has objectives. If the catastrophic personality is meaningful, the fractal personality generates particular, concrete meanings. Compared to a lottery player, the fractal is a consistent player, he plays repeatedly (a sum of discontinuities) and has occasional winnings, but modest. The fractal bifurcates at every moment. At every moment the fractal individual is put in the situation of choosing between the value or non-value of the moment. Thus the role of the moment in the economy of the fractal type's life depends on the choices he makes, on the decisions he makes.

### Fractal type (Example)

The Initiator of fractal architecture is the need for freedom. The need to protect himself, to choose his own path in life.

Generator (SuperEgo Message - the core from which the construction rules of fractal behavior are derived): You are good if you are strong and in control of the situation.

**How to state the potential:** Heroic, but not Olympic, but an earthly one, an army leader, a historical figure, a famous actor, a VIP. Capable of self-sacrifice, strong, domineering, categorical, determined. For this type, life is real only if he comes to control it by his own inner strength. His mental and affective guide is the need for independence. He seeks independence and wants to need others as little as possible. The morphological law that guides his behavior is the law of divergence. This law stipulates that the subject has disproportionate reactions to minor, insignificant causes.

**External perception of changes in the subject psychological universe:** Signs of a departure from positive standard behavior are when the subject shows excessive pride, when he begins to confront and intimidate others. When she has these types of manifestations, it is a sign that she is afraid of intimacy, she is afraid of the possibility of becoming vulnerable. He begins to keep his guard up, as they say, not letting others get too close to him.

**The cause of the production of the bifurcation moment:** When he has the feeling that his freedom and independence are limited by Someone, that he bears constraints of a certain kind. When he experiences the feeling of being hurt or controlled by others. It most often occurs when he is unable to hide his weaknesses, when he appears weak in front of the other. In such situations it highlights inferiority complexes. The defense mechanism for him is selfish time. He uses his time according to his own interests, not being interested in the problems or interests of others in relation to him.

How it is manifested in the bifurcation situation (behaviors that create disorder, sometimes also acts of situational madness, especially of extreme aggression on others). Vulnerabilities: ruthless, with dictatorial tendencies, megalomaniac, with the pleasure of terrorizing those around him. Situational madness:

anti-social unrest, sadistic, violent behavior, paranoia, unannounced and poorly motivated social isolation, lack of conscience and empathy, planning revenge against those they consider enemies.

## Conclusion

**The need to understand the world through the laws of chaos theories:** Scientists in general, specialists in socio-human sciences in particular, sociologists, psychologists notice, in depth, an increasingly atomized, increasingly individualized social reality. In the face of such an evolution, the way of approaching, understanding and measuring the psychic system cannot be left behind, first of all from a theoretical and conceptual point of view. But also for other reasons. As Lord Martin Rees, the British Royal Astronomer, observes in his book [Rees, 2004], the progress of science and technology creates not only opportunities but rather new and great threats. "That's why," he writes, "in this world, more and more interconnected, where individuals have greater power than ever at their fingertips, society must deal, more than ever, with any kind of calamity, no matter how it would be unlikely." In order to cope with the threats of such a reality, the personality of the individual must be known in the spirit and by the specifics of the laws that best and most correctly explain this reality. Or, it is obvious that reality, be it nature or society, cannot be understood outside the laws deriving from morphological theories and quantum theory. The need to protect Man, the essential factor of conservation and evolution of the species, the only guarantor of its non-extinction, requires an adaptation of methodologies and methods of knowing the Human Being, in order to intervene in favor of preserving life at higher levels of evolution matter, to the top information existing in science (and here we point out that, in its evolution, science has not stopped at the mathematics of quantity and statistics).

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