

THE PARADIGM OF COMPLEXITY – PART I

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Abstract

Science reached such a high level since it started to integrate my problems to the view, not the statistical ones, who speak about something completely different and from the view there is a need for spiritual development, a reformulation in the principal meaning of the human being so that school should no longer be just a spare parts factory for a social system, that is, to have an engineer replace another engineer, to have a doctor replace another doctor, to make a human being, and this idea of creating an individual capable of self-defining himself and to bring added social value o a good thinking, in the sense of a sustainable development, represents in fact a desideratum.

Keywords: *knowledge, complexity, paradigm.*

What more can I say besides the fact that it is a great honour for me to be here, from various points of view. I was in Iasi for quite a long period of time, between 1992-1996 and I have to say that I was trained to spread this complexity thinking. This is not an easy thing, in this space that I consider extremely useful as it offers a great spiritual openness.

Therefore, under this form I attempt a marathon lecture, as it includes a 60-year synthesis that we concentrate in just one day, in a few key points so that be become able to finally find a common ground and, in order to make this faculty become a lighthouse, if you wish, not only in the region but in general, in order to socially broadcast what we call the new thinking, which basically offers a conceptual basis for everything that people refer to as the knowledge society.

From my point of view, the knowledge society is not just a political mater, although it is approached from a political point of view, it represents an issue of natural human evolution. We shift from the crankshaft to the bent tree, as I say, from something very pragmatic, mechanically lifeless, something in which life began to be incorporated, to something in the form of an artificial life, at levels that we have to

flirt with to give life, which means a completely different responsibility and we will find again, that the main problem that is and the obstacle that we face is not technological, because we have a global networking that solves any technological problem, but the problem is human, it is actually the problem of human quality, it is actually the problem of ethics and spirituality.

And therefore, I came again very well because this northern area of the country that I consider the heart of Romania. It has a special sensibility and I shall address this sensibility, one to its rationale side. You shall see that I had the chance to lecture here and then to catch the plane to Timișoara. It is fascinating to feel the attitude difference between the pragmatism in Timisoara and the spiritual openness that I find here. Therefore, I hope that this diffusion starts from your area and to go further and that is why I shall basically try to order the data that I shall present in the next stage, starting from the fact that education does nothing more than structure the mind so that it becomes capable of self-understanding and of representing the world in the surrounding reality. This personal development has to be done, and it was spoken about it, but now it has to be reformulated on the idea the mankind indeed has humanity, it is a game of words that should be thought of. Behind it, an interesting essay might appear and there is extremely interesting information which say that we cannot talk about evolution, but about human becoming, the evolution might be in another part, humanity has a mental development that we can structure, offering the word becoming and not evolution a semantical aura. We shall discuss and judge this aspect later.

In order to do this, it is very important to understand which is the tool that we use when thinking and what are its limits. For every system

we have to understand it's transfer function, otherwise we cannot use it to the fullest, or optimal, even more so as we speak about our mind, our mind filters some things, our percept filters some things, we have some precepts which filter many relationships according to the manner in which we were brought up and you shall understand how important it is to get to know this tool in order to get to know our limits and to overcome them.

Also, if until now, this decoding capacity of reality, the mind, was randomly structured, now we have a fundamental problem because we are starting to understand what methodology we should apply according to the quality of each child, especially since we have these extraordinary children, who, in one way or the other, seem just words to some, rainbow children, stelar children, indigo children, crista children. I have a nephew and I look at him and he is completely different. Until you interact with them, you have the feeling that those books are just stories, but behind them there are some extreme cognitive skills of access towards an important abstract. I can offer you one example of something that happened about fifteen years ago. My current friend, a teacher somewhere in Canada, was a PhD student at the time, and I was coordinating his PhD and we were walking in a park with his little girl, the little girl was two years old and at that moment she went to a bush where there were some red berries. Her father stopped talking to me and went to the little girl to explain to her that if she eats the berry her tammy will ... and she looked at him and said "so you want to tell me that they are toxic, right?" What I want to say is that basically we should have another dialogue as we are in the twenty-first century with quantum physics otherwise, children will not be prepared for this. That is why I said that mankind has a humanity in evolution, it has no evolution, the evolution that we have is extrapolar and becoming is not transcendent to understand with the help of science and not through mammoth. I do not advocate for some of these thoughts to fall into derision.

This entire return to the natural, to understanding the reasons that make a distinction between speech, speaking of communication, between speech and pronunciation, we do more speech than pronunciation. The profound words

of the Romanian language must be re-understood in their essence. The utterance with the meaning already has a load behind it, which we have to analyse a little and to get to the utterance the need a kind of knowledge we need a mass of knowledge a level of culture, so that we have a sufficiently developed mental soil to be able to visualize and formulate an utterance and not a speech. You have all seen so many people talking on TV that they say we are done.

In order to understand how the mind is formed, it is very useful and important to understand this paradigm of complexity which, unfortunately, uses quite an unpleasant word, complexity. I had no problem in founding the institution called The Centre for Complex Studies. I suddenly started having problems as I was asked what those complex studies are, maybe I wanted to say study of health. Indeed, the principle is the study of complexity and I tried to say that I understand the difference between complicated and complex, I understand that so far, I have only done complicated studies and for complexity another methodology is required. We accepted this methodology and now we no longer do any complex studies, but we apply complexity, we apply knowledge, we do not talk about that it is implicit to develop in what you know how to do, it is implicit to research complexity, that there are complex studies which are being done. We tried to prove that we understand this definition and that we apply it. For this, there are many new concepts which form a network of new concepts, which are structures of notions and that in order to remake those structures we need a conceptual soil, which should appear from a synthesis, an emergence, an internal revelation in the mental sense, in order to understand not to talk about it.

I cannot talk about the theory of chaos. In order to offer an example I have to understand what lies behind every notion and when I begin to look through the conceptual prism towards reality I see a different reality.

When we shall finish the transfer technology, at the moment we are only showing which are the main directions, but they also have a transfer technology and then we shall have, as you will see, some special methods of astonishing the dialogue partner, as the dialogue becomes not only a monologue in order to be able to

understand the limit of the concept that it has, in order to see that there is a need for something else. The science of complexity forces this understanding as otherwise it will not metabolize the information; therefore, it helps us, guides us and it shall create a state of confusion and that is why it, from the beginning, it was said that it shall not propagate easily. Why shouldn't those who already know something or who are in full career start from the beginning, just like those who have just graduated from college? Neither the youth or the old start from the beginning as this social diffusion of the new vision is not easily approached. Therefore, I want to tell you that the European society through the Seven Frame Programme which finances research issued a special direction of 100 million for the Science & Society Programme and, within this programme, there is the Science Shop programmed. Science shop refers to ordering the information in such a manner that it can be broadcasted at the level of the society, so that it makes a leap. Without this leap we shall remain at the door of the government in order to have jobs, which no longer has jobs for us and one can no longer prove that the value added by the tractor, even if we know how to do it, becomes insignificant and it does not even recover the start-up investment.

That is why I shall try to point out and we shall go over the definition of the main details regarding the research methods and techniques which led to new theories and methods, such as the theory of chaos, the theory of catastrophe, the theory of bifurcation and the theory of the dissipative systems, that we shall approach in order to see how interesting this lecture is as it is not an ordinary one but a dialogue, an inspirational and motivational monologue.

I cannot offer you the essence of a book for you to see and to share with you, as it has 11 volumes of 1000 pages each. This encyclopaedia of complexity has, in synthesis only, 11000 pages, so I could not even transfer it in a 1-year lecture, but now I want to point out the motivational principle and to point out that it is worth speaking about it as the Romanian caught between the East and the West is very sensitive towards it and it has the capacity to easily derive new theories.

This direction is worth it, we become very fertile, if we know this thing and of course, we shall be able to see some applications, both in medicine and in communication. This is not compulsory as, at the moment we are about 8000 of, how should I say, 8000 of fields with certificate, if you look at the nomenclature of trades and fields that are officially formed are over eight thousand, eight thousand and some fields make me well-prepared in one and practical in one way or another. How should I explain to you ignorantly, in eight thousand minus one can be at most two, let's say so if I have two directions in which I specialize, the capacity for inter and transdisciplinary communication is very small. Because of this each of us who apparently communicates with the other subject only through the artifact objects generated by others, who started to think transdisciplinary and also in the introduction I want to emphasize that I will be very careful to constantly convey the words of different personalities of Romanian origin or Romanians who actually made a practice and are precursors of the extremely well-placed complexity and which, unfortunately, we do not know very well and it is a pity for God not to know and keep to know Maldenbrod, Faigenbold and other generators of fractal physics or chaos theory. They were in fact the forerunners of those who later referred to in a certain commercial form often as the theory of chaos, which is the name which spread commercially, because of the word chaos. Basically, we have a big problem and, I can tell you, we are living in a very dynamic world with extremely many variables, with extremely many elements which mainly refer to the word turbulence as a keyword.

Every character that exists here represents an entity who has some dreams, who wants to do something, who wants more and it is intoxicated by all the commercials. By marketing them everybody wants to have a Lamborghini, be a beautiful woman alongside the coolest guy in the parking space and such satisfaction cannot be created. Satisfying the needs induced the media represents a medium and long-term issue.

As I was saying, the environment is highly delicate, I work at the Romanian Academy, research centre for the geophysics problems, but

the physics of the entire Earth, not just the one localized in order to find some deposits, and I want to say that these situations are extremely special, as they represent some novelties because of the observation capacity, in which the living and the non-living collaborate by disturbing the planet in a very hard way, for example due to temperature fluctuations. The temperature, whether it rises on average or not, does not matter, it is not the problem of raising the average value of the temperature, but the problem is that the dispersion and the variation has increased a lot. So, you can see for yourself that from very low to very high temperatures, with very large oscillations, there are some very interesting effects on microorganisms. In fact, this structure of microorganisms develops more and more unexpectedly because the environment favours this to the detriment of other conditions.

A bacterium has appeared that has the ability to multiply, rises to the level of clouds, multiplies very quickly becomes nucleation for the cloud and it rains, if it rains, it rains so hard that this high density of rain creates soil erosion with changes from top to bottom of the entire habitat we monitor. We have devices around the earth that measure through that sensor with a lot of things and students can have direct access without having to enrol in international universities because the primary data is on the internet. Research is done here on global issues on real data, which humanity makes available to all universities, in order to be able to work material, to find and understand. For example, if it is found that there is a big storm in the Sahara, the sand rises, the sand is transported to different areas after which it is deposited. Another example, on the ocean an unexpected nutrient appears explosively, an alga develops and for two and a half days the surface of the ocean reflects differently and since the surface is very large the temperature is felt in albedo and we measure it in the respective temperature fluctuation that contributes to oscillations and due to this fact that the sensitivity to the initial conditions is high. We see this in theory of chaos. These small oscillations amplify and create elements of turbulence, and the elements of turbulence mean only one thing - a lack of prediction.

The lack of prediction makes us shudder because we want everything to be clear, to know what awaits us tomorrow, what is the coupling problem lack of predilection or socioeconomic and meteorological turbulence. We can say that it is directly reflected in the panic that the current society can have and therefore the problem of emotional stability becomes a fundamental one. If we want to go to school, because if everyone is panicking, what school should we go to in order to understand all these couplings? One cannot separate things anymore, this is economics, this is biology, this is physical, you have to have the ability to correlate between those elements and the multidimensional work methodology because you work with real data not with data taken from a piece of the system.

Therefore, because of this dynamic, because of the intersections between people's wills, because of the fact that we can communicate and communication mixed things between the East and the West, we need another paradigm. This paradigm may confusingly be called complexity, but let's not get caught in words. As I was saying before, it is a field that needs us, a field that is waiting to be build, the foundation is laid, it is true that this happened 40 years ago, but we should also participate and see how our opinion describes everybody, we should build our own paradigmatic contribution of the world which is based on this observation, as it is now and goes further.

I was telling you last time for those who have had a differentiation before sustainable development and sustainable development refers to a living game at the level of planetary giostasis but without man, the animal does not claim to have Lamborghini, the animal has some instincts and solves its problem in a form in which nature knows prey - predator to create a natural balance. We extracted the human species, willingly or unwillingly. It is something else and the human species already has some properties that it wants to have some lifestyle elements, that basically consume the planet much more and much more differently, that create natural artifacts and that have built a world of artifacts that has truly expanded over such a large area that the world of artifacts is starting to compete with. We have disrupted certain natural cycles

on some stairs that we never even thought about and then in one way or another, if we do not understand this new paradigm of which today, I only make a brief sketch, we will not have sustainability, that nature will have durability: come the dinosaurs leave the dinosaurs, come the man leaves the man, and this is not a problem since nature is regulated, the problem is what we have to do.

“And once again I plead and say every time,” said Anton Dumitriu our great logician, the Romanian does not lack the ideal, his size is the problem so let’s turn it into ideal not only the fact that I have a special faculty, no, I have the faculty anyway let’s we are a beacon for Europe. At least if this is called longing, not hope, I don’t want hope, hope for me is, how can I tell you, a static word, I stay here because I hope that something will happen to the government in Bucharest. I don’t hope for anything, we aspire to work and do some missions, our mission at this faculty is to become active, conscious to mobilize society, to make a contribution to this issue, so this size, to this fundamental idea. Through the mission of the faculty, we set out to become sensitive to modern issues, to contribute to the development of sustainability with specific methods of sustainability, not with political payment to be there. I do not know to say something in a forum, it makes no sense.

We have issues, here you have a simple image in a graph and that is, how should we call it, the intensity of stress. I think it is time for you to recognize something natural, a natural spot, meaning Monday, Tuesday, Wednesday, Thursday, Friday, Saturday and Sunday. This is basically how the fluctuation of our inner tension looks like, meaning that, during the week there is a huge stress and we cannot wait for the weekend to come so that we can relax.

This extraordinary alternance between two extraordinary things proves that we have jobs, as I like to say I have “joby,” “joby” is neither job, nor hobby, “joby” means that I have found happiness in my hear. I know what I want to do, I do it with pleasure and I make money. Therefore, I found my hob, my vocation and I do not have any stress during the week and this means that we transform the child in the mission of the faculty, to discover it when he comes, but starting

from the first grade and therefore when people get to college, they do this because they want to and not because it simply happened, as it is the case with many students who end up at a certain faculty and they do not know why.

This is another approach, I don’t know how it would be done, we do the people’s census and we do the census once we know how for long, the census is to find out how many grains per hectare there are, but I don’t care, it’s only quantitative, I would like to make a census of skills, let’s invent together a methodology for a skill census of young people in your area to see how to help them, how to move, but we do it not through interviews, because they do interviews in vain, any questionnaire is biased instantly because it depends on how it was written, how it was read, how I read it what I want to believe that he wants to believe. Therefore, we need a different approach and you will see how many approaches we have.

So, in other words we are all obsessed with IT, bodybuilding we are and now I saw on TV that a new spa area opened with an area for the latest fitness movements. We run in boxes, we run on the treadmills, hoping to become, when you see it, I say we get really grotesque at some point and if you see this sculpture, if you want human, a woman really seems already out of place and the femininity part goes and we wonder why we don’t have good family social relations structured. Well, we deform extremely hard after some external attractors, which show us that it’s good there, that it is beautiful.

This is how some attractors appeared, which is actually commercial, it is an incorrect communication that is basically called healthy food, everyone wants to eat healthy, but why be healthy we know, I think he gets sick ten times harder because the environment, because of the atmosphere, because of the neighbour, because of the dust, because of the fact that he doesn’t know how to dose his energy, to tell the mayor that it is no longer possible in this form, to be with these holes, we can’t imagine anything like that anymore. I can’t walk on the street because of the potholes in the way of the camp, however, a civilized neighbourhood where we lived and were happy with parks and now there are pits twenty-five meters from the cause of the

metropolis that is not so we are in the dust of a city with three hundred thousand inhabitants made cabbage and it is not known whether it is done or not done anymore and we stay calm we go on and slip among the others. Indeed, but we want to be healthy and we head north, we take a compass north to see on your statue how we can relax in the north. We want to see what it means to have so many elements of concrete iron, we are no longer in the block and who stands in the block, how to make subtle energetic elements in the dissociative tension, in the atmosphere of how I say lifestyle and with all this infrastructure that is not adequate this problem appears in nature, you will see immediately what the natural noise and artificial noise mean and what pollution through the artifact thinking that we generated looks like.

This consequence, although we should be more and more happy, that we have devices like this at home, healthy food in all corners, no problem, but in fact everyone is unhappy, so the problem of happiness is fundamental. We do not know how to be happy each snatches the happiness of the other in one form or another and becomes happy in one form, we vampirize ourselves for a moment of happiness and we bury ourselves. Therefore, in other words the main problem, and I tell you from experience, I was in New York for the first time in my life walking down the street and I was pretty stressed that it's shocking to see a block that up to the twenty-fifth floor is in a way from twenty-five to forty it's completely different and then a house upstairs.

I mean this dynamic like that, not rough the city, not that it has no systematization is interesting that it has no systematization at least in a single building then around and on that structure probably being stressed I had a more frowning physiognomy somehow. I wanted to stop the world on the street, you have a problem somehow, people on the street hooked you that probably something of your mimicry bothered and then automatically I understood, how to tell you, we do not know how to be happy and more all the time they learned to smile, at they are the exact opposites, they have a permanent smile from this, they communicate the feeling of well-being, but you should know that they are

also very unhappy in the back, so unhappy that they need companies to socialize them.

I am asking you to make it, so that we don't get out of, it so that we have to pay a company that makes me meet someone to find my partner, not to reach this level in the name of novelty and in the name of developing a civilization, that that's not civilization, that's gang families. Let's not bring the gang family syndrome to Romania. Let's help ourselves to be natural, to live among ourselves to put aside the gum, I don't know where it came from, to help our children to do jobs and to be happy to live and to make an oasis. I propose an oasis we can't change you can be an island, an oasis that is reformulated inside the faculty. The university reformulates the conceptual elements and maybe we can make a leap, in this sense I say that the prayer of the heart should be re-understood and the science of complexity brings even proof of this problem, in which the mind joins the heart and you see that the heart is the most interesting chaotic oscillator and you will see that it is the seat of communications by oscillations, so it is automatically non-trivial, intuition, because I care about the heart, that is, you cannot fool me with the heart that the heart knows, the mind lies the problem of Ghioder, the heart knows, so in other words the problem is that my desire is so great to solve what the mind wants that I don't listen to the heart and the mind says it wasn't silent there, the mind wasn't silent it says I told you, I told you but it's late and for a while you didn't you still listen to the heart, so you will no longer do jobs in your life, but in order to have this joy of the heart, the mind must first descend there, but in order for the mind to descend into the heart, the mind must first be structured.

People think that an attitude is enough, let's say mentally literate and at that moment it is very beautiful and emotional, we have to develop only the emotional, we communicate only the emotional and we see on the other side just as dangerous because the heart is not guided, it determines passions, but passions are the same and we put on and stab our partner without problems. So, in other words the problem is first to structure a mind, but mind not information from that, that we are not computers we now have computers for memory to structure the mind and the mind will

know how to sit naturally in a man, in his emotional hemisphere, in order to create a balance of truth. This is a book I wrote at one point, about eleven years ago. I consider it a synthesis book and now I reread it after a long time and I consider that it is invariably what it is written there can be found at as they say there, at Elefant publishing house or you can purchase it on the internet. Mainly, it is a book that makes a more written diagonal, but it has a more special initial chapter, a personal experience to the transition beyond my father in which I was a master of a ten-day trial between coma and reality, in which I had a dialogue with a character. My father was a university professor of material resistance, that I knew very well with some facets of expressions and expressions that were not his and you will see if you read that piece. I say yes with more authority to the fact that we should change a little and be a little more careful than we take our daily care in order to solve some organisation problems of organization, in an area we might forget the exact purpose of school, which is to develop the individual and not to make certificates, turning people into spare parts, for the well-good of a social system.

I have a piece of film here, I don't know if it will be heard, but I think I will put the microphone on a bit, it is a piece from a commercial film, that is how I would like the commercial elements to be from here on in words it can be done, in images, but it can also be done in a clip, if the moment of the clip is well chosen and the music is well-chosen, then the impact is bigger. Let us do at the faculty of communication, that kind of school, in order to inspire what we were talking about "joby," not in words, we do "joby" tomorrow because he watches and passes by. It concentrated the films in a minute and a little shock you dream in relationship to what it might mean. I hope to see the movie and if it has an appetite, it is very important to have music at the beginning. All my life I took some steps back since I was afraid of my parents and throughout my life every time, I strengthened some fences they said not there, not there.

(Extract from the Conference entitled "The Paradigm of Complexity", Iași, Romania, 2013)