Universal change

A system is a whole of parts with common features and interactions among themselves. Parts exchange information through interaction. Every system is something else compared to its parts and has properties (attributes) different from those of its parts that aren't able do deploy.

The basic rule, i.e. the fundamental principle, of a system is the way its parts interact. The structure of a system is the way its parts are arranged as effect of the basic rule. The organization of a system is the way its parts work and it depends on the structure and the basic rule of the same system.

A complex system is a whole of parts interacting in a non-linear way where the actions of each one of its parts affect the whole system and the system affects the actions of each one of its parts. The interactions are processes of actions and feedbacks among the parts of a system. Feedbacks can be positive or negative: those positive excite (strengthen) the effects of actions; those negative inhibit (weaken) them.

The complexity of a system is proportioned to the total connections and therefore the interactions taking place in it. A system made of 100 parts, each part interconnected with 30 parts, totaling 3000 connections, is more complex than a system of 1000 parts, each one interconnected with 2 parts, totaling 2000 connections.

The state of a system in a certain moment is determined by the whole of the values of all quantities relative to its parts and the interaction among them. State mustn't be confused with level of complexity: the first depends on the whole of all the state variables of its parts and of the interactions between them; the second depends on the total number of interactions.

Each system is produced by local random interactions taking place in a previous system of which they have seen the resilience. Therefore, a complex system is nothing else than the evolution (or stage transition) of a less complex system originated by a process of random interactions between one part and all those interacting with it. Therefore we are talking of local interactions.

Random interactions are therefore the effects of the starting conditions making the properties of the system result. Small variations in the effects (determined but unpredictable) of the starting conditions can cause great variations in the behavior of the system.

Once a certain complexity is reached, the system tends to keep it and overcome it, even if this tendency is contradicted by involving temporal cycles. The more the complexity of a system the more the number of events and therefore the chances taking place in it.

A complex system is greater than the sum of its parts, i.e. is stronger than the sum of the forces of its parts. So, it manages to affect the behavior of all its parts according to the properties of the systemic unit. For example, life rises from the random local interactions of the whole of the atoms forming the first cell. Once it has formed, the vital system tends to preserve itself and develop and in order to do so determines the multiplication of cells.

Even thought maintaining the same basic rule (selection) and the same (hierarchical) structure, a system has different priorities than the ones of its parts. For example reproduction (an aspect of the basic rule) of the human being takes place through meiosis (a property of the human being) while the one of its cells through mitosis (property of the parts of the unitary organism).

Therefore, to modify the basic rule of a system, therefore its structure and consequently its organization, the effects (events) derived from the starting conditions must be corrected.

That stated, we will consider a system with certain priorities and certain resilience, and we'll se how it can evolve. As it tends at least to keep its own level of complexity and since the level of complexity stems from the total number of interactions taking place in it, the system isn't interested so much in the number of its parts (many of them can be sacrificed depending on the systemic unit because they are abounding in number, i.e. overabundant) as the number of interactions.

Therefore, it can allow itself to select and reduce the number of its parts, if those remaining increase the number of interactions so that the system in its whole won't loose complexity. This is where the possibility of decimation of the species, i.e. of the parts of the human system comes from, for very known reasons. But, since also the effects of decimation are unpredictable, the same decimation could bring the extinction of the species. As it has happened and happens.

Now lets suppose that in a certain moment a part of the system causes an unexpected phenomena (event), unpredictable by the system (to be able to merge), and complex enough to win the resilience of the same system. The phenomena could induce other parts to adopt a new process of self-organization, which would make the necessity of new properties of the system to rise. These new systemic properties would progressively affect all the parts of the system.

There have already been historical attempts to start processes of the kind above but they haven't been sufficient and, once the beginning propulsive effect was over, the system at times has even regressed. We deduce that to modify the properties, i.e. the evolutive level, of the system isn't sufficient; one must modify the basic rule and change the structure of the system. If not, since the basic rule and the structure prevail compared to the event processes, at a certain point, part of the system implodes and pulls back the evolutive level of the majority of its parts to lead again the properties to the basic rule and typical structure.

To modify the basic rule, the events (interactions) making the nature of the rule clear, allowing gaining conscience of its possible consequences and demonstrating the concrete possibility of modifying it. The same is valid for the structure produced by the basic rule.

Even just one part, if provided with particular subjective characteristics, can produce a phenomenon but can't change it into attractor, because the attractor must be a local whole of parts, must have the character of emulation and the relations with the outside of the attractor must be perturbated, dialectic and aiming the overcoming of the same phenomenon. Substantially, it must convince that there's more that can be done and better.

When the system perceives that the rule is modifiable and that the new rule reduces the risk of extinction, the same system will adopt it and universalize it among all its parts. To universalize and to globalize are two different phenomena: the first regards the results of the system in a certain moment; the second regards every one of its parts. From then, since the system is stronger than the sum of its parts, each one of them would be affected by the system.

The process of the system for the formation of rising phenomena doesn't depend at all on all its parts or on the majority of them but on those causing rising phenomena. The others organize themselves from the bottom adapting to the system. As it has always happened but with one difference: if the rising phenomenon represents the basic rule of indiscrimination instead of selection and the conarchical structure and not the hierarchical one, while the current basic rule and structure cause the cyclicity of the evolutive levels, the new rule and the new structure make the system not able to regress.

To summarize:

- all reality is based on the fundamental rule of selection from which the hierarchical structure rises, made of dyadic levels, with double valence;

- the basic rule and the structure determine the organization of the parts of reality, which determines the effort to pass from one level to another of the system;

- each system forms itself by chance (by attempts) and once formed it gives itself the necessity to strengthen and evolve;

- the basic rule of the system forming its structure emerges and establishes it self as effect of the relations caused by the starting conditions of the parts forming the system;

- every system is different from its parts and, even if it has the same basic rule and the same structure, it has properties its parts can't deploy;

- every system is greater therefore stronger than the sum of its parts;

- resilience allows a system to react to the phenomena taking place in it, by absorbing them or making them its own through phase transition;

- during the evolution, small variations of the progressive effects deriving by the starting conditions can cause great effects on the behavior of the system;

- local phenomena more complex (interactions more complex) of the complexity of the system can attract other parts, and if unexpected and

unpredictable by the system, they can win the systemic resilience, emerging in it and being adopted by the same system;

- if the phenomena create the modifications of the basic rule and the transformation of the structure relatively to the parts that cause them, the new rule and the new structure can emerge and be adopted by the whole system;

- the new basic rule and the new structure of a certain system can emerge and be adopted by the less complex systems with which that particular system interacts;

- if the system is the most complex, its basic rule and its structure can emerge and be adopted by the whole reality.

The human being, humanity, our planet, the solar system and the universe are complex systems. As far as we know, the human nervous system is the most complex part of the universe. Each human being is a complex subsystem of the human system, which is complex subsystem of the Earth, which is complex subsystem of the solar system, which is complex system of the universe that, in its whole, is the most complex system.

Since each part and interaction, i.e. each subsystem, affects the system it is part of, the modification of the basic rule and the transformation of the structure of most complex system can be determined only by the action aimed to this scope of its most complex subsystem. Therefore, if we consider human being as most complex subsystem of the universe only the human being can determine the change of the principle organizer of the universe and all its parts.

The change process can't be sudden but must happen progressively in time, going up the hierarchical structure, from the human being to its planet, from the planet to its solar system and from the solar system to the universe.

Then it would be the case of imagining the phenomenon (the process of events) that can originate the modification of the basic rule and the structure of the human system: what, how, when, who?

It's being already written that the phenomenon must be more complex of the complexity of the system, unexpected and unpredictable, attractive and possible to emulate to be able to emerge in the system winning its resilience and, finally, cause self-organization from the bottom.

The phenomenon must be triggered by a first action, an event drawing origin from the starting conditions of the subject acting. The first action must and can determine an effect (the first one) predictable by the subject acting.

The subsequent effects that, with the first action and the first effect form the phenomenon, i.e. the process of interactions drawing origin from the first action, must oriented, or better organized, by the subjects involved, according to the final aim.

These subsequent effects are synchronous and predictable until they affect on the group interacting. Then, when the phenomenon emerges in the system, its effects are diachronic and therefore predictable only through statistics, meaning the can be predicted but the moment when they will happen can't be determined.

The problem of temporary unpredictability of when the events will happen following the emerging of the phenomenon is unsolvable, not even with the «diachronic synchronism» technique: the only thing we can do is foresee what would be all the effects and, as far as possible, intervene when they happen. This is the most delicate part of the phenomenon: the uncontrollability of its effects on the system.

In order to be more complex, the phenomenon, beginning from action trigging it, must have more local interactions than those typically and statistically taking place locally in the system. To be unexpected it has to be unique, original and unpredictable. To be unpredictable it must be illogical for the system. To be attractive it has to involve a minimum number of parts. To be possible to be emulated it must be repeatable following the scientific method. To be emerging, it must be temporarily unexplainable both for the whole system and for all its parts, those causing the phenomenon included.

The phenomenon can't do else than drawing origin from reality and from the implementation of moral and ethic principles of the rules of international law. It must be pacific, non-violent, and use the means and the knowledge available scientifically. At the same time, it must trigger a substantial change process, to cause the modification of the basic rule. Therefore, the first action (trigger) must determinate a first atypical effect, uncontrollable by the system. Such an effect can only be obtained affecting on a common phenotypic paradigm, a distinctive archetypal of human conscience, a prejudice: for example, against the way of perceiving information, therefore about knowledge.

The same phenomenon must represent concrete concepts, ideas and actions in a coherent and shareable way, demonstrating the possibility to put in to practice a theory and to be able to live to achieve a dream (meant as real aspiration) of every human being: the search for happiness. The phenomenon must be able to swap hope with reasonable chance. Must be attractive and logically possible to emulate. Must be considered unavoidable by the unconscious of every human being. All this is difficult and complex but not impossible. With ideas to face the effects of the past (the problems of present) and actions oriented to the final aim of modifying the basic rule and transform the structure of the system, with resources obtained according to rules and with an organization complex enough to face in the most complicated way the complexity of the system. Together we can.

Rodolfo Marusi Guareschi