## Chaos

It's chaos[1]. After such a long evolution on the edge of chaos[2], the human system[3]-[4] has gone mad[5] and can't find its balance[6] anymore in itself or with the environment[7]. In chaos any kind of organization[8] is impossible, either bottom-up or top-down.

Self-organization impossibility prevents a complex[9] system from evolving[10] towards rebalance because the trajectory going across the points of the states space[11]moves irregularly (deterministic chaos).

In these chaotic conditions humanity is exposed to the chance of finding itself all of a sudden in a stable balance[12] as effect of a catastrophic event that could correspond to the death of the system. This because in a stably balanced complex system the evolution is interrupted and therefore crystallizing, following with social paralysis and final extinction.

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[1] In a complex system, chaos is the condition where maximum sensibility shows at it starting conditions (small variations correspond to big effects), maximum unpredictability and recurrence (vortex orbits) of stages.

[2] The edge of chaos is the condition of a complex system in between predictable order and unpredictable disorder. Predictable order causes stable balance (paralysis). Unpredictable disorder causes stable unbalance, chaos (not being able to find balance the system doesn't evolve). When on the edge of chaos, the system is in unstable (or dynamic) balance and can't evolve.

[3] The word «system» comes from Latin «sistèma», made of «syn», meaning with, together, whole, and «stema», meaning to stay, to place. A system is a grouping of parts each one able to exist isolated but all depending one on the other following laws and fixed rules and aiming the same purpose.

[4] The human system is made by all human beings and is the most complex system we have ever known about. A complex system is a whole of interacting parts: the more the interactions, the more the system is complex. All together (perhaps except the whole universe) they are open, meaning its parts interact with the exterior.

[5] Out of control.

[6] In a complex system natural balance is always dynamic, it's always dynamic and unstable while unbalance can also be stable, as it happens in chaos.

[7] The environment is a complex system of which the human being is a sub-system.

[8] Self-organization is the spontaneous process stemming from the interaction of the parts of complex system and determines the evolution of the system.

[9] The word «complex» comes from Latin «complèxus», past participle of «complèctor», which means comprehension, embrace, from «cum», together and «plècto», from Greek «plèkò», meaning weave.

[10] Evolution is the process of dynamic systems stemming from the alternation of balance and unbalance stages.

[11] The space of the stages is the mathematic space in which each axes represents stage variable: each point of the stage space corresponds to a precise stage of the system. The trajectory passing through the points of the space of the stages indicates the evolution of the system through time.

[12] A system in stable balance doesn't evolve but it remains crystallized.

The only way to avoid this conclusion is to cause a temporary stable balance of the human system, reorganizing it from the outside (top-down) also compared to the environment and taking it back to the dynamic balance on the edge of chaos so that it will start self-organizing again through the interactions between its parts (bottom-up). I.e. the human system must complete an evolutionary jump.

To be able to bring the human system to a stable balance without catastrophic events one has to trigger a fluctuation[13] changing in attractive[14] perturbation[15], stronger than the resilience[16] of the same system and causing a turbulence[17] upsetting the chaotic running condition making so to perceive the necessity of a new order fixing a new dynamic balance on the edge of chaos.

New order means new system structure, i.e. new disposition of the parts in the same system. The structure of humanity and all the complex system we know are based on the selection and on hierarchy, with a social organization characterized by new individual specialized roles and subdivision in castes. Until now, the evolution was determined by this structure and this social organization. And the human species, as a part and subsystem of nature has reached a merging[18] evolutionary level on the same nature and has been able to overcome the resilience of the environment.

But this structure and this organization have bought to chaos and to a probable extinction of human species. Besides this happens with every system: causative origin, evolution, and extinction. To escape this destiny, we therefore have to modify the structure and the organization. The structure based on selection and hierarchy must be replaced by a new structure based on union, competitive cooperation and conarchy. Also the organization based on specialized roles and subdivision in castes must be replaced by an organization based on the specialization of social areas and on the localization of functions. As it happens in our mind that, not by chance[19], it's much more powerful than what it's used for.

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[13] A fluctuation is a wave moving a static system or deviates the typical path of a dynamic system.

[14] An attractor is a merging whole a dynamic system evolves towards.

[15] A perturbation is a flux of waves modifying the trajectory (or orbit) of the space of the stages of a dynamic system.

[16] Resilience is the capability of a system to bare perturbations without loosing balance.

[17] Turbulence is a flux that, also due to inertia, merges and manages to win the resistance of the forces holding the system in a certain condition.

[18] In complex systems, emergency is the process through which self-organization forms more complicated and unpredictable.

[19] By chance (through mutations), the human mind has reached a high level of complexity and therefore of evolution but its potential isn't used owing to the structure and the organization of the human system.

Now lets go back to the way to exit chaos without external catastrophic events but starting from an internal fluctuation (butterfly effect[20]) modifying the starting conditions to determine a temporary stable balance. How to trigger the process? Who can trigger it? Where? And when?

The trigger can only be an action causing an unpredictable and unrepeatable event. The action the most suitable is an act of force and of love. I must be of force to win the resilience of the system. It must be of love to cause an attractive perturbation. An act of real force excludes any violence. An act of real love excludes any egoistic interest. But it must be an act. Though isn't enough. And intention isn't enough. Action is required. An act of force and love can express with a gesture, a message, a work or other actions that can be perceived by other parts of the system.

Also a single person undertaking the responsibility of the effects it causes can fulfill the starting action, fluctuation. But its transformation in perturbation can only take place with the participation of different people. It's not indispensable that all the participants manage to understand[21] completely the process in which they interact, what's important is they act in an organized way and interact[22] with other people.

The trigger (the fluctuation) can take place anywhere, from the bottom or from the top. What's important is it manages to cause an attractive perturbation and is coherent with the final aim of brining back the system to the edge of chaos.

The ideal moment for the triggers is during the manifestation of the maximum unbalance. Not because the high unbalance causes less resilience[23] but because strong unbalance goes with high necessity of perception and of recognizing from those who come to know about the event.

When the turbulence caused by the starting fluctuation will have reached a power[24] higher than the resistance of those keeping the system in chaos, these forces will suddenly give in and the system will unexpectedly enter stable balance: as it happens inserting a small diamond in a big gear. The whole system blocks. From then on those who caused the turbulence will have to modify the structure of the system as quickly as possible (the

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[20] The theory of the butterfly effect states that small variations in the starting conditions can cause great effects and differences through time.

[21] Basically, the complexity merges spontaneously from the interactions of many units or relatively simple agents.

[22] Whichever state a complex system is in, therefore even when its in chaos, its evolution is determined completely by the interactions between the parts of the system and the environment (the relations among the parts are more important than the same parts).

[23] Resilience comes from redundancy, i.e. by the abundance of parts, so no part is indispensable for the survival of the system.

[24] Power is transformation of energy in action in the time unit.

disposition of the parts) and unblock the stable balance brining it back to dynamic balance on the edge of chaos. When the system will back in dynamic balance its parts will self-organize following a conarchical structure and will be able to win its resilience making evolve towards more evolved balances[25].

In the future, the hierarchical structure and the self-organization rising from it will keep the system always balanced[26] but will prevent it from falling in chaos again. This way, the human system will become uninvolvible[27]. Humanity will be always more complex and merging compared to the environment. This will allow the human system to propagate the conarchical structure on the environment. It will be the union of the human being with the nature it is part of.

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[25] When the perturbation is greater than the resilience of a complex system, the system evolves looking for a new balance because of its adaptive ability (the speed it takes a system to find a new balance after loosing the previous one).

[26] Unstable balance and unbalance stages are necessary to make the system evolve.

[27] Uninvolvible progressive evolution without involution stages, always in a dynamic balance (unstable) on the age of chaos.