

The Power of Complexity

Vladimir Dimitrov

Western Sydney University
Richmond, NSW 2753, Australia

Introduction

Complexity studies processes of emergence of spontaneous coherence at the edge of chaos – a critical zone where order loses its rigidity and the energy and forces liberated in this process can either create complex dynamic patterns or joining the whirling sea of chaos.

The world ‘complex’ origins from the Latin words *complexus*, which means ‘totality’ and *complecti*, which means ‘embrace’. The totality of existence manifests in its dynamics, in its never-ending motion. When trying to embrace this totality, complexity focuses on its almost miraculous ability to self-organize – an ability, which can reveal the maximum of its creative power at the edge of chaos.

We are not unconscious about self-organizing ability of complexity – we are its products: we feel its power not only in our physical growth and reproductive ability but also in the intensity and magnitude of our feelings and our mental capacity; and at the same time, we are not conscious about self-organization either – we cannot create it: we cannot push self-organization to go where we want to, we cannot fight with its tremendous power. We cannot make spontaneous coherence emerge according to our desire but we can seed it and nourished; spontaneity needs gate to burst out and a space to manifest its creative potential – the edge of chaos provides both the gate and space for spontaneity.

At the edge of chaos, any external interventions that are alien to self-organizing ability of complex dynamics tend to produce false structures and ‘numbing effects’ with destructive consequences, particularly for the processes of life. *In criticality of an individual’s life complexity can reveal its creative power only through those human dynamics, which are authentic.*

While encouraging us to be constantly goal oriented, ambitious, competitive and eager for achievements, today’s society weakens our capacity to grasp the holistic nature of complex dynamics and to fully experience, realise and develop their evolutionary urge. For those who permanently seek order, certainty and predictability, for those who are accustomed to the way, in which various partial truths have been preached (and continue to be preached) by hundreds of fragmentary scientific disciplines, complexity may never reveal its creative power.

It is clear that the existential dynamics go forever: they have been before we entered into the flow of life, and they will be there when we are gone; with complexity, we could have a few glimpses ‘in the middle’ and a few lessons how to accommodate the infinite richness of the edge of chaos for our growth and realisation.

Let us recall the ideas discussed in these lessons; they are put together under the following four headings:

Dynamism and Patterns

- Complex dynamics are ever changing, unfixable and not subjected to prediction and control.
- Unpredictability of complex dynamics is a vital factor for our survival and evolution.
- Complex dynamics are constantly moving far from the states of equilibrium, towards the unknown, into whirling critical zones at the edge of chaos, where the potential for emergence and creativity reaches its peaks.
- Potentiality for generating order is inherent in complex dynamics – we cannot create certain patterns of order, but we can facilitate their spontaneous emergence.

- Any ‘strange attractor’ emerging at the edge of chaos is real but not material dynamic patterning that exists only in the actions it informs; its emergence is its own proof.
- No dynamic patterns emerging at the edge of chaos can be fixed or forced to change or ‘improve’ – the way towards ‘harnessing’ self-organization is through understanding it, being aware of its dynamics, and knowing how to remove the obstacles from the way of its manifestation.

Freedom from any attached 'goal-ideology'

- Complex dynamics cannot be forced to go according to us – they evolve in ‘their own way’ and we are challenged to learn how to co-drift with them.
- Complex dynamics of nature unfold without goals or meanings attached to them; any time when we impose ‘goal ideologies’ over complexity, we create obstacles on the way of its unfolding.
- As any ‘goal ideology’ is anchored in future, it impedes the process of understanding complex dynamics, which requires an on-going *situational awareness rooted always in the present*.
- We are the losers when fighting with complexity – the way not to be its slaves or victims is through understanding how it works and how to co-evolve together with its whirling energy.
- Being inherently holistic, complexity of life avoids definitions. “The definitions create a mess because defining means dividing: ‘this is this, and that is that’. And the existence is one” (Lao Tse).

Wholeness

- The Whole of the existential dynamics is irreducible; it self-organizes into multi-layered dynamic structures of emergent levels – each level representing a ‘whole’, which reflects the whole of existence: the whole if each human being is organically embedded in the whole of society that is embedded in the whole of nature that is embedded in the whole of the universe that is embedded in the whole of existence
- Exploration of any ‘outer’ level of the dynamic structure and the quest for its ‘inner’ levels are just two faces of one and the same process of understanding complex dynamics of life in their integrity
- A ‘simple whole’ can be understood only in terms of more complex, that is, in the context of a higher emergent level.
- Differences between the emergent levels are only of degrees and scales, so they cannot be isolated from each other.
- Physical manifestations of life dynamics reveal their meaning only from an emergent level that surpasses them.
- Bridge between the level of thoughts and rationality (mind-level) and the whole of existence passes through the level of feeling and love (heart-level); and the heart is so delicate that only very slow, very rhythmic, very ‘atomic sounds’ are allowed to enter it.

Rhythm

- Complex dynamics have nothing to do with linearity of time; the time scale of complexity is the rate at which it ‘explodes’ into new emergence.
- As far as prediction does not make sense for complex dynamics, time becomes redundant – it is no more relevant when exploring and dealing with complexity.
- Time ‘rolls’ within the structure of the strange attractors: instead of ‘one-after-another’, temporal events self-organize ‘within-one-another’.

- The strange attractors of our bodies' dynamics resemble musical instruments – they need harmony and rhythm, and when these are disturbed, all the world is disturbed.
- Complex dynamics do not obey logical reasoning – they pulsate with a rhythm similar to the rhythm of a poetry, of a 'love song'.

© V. Dimitrov, 2000