



# **SYNERGETIC SOCIETY AND AGENDA 21**

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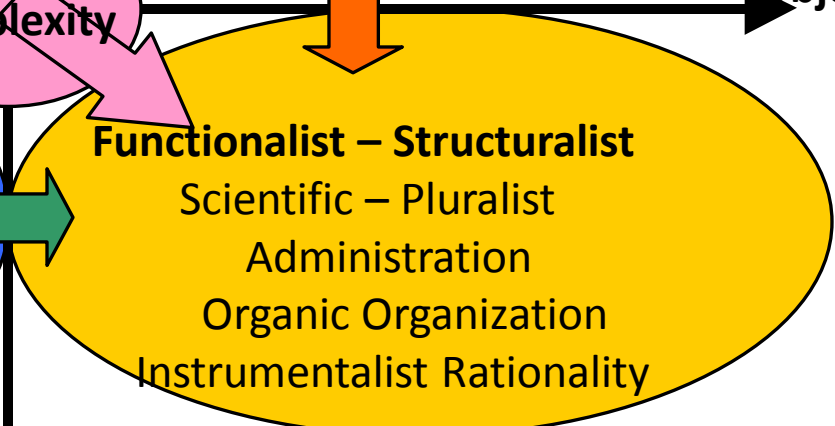
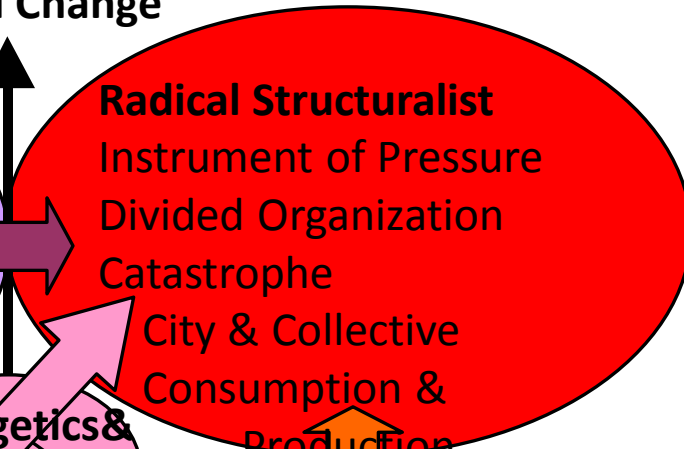
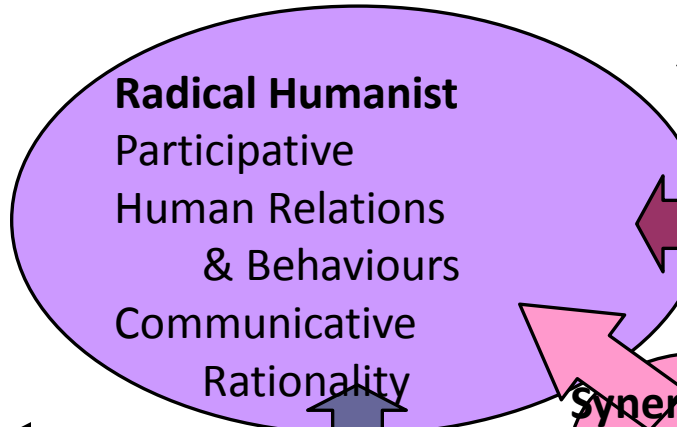
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# ARTICULATIONS & METAPHORS IN SOCIAL THEORIES

Sociology of Conflict

“Radical Change”



Synergetics &  
Complexity

Subjective

Objective

“Order”

Regulationist School

## **SYSTEMATIC VIEW TO SETTLEMENTS SHOWS**

Too many sub-systems

Each of them has their own sub-systems

Input –output & feedback relations of them

Infinite level of interactions



**CITIES ARE OPEN, DYNAMIC, NON-LINEER, AND LIVING SYSTEMS AT THE  
INFINITE LEVEL OF COMPLEXITY**

(Tekeli, 1968; Forester, 1969; Chadwick, 1971; Steiss, 1974; Mass, 1974;  
Anderson, Batten ve Nijkamp, 1984; Nijkamp ve Reggiani, 1989, Dendrinis ve  
Sonis 1990)

## IN THE LAST QUARTER OF 20th CENTURY

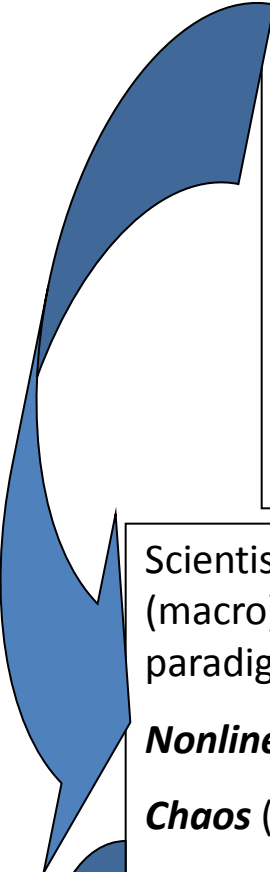
### UNCERTAINTY AND CHAOS

**OVER SPECIALIZATION IN SCIENCE** (especially in natural sciences)



### PROBLEMS IN UNDERSTANDING WHOLE

Couldn't see linkages between parts and whole /  
cause and effect relations



Scientists who have multi-disciplines started to look micro - macro relations, to look whole (macro) moving from specialized knowledge (micro) and they've developed some theories and paradigms


***Nonlinear Systems*** (Nicolis & Prigogine 1977; Casti 1985),

***Chaos*** (Gleick 1997; Prigogine & Stengers 1984; Faigenbaum 1981),

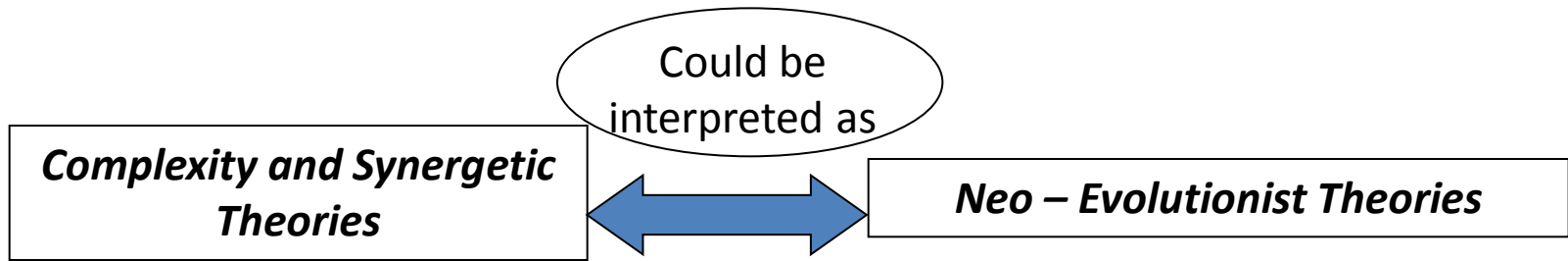
***Complexity*** (Kauffman 1990; Flood & Carson 1993; Lam & Natroditsky, 1992),

***Self-organization*** (Ashby 1961; Mittenenthal & Baskin 1990; De Guzman & Kelso 1990,...)

Adaptive systems for self-organization process



***Celular Automata, Synergetics, Neural Networks & Brain Functions*** (Haken 1977, 1996; Batty, M. et al. 1989; Batty, M. 1991; Koch & Davis 1994; Barlow 1994; Wang 1994; Wyatt 1996; Domasio 1999...)



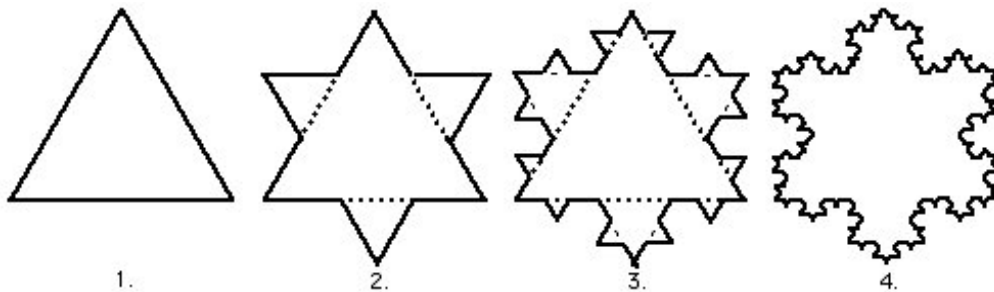
Explain the rules of **transferring a new and more complex order**, and **the principles of self-organization process** (Laborit 1990, 1996; Flood & Carson 1993; Haken & Portugali 1995; Khalil & Boulding 1996; Decker 2000)

### **THE BASIC PRICIPLES IN SELF- ORGANIZATION PROCESS**

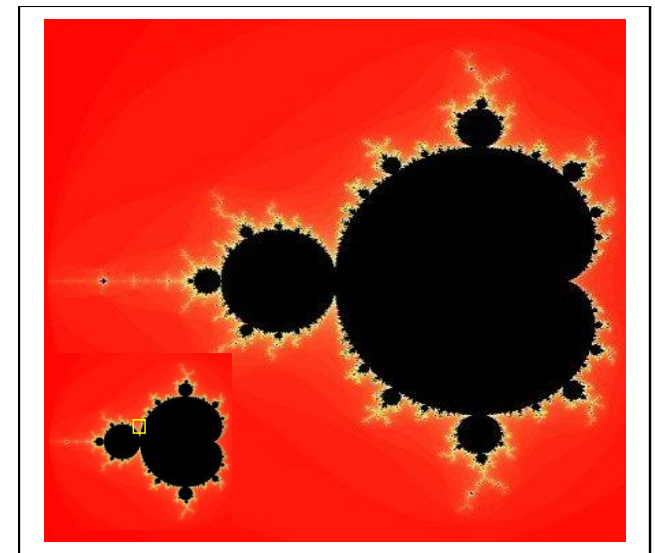
- Self-similarity
- Similar Order in Each Scale of Organization or Organism (Like in Fractals)
- Building Communication & Interaction Channels Between Similarities
- Building More Complex System as a Whole

# **SELF-SIMILARITY** IS THE BASIC PRINCIPLE IN LIVING, NON-LINEAR AND SELF-ORGANIZING SYSTEMS

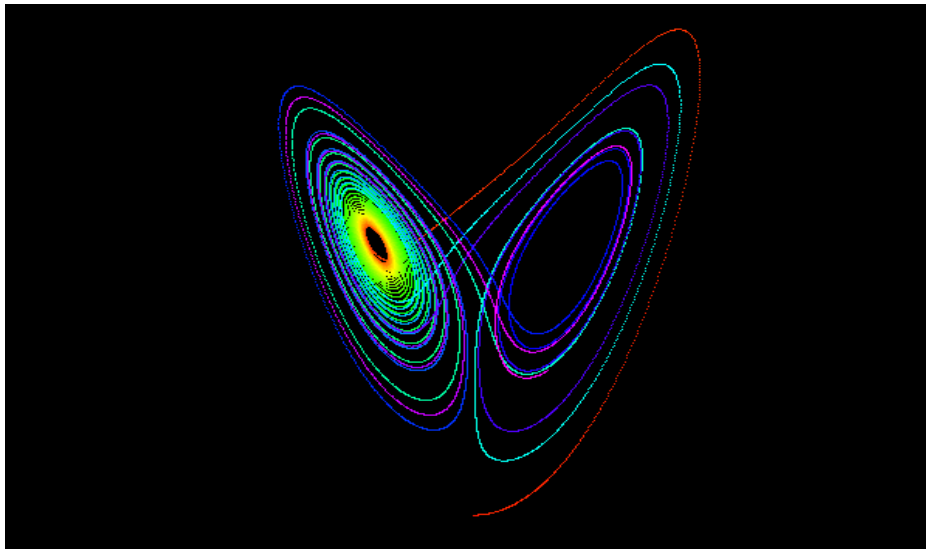
- Similar Order in Each Scale of Organization or Organism (Like in Fractals ). The power of self-similarity occurs in the high level of complexity
- Building Communication – Interaction Channels Between Similarities
- Building More Complex System as a Whole than Before



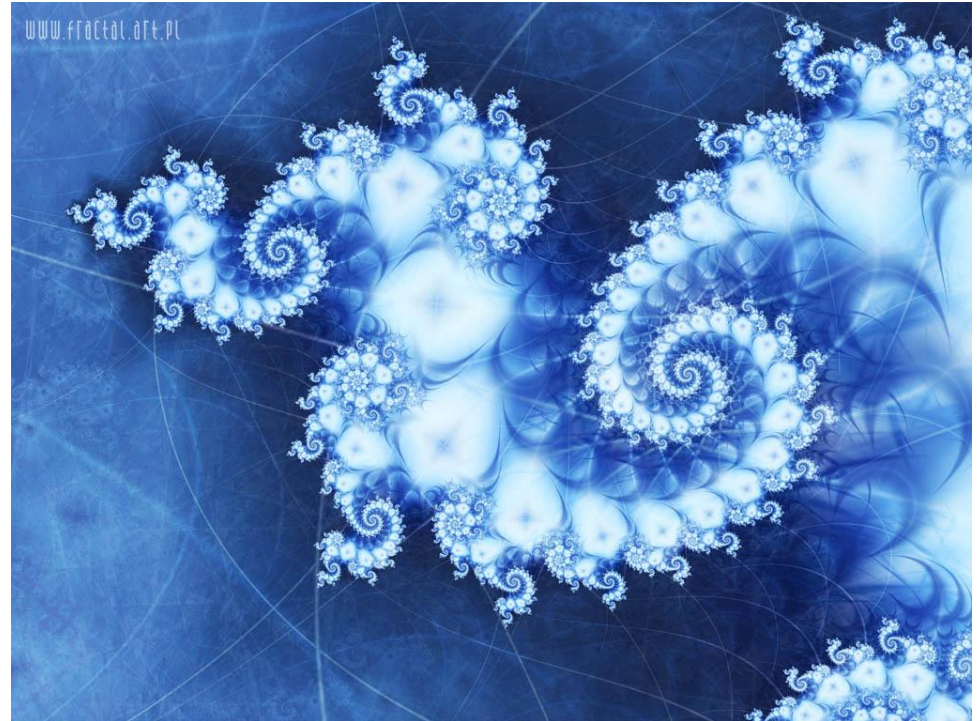
Construction principle of Koch's snowflake (Mandelbrot, 1982)



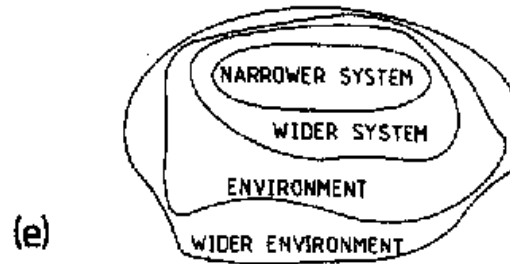
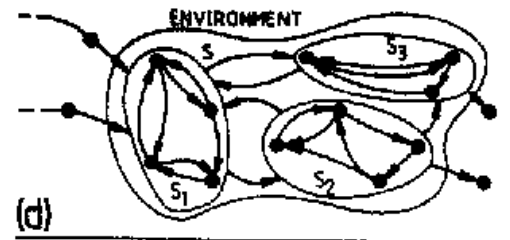
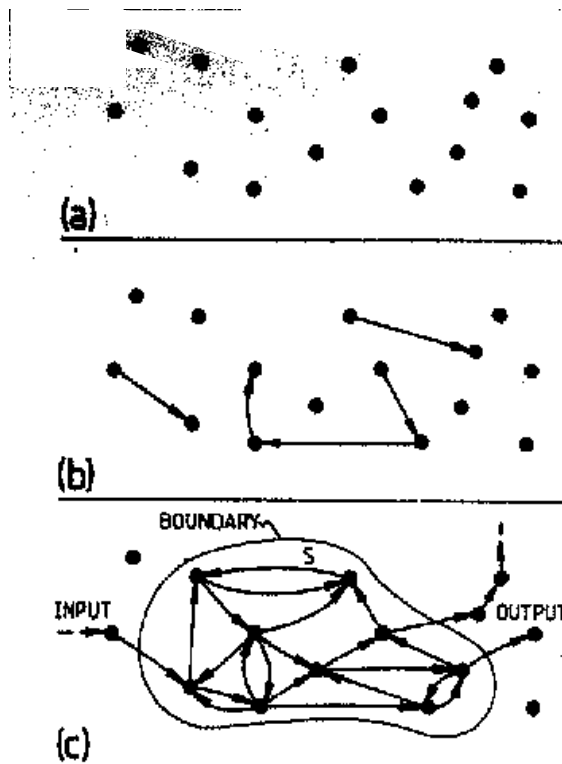
Mandelbrot groups, parts have similar order with whole (Gleick, 1987:128)



Kelebek etkisi / Butterfly effect, Lorenz çekicisi

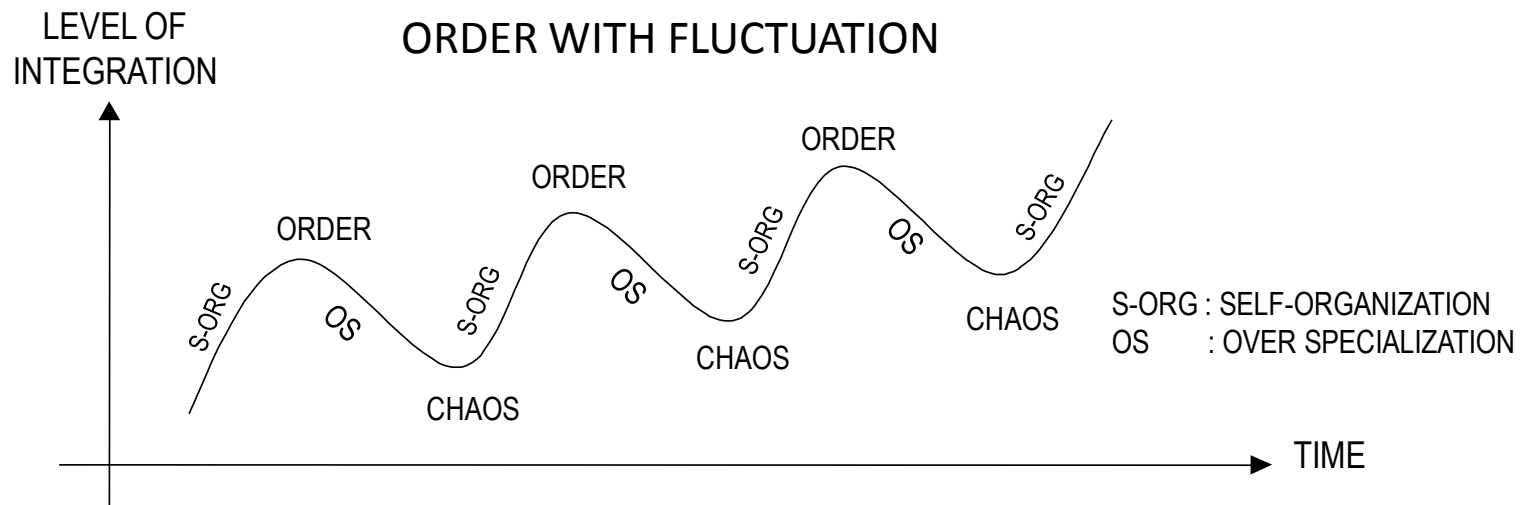






KEY	• an element
	→ a relationship
S	system
$S_i$	subsystem

Flood & Carson, 1993)



# MEANING OF SYNERGY & SYNERGETIC CONCEPTS

- **ENERGY:** The capacity for action, work or accomplishment
- **ENERJETIC:** Having, exerting, increasing, developing, or displacing energy
- **ENERGIC:**  
Having performance for an action or work
- **ENERGIZER:** A factor which effect or motivate the formation & development of energy

**SYNERGY:** The **collective action** of two or more substances, organs, or organisms to achieve an effect of which **each is individually incapable**.

The emergence of great and **unexpected power** which is more than sum of each of it when more than two parts / organs / organisms join together and to be one

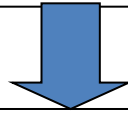
**SYNERGETIC:** A dynamic, powerful, living group or organization who **can self-organize by developing communication & interaction channels within sub-systems or with others**, and can create, and can develop synergy by transferring their static energy to kinetic energy

**SYNERGIC:** Having synergy or having the ability to develop synergy

**SYNERGIST / SYNERGISTIC / SYNERGIZER:** A part, group or organ which effect or motivate the formation & development of synergy

**Planners must take the role which could be defined as  
Synergist / Synergistic / Synergizer  
between Civil Society – Local Governments and State Organizations**

## UNPREDICTABLE & UNCONTROLLABLE FUTURE



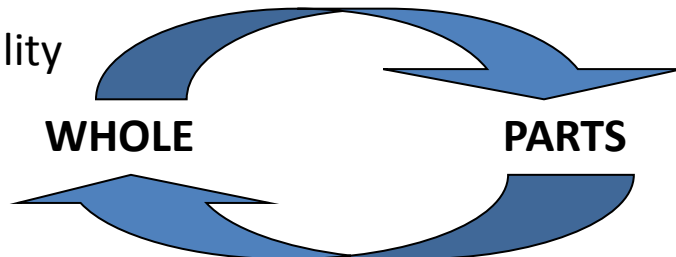
### SYSTEMS MUST

- Be ready for every possible conditions of future
- Have high level of ability for adaptation
- Be flexible
- Be very well organized
- Have rapid information flow and decision-making process
- Be living and dynamic

## SYNERGETIC SYSTEM

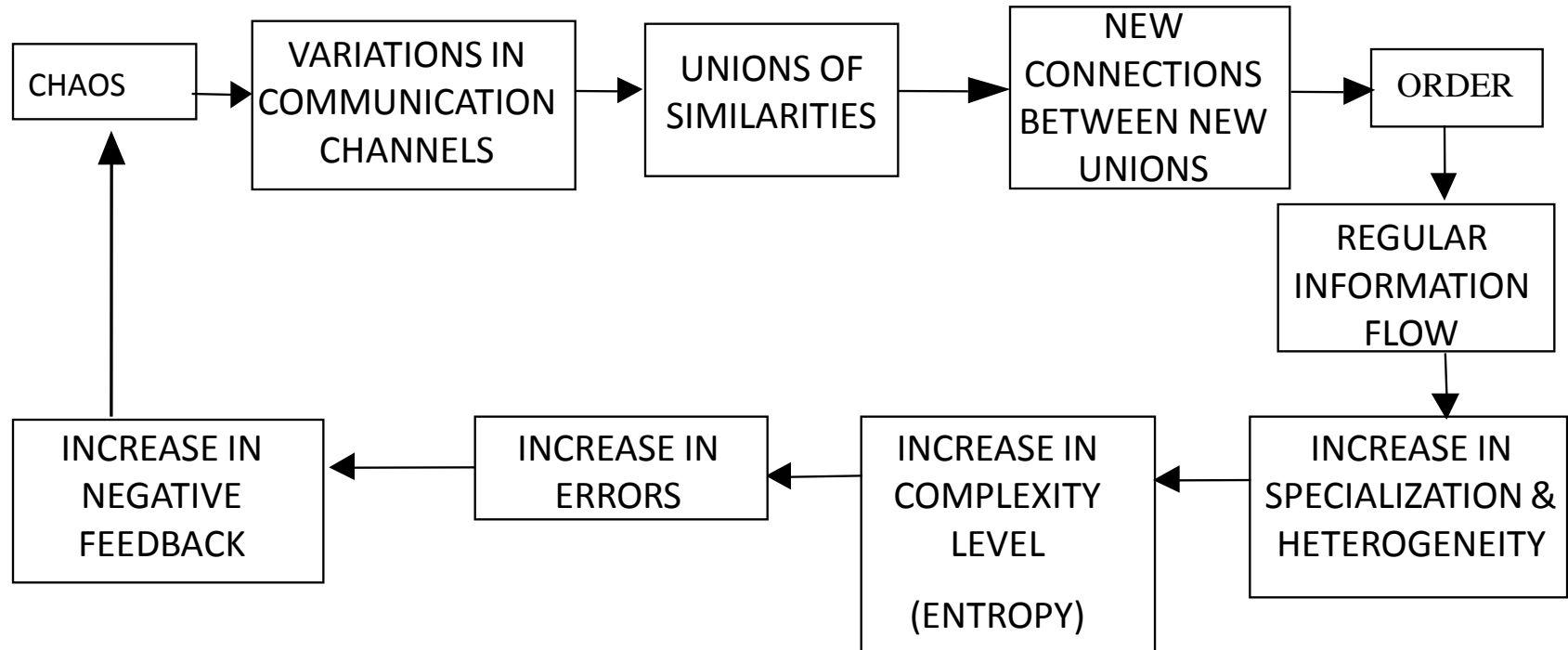
(Fuller 1978; Haken 1977, 1996)

- Circular Causality



- General Order and Self – Organizations
- Self – Learning → Livings, Organizations and Society

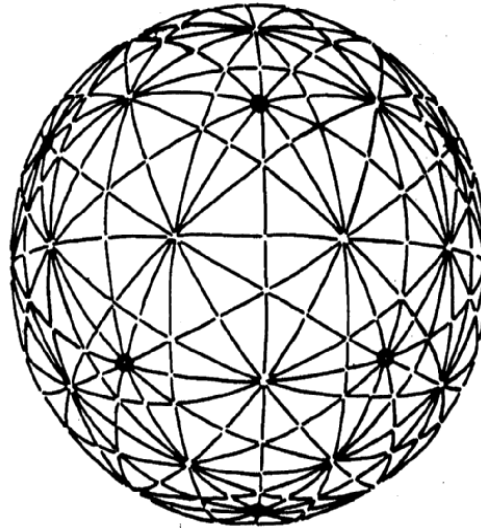
## SELF – ORGANIZATION PROCESS



Developed for Applying to Society in Phd Context (Diker Camlibel, N. 2003)

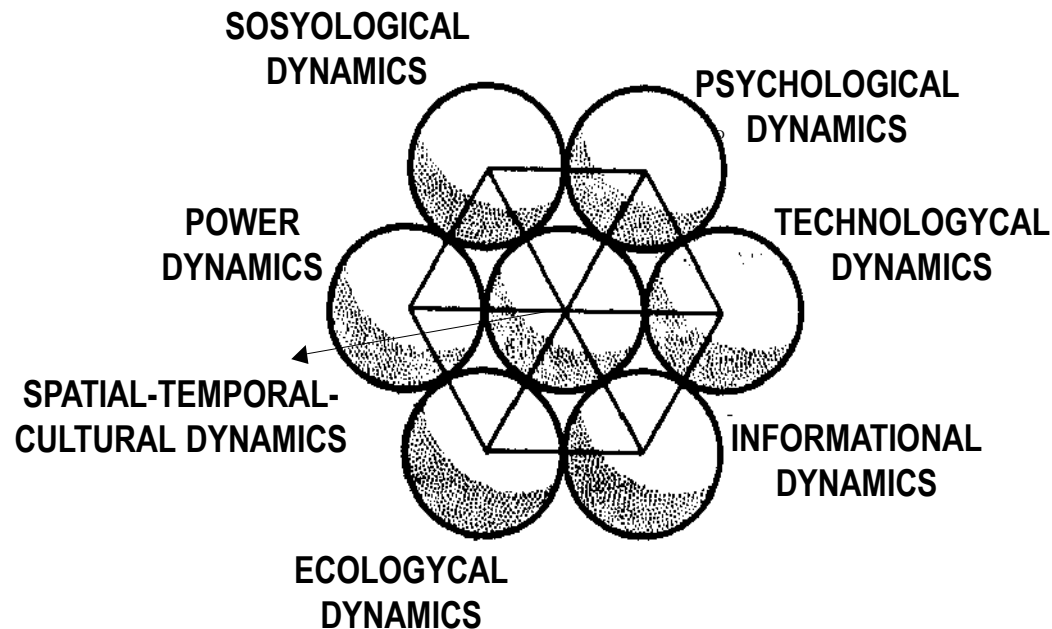
# CONCEPTUAL FRAMEWORK REMEMBERING

## CHRISTALLER'S HIERARCHY



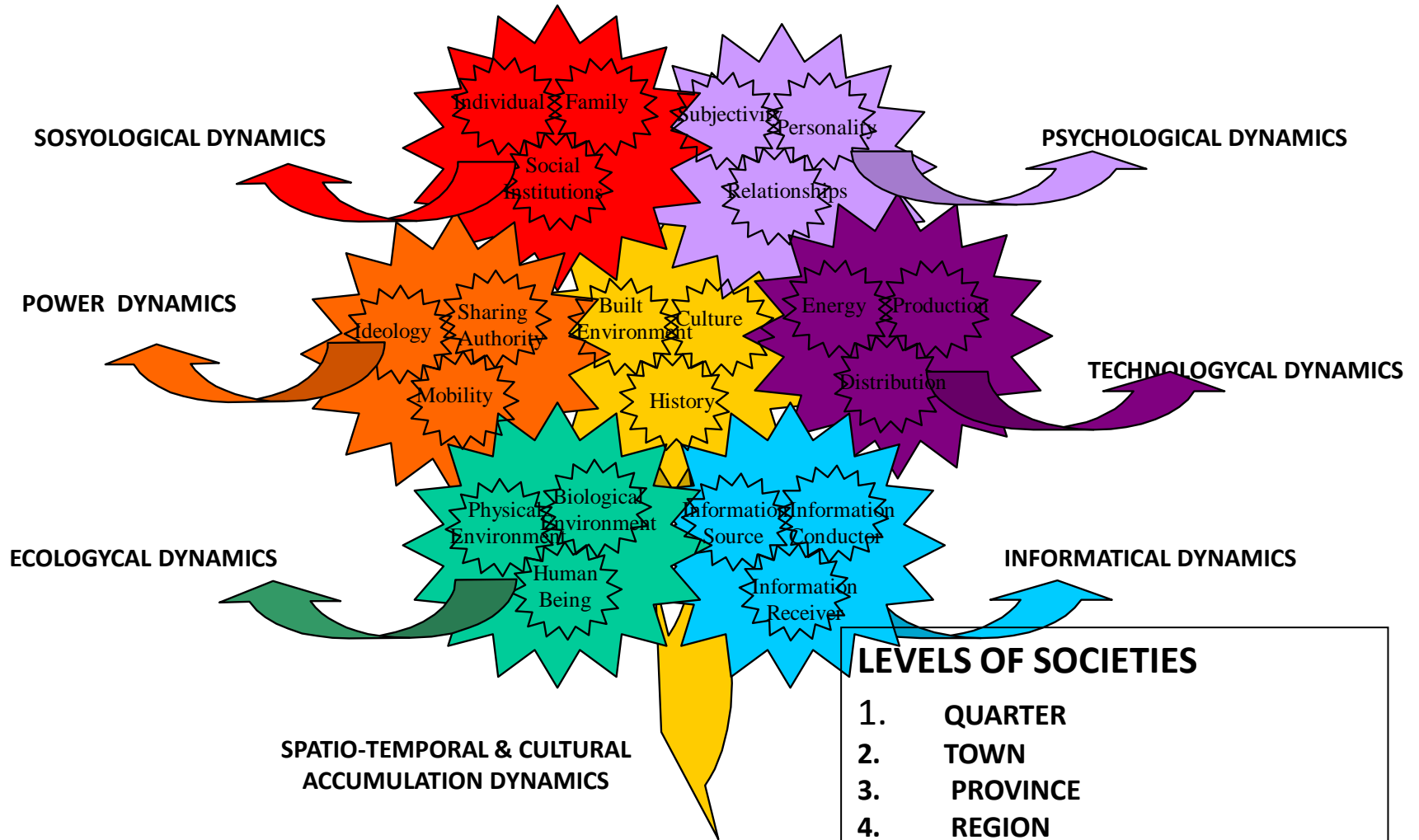
EACH SOCIETY HAS SEVEN  
SUB-SYSTEMS FROM  
VILLAGE / QUARTER LEVEL  
TO THE WORLD LEVEL

THE MODEL OF  
CHRISTALLER  
CRITICISED THAT  
WAS STATIC



HERE WITH THIS  
MODEL  
I ATTEMPTED TO  
TRANSFER IT A  
DYNAMIC  
CONCEPTUAL  
MODEL

# SYNERGETIC DYNAMICS OF COMPLEX SOCIETY



**THERE MUST BE DYNAMIC EQUILIBRIUM**