
 Lectures at **LATVIJAS UNIVERSITATE** March 4 - 6, 2009
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Systems Theory

- an interdisciplinary approach
and its philosophical consequences

I. Fundamental Concepts
 II. Attractors, Teleology & Synlogisation
 III. Meaning Fields

Systems Approach in Psychologie

•→“GESTALT“ ≠ Elements („Melodie“),
Movement-Actualization of Hexapodes



SELF-ACTUALIZATION Kurt Goldstein Gestalt Psychology
 (Wertheimer, Koffka, Köhler, Lewin etc.)

“GESTALT” → holistic dynamic
 bottom-up + top down
Hexapodes (e.g. grasshoppers)


self-organized order

due to inherent possibilities
& with respect of/for the environment

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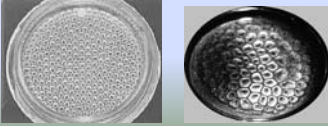
“GESTALT” → holistic dynamic
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CHEMISTRY




Self-Actualization (unfolding) of
inherent order/patterns/
With respect of/for the
surroundings

PHYSICS
Bénard-cells



Not any trainer for the „behavior“ of the rolls/cells
 Not any teacher for the „right order“
 Not imposing order from outside
 but facilitating inherent possibilities of order

DIFFERENCE: taking relationship / Interconnectivity / feed-back
 into account



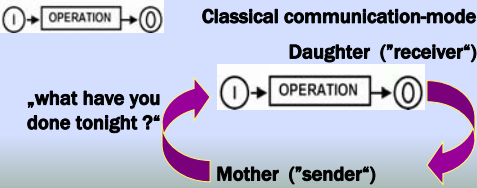
„Officer“: „Life“:

„now! now!
now!“ „let it be!“

Example:
 rhythmically
 „clapping“
 =applause

Not any trainer for the „behavior“ of the rolls/cells
 Not any teacher for the „right order“
 Not imposing order from outside
 but facilitating inherent possibilities of order

DIFFERENCE: taking relationship / Interconnectivity / feed-back
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„what have you
done tonight?“

Mother (“sender”)

Daughter (“receiver”)

Not any trainer for the „behavior“ of the rolls/cells
 Not any teacher for the „right order“
 Not imposing order from „outside“
 but facilitating inherent possibilities of order

DIFFERENCE: taking relationship / Interconnectivity / feed-back into account

mother-daughter-relationship
actualization of patterns

Attractor

COMPLETION-DYNAMICS

Stadler & Kruse 1990:

Classic-mechanistic Approach

Organization from outside

Determinism

Analytical destruction of uniqueness

Order as a construction of order

One-directional causality

Linear cause-effect-relationship

Non-historical

Organisation from outside:
 Forces - or „influences“, ... - cause the system (box / square) to move from A to B. Just as well the system could be moved to any other point (resp. state of order) between A and B. Moreover, it could be moved in the direction of C, etc. What happens is only dependent on the exact dosage of the forces – that means dependent on the forces' amount and direction

Determinisms:
 What ever happens is a direct and specific result of the forces. Chance and random effects are only a matter of „error variables“ - and by analyzing these effects, we try to control or even to eliminate them

Analytical destruction of uniqueness
 nothing happens without causal forces. All results (points on the line or plane) are of equal validity – the specific order (any point between C and B) is inserted or imported from outside

Classic-mechanistic Approach

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Order as a construction of order:
 complex order is typically constructed or synthesized out of simple states of order ("construction-set-principle"). Complex behaviour, for example, is seen to be constructed out of a sequence of simple behaviour by operant conditioning

One-directional causality:
 order in the organization of the system comes from outside

Linear cause-effect-relationship:
 bigger causes result in bigger changes (the covered distance from A to the new point – for example B)

Non-historical:
 independent of the state of the system (and how it reached this state): the linear cause-effect is always the same (moving from A to B is equal to moving from B to A: a certain amount of "work" results always and everywhere in a same amount of "change")

Classic-mechanistic Approach

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In applying these principles to living beings or even more to human beings this context deprives mankind of:

- Trustworthiness
- Individuality and uniqueness
- Historicity or respect for the historical context
- Non-Linearity of creative development and healing processes
- Integration of context (in favor of artificial isolation)

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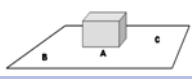
Non-historical

Principles of "good" empirical / experimental research

- the most extensive elimination of the unpredictable and uncontrollable,
- reduction of influencing variables,
- the most extensive prediction of the results of actions,
- maximal control of all things that can happen,
- restriction of experiences to the area that is pre-defined by those questions and procedures that are considered to be "admissible"

= SYMPTOMS of patients with "compulsory disorder"

Classic-mechanistic Approach



→ Special "relationship"


Not only to "boxes" on a plane,
But also to the WORLD, to living beings and humans ...
...and to oneself

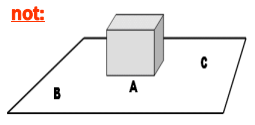
→ our everyday language + thought (and our therapeutic, too!)
is full of words which refer to principles of 350 years mechanistic science - particularly referring to matter, machines, control etc.

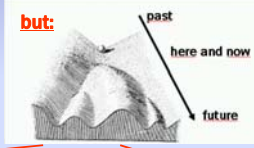
for example:
blocks,
barriers,
he got stuck
has no self-control
(don't) (want to) push him
he does (not) function well

deal with matter +
machines not humans

Modern Approach: FEEDBACK / ITERATION
Interconnectedness, Process

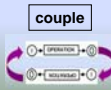


not: 


but: 

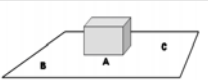

Example:
rhythmically „clapping“ =applause

couple

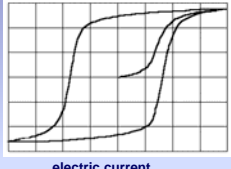


GESTALT





Classic-mechanistic Approach	Systemic-dynamic Approach
	
Organization from outside	Self-Organization
Determinism	Optional Choice
Stable and homogenous validity	Instability
Order as a construction of order	Order as a reduction (and emergence)
One-directional causality	Circular causality
Linear cause-effect-relationship	Non-linear cause-effect relationship
Non-historical	Historical (Hysteresis)

hysteresis




magnetic field

electric current

Example:
rhythmically „clapping“ =applause

couple



GESTALT

essentials of the systems approach:

- process (not „things“)
- networking / feed-back loops
- micro-macro-levels (bottom-up / top down)
- system-environment relationship

new questions /different focus:

change: health → illness or illness → health
stability: health → health or illness → illness

what is the "river" in which we cannot step twice ?

Kriz (1997): Chaos, Fear and Order

A child wakes up in the night, perhaps from a bad dream, and finds himself surrounded by darkness, alone, beset by name-less threats. At such a moment the contours of trusted reality are blurred or invisible, and in the terror of incipient chaos the child cries out for his mother. It is hardly an exaggeration to say that, in this moment, the mother is being invoked as a high priestess of protective order. It is she (and, in many cases, she alone) who has the power to banish the chaos and to restore the benign shape of the world. And, of course, any good mother will just do that. She will take the child and cradle it in the timeless gesture of the Magna Mater... She will speak or sing to the child, and the content of this communication will invariably be the same - „Don't be afraid - everything is in order, everything is all right“ If all goes well, the child will be reassured, his trust in reality recovered, and in this trust he will return to sleep. (Berger, 1970, p.61)

➔ **II. Attractors, Teleology & Synlogisation**
III. Meaning Fields