Topology of the person

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Plan of the presentation
Plan of the presentation

Philosophy of the subject

Philosophy of the subjectivity
Plan of the presentation

1. Philosophy of the subjectivity
2. Topology
3. Topology of the Person in terms of K. Lewin

Philosophy of the subject
Topology
Plan of the presentation

Philosophy of the subject

Topology

Topology of the person (K. Lewin)
Plan of the presentation

Philosophy of the subject

Topology

Topology of the person (K. Lewin)
Philosophy (theory)
Philosophy (theory)

Philosophy of the subjectivity
Philosophical questions

Subject:
Philosophical questions

Subject:

- structure of the subject (simple vs. complex, point or space, process, substance, event, thing)
§1. Philosophy of the subjectivity
§2. Topology
§3. Topology of the Person in terms of K. Lewin

Philosophical questions

Subject:

- structure of the subject (simple vs. complex, point or space, process, substance, event, thing)
- identity of the subject (identity through time, change through time)
Philosophical questions

Subject:

- structure of the subject (simple vs. complex, point or space, process, substance, event, thing)
- identity of the subject (identity through time, change through time)
- subject vs. person
Mathematical philosophy

Mathematical philosophy = philosophy that uses mathematical structures to philosophize
Mathematical philosophy

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Mathematical modeling of philosophical issues

philosophizing by structures,
Mathematical philosophy

Mathematical philosophy = philosophy that uses mathematical structures to philosophize

Mathematical modeling of philosophical issues

philosophizing by structures, rotation of structures
What kind of structures should be used in mathematical philosophy?
What kind of structures should be used in mathematical philosophy?

Complex structures because the philosophical issues are complex
Example:
What kind of structures should be used in mathematical philosophy?

Complex structures because the philosophical issues are complex
Example: topological spaces
Subject (subiectum)—object (obiectum)
Subject (subiectum)—object (obiectum)

Object: everything that is thrown opposite, what is met
Subject (subiectum)—object (obiecctum)

Object: everything that is thrown opposite, what is met

Subject: that what meets the object, what can be referred to object
Subject (subiectum)—object (obiectum)

Object: everything that is thrown opposite, what is met

Subject: that what meets the object, what can be referred to object
Ontological condition

Subject: process
Ontological condition

Subject: process
happens, realizes itself, constitutes in time
Ontological condition

Subject: process
happens, realizes itself, constitutes in time
Subject: the source of all acts, the fulfiller of acts
Subject: spatial thinking

Finding spatial representation
§1. Philosophy of the subjectivity
§2. Topology
§3. Topology of the Person in terms of K. Lewin
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Kurt Lewin *Principles of Topological Psychology*
What is topology?
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Topology of the person
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Topology

Topology:

— generalized geometry
— study of continuity, connectivity and proximity
— rubber sheet geometry (replaces the rigid plane of Euclidean geometry with a rubber sheet)
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— generalized geometry
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— study of continuity, connectivity and proximity
Topology

Topology:
— generalized geometry
— study of continuity, connectivity and proximity
— rubber sheet geometry (replaces the rigid plane of Euclidean geometry with a rubber sheet)
Basic notions of topology

open:

closed:
Homeomorphism

Homeomorphism: a continuous bijection that has a continuous inverse function
Homeomorphism: a continuous bijection that has a continuous inverse function

Topology is the study of invariants of homeomorphisms
Topology of the person by K. Lewin
Life space:

Life space:

totality of possible events

Each change of the psychological situation of a person means just certain events are now “possible” (or “impossible”) which were previously “impossible” (or “possible”).
Life space

Life space: totality of possible events
Life space

Life space: totality of possible events

Each change of the psychological situation of a person means just certain events are now "possible" (or "impossible") which were previously "impossible" (or "possible").
Examples

The difference between the psychiatrist and non-psychiatrist, the rich and the poor, between the youth, the adult, is in each case fundamentally determined by a range of possibilities.
Psychological Existence
Psychological Existence

Dynamical criterion:
Psychological Existence

Dynamical criterion:
What is real is what has effects

(flight into irreality)
Facts within the life space:

(1) Quasi-physical facts
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(2) Quasi-social facts
Facts within the life space:

(1) Quasi-physical facts
(2) Quasi-social facts
(3) Quasi-conceptual facts
Facts within the life space:

1. Quasi-physical facts
2. Quasi-social facts
3. Quasi-conceptual facts

(from the standpoint of the physicist the environment is identical or nearly identical for a child and for an adult, the psychological situation can be fundamentally different)
First approximation of a person:
First approximation of a person:
— connected and undifferentiated region in the life space
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— connected and undifferentiated region in the life space
Further approximation:
Further approximation:
— multitude of different regions whose changes of state are to certain extent independent of each other
Further approximation:
— multitude of different regions whose changes of state are to certain extent independent of each other
— highly differentiated object (different parts of the body are carrying out different activities at the same time)
Regions within the person

M – motor-perceptual region, I – inner-personal region, P – peripheral parts of I, c – central parts of I, E – environment
Inner-personal region:

(1) parts: more central (c) and peripheral strata (p).
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„actions which belong to more central strata are *ceteris paribus* more quickly satiated” (T. Dembo)
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(1) parts: more central (c) and peripheral strata (p).

„actions which belong to more central strata are *ceteris paribus* more quickly satiated” (T. Dembo)

If only peripheral strata of the person are touched, manifestations of anger occur more easily. The outbreaks of anger are then more superficial. If more central strata are involved an open outbreak of affect is more rare.
Inner-personal region:
Inner-personal region:

(2) The boundary zone between the (c) and the (E) is stronger than the boundary zone between (p) and the (E).
Inner-personal region:

(2) The boundary zone between the (c) and the (E) is stronger than the boundary zone between (p) and the (E).

(3) Inner system: it is difficult to touch the real core of the person
Motor-perceptual region:

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(1) boundary zone between the inner-personal regions and the environment,
(2) the executive (inner regions can influence the environment by way of a bodily expression),
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(2) the executive (inner regions can influence the environment by way of a bodily expression),
Motor-perceptual region:

Motor-perceptual region:

Tools of inner system, in conversation is almost always open,
parts: speech, smiling at, looking at, but also in the opposite
direction: hearing, seeing, etc. The eye for instance can both express and perceive (ear transmit events only in one direction).
Motor-perceptual region:
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(4) parts: speech, smiling at, looking at, but also in the opposite direction: hearing, seeing, etc. The eye for instance can both express and perceive (ear transmit events only in one direction).
Dynamic dependency
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Dynamic dependency

State of one region is influenced by the state of the other (locomotion?)
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Different parts of the person differ in the degree to which they are related to each other,
Dynamic dependency

State of one region is influenced by the state of the other (locomotion?)

Different parts of the person differ in the degree to which they are related to each other, (the fulfillment of a wish may change the whole person)
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Example

Fig. 42.—Relations between various strata of the person under different circumstances. (a) The person in an easy situation: the peripheral parts \( p \) of the inner-personal region \( I \), are easily accessible from outside \( E \); the more central parts \( c \) are less accessible; the inner-personal region \( I \) influences the motor region \( M \) relatively freely. (b) The person under stress, in state of self-control: the peripheral parts \( p \) of the inner-personal region \( I \) are less accessible than in (a); peripheral and central parts (\( c \) and \( p \)) are more closely connected; communication between \( I \) and \( M \) is less free. (c) The person under very high tension: unification (primitivation, “regression”) of the inner-personal region \( I \). \( M \), motor-perceptual region; \( I \), inner-personal region; \( p \), peripheral parts of \( I \); \( c \), central parts of \( I \); \( E \), environment; \( B_e \), dynamic wall between \( c \) and \( p \); \( B_p \), dynamic wall between \( I \) and \( M \).

K. Lewin, Principles of topological psychology, 1936.
Topology of the person

Change

\[\downarrow\]

Dynamic dependency

\[\downarrow\]

Topology of the person
The person of the child is less differentiated into part regions.
Differentiation

The person of the child is less differentiated into part regions.

The growth of the person is a process of differentiation (to some extent, of integration).
The person of the child is less differentiated into part regions.

The growth of the person is a process of differentiation (to some extent, of integration).
Differentiation

The person of the problem child corresponds to a more fluid, the person of the feeble-minded child to a more rigid material. The normal child is intermediate in this respect.
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Harmonious character — different part regions are well balanced.
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The person of the problem child corresponds to a more fluid, the person of the feeble-minded child to a more rigid material. The normal child is intermediate in this respect.

Harmonious character — different part regions are well balanced.

Great change (falling in love, being converted) can bring about a far-reaching change of structure.
Topology of the person

Differentiation = changing the topology
The dimension of the life space

Dimension is a property of ”inner structure” (not size).
The dimension of the life space

Dimension is a property of ”inner structure” (not size).

An $n$-dimensional object is bounded by $(n - 1)$-dimensional object
A two-dimensional representation of the quasi-social and quasi-physical fields has sufficed for most of the psychological problems.
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but

different degrees of reality ⇒
A two-dimensional representation of the quasi-social and quasi-physical fields has sufficed for most of the psychological problems.

but

different degrees of reality ⇒ transition to a further dimension
Flight into irreality - examples

— daydream
Flight into irreality - examples

— daydream
— vague hope
Flight into irreality - examples

— daydream
— vague hope
has less reality than an action
Flight into irreality - examples

— daydream
— vague hope

has less reality than an action

ideal goal (or free play of phantasy) — real goal
Dynamic differences between different degrees of irreality

Greater fluidity! (if we are going in the upward direction)
Dynamic differences between different degrees of irreality

Greater fluidity! (if we are going in the upward direction)

1. Barriers in the environment offer little resistance (one can do what one wants to do in irreality)
Dynamic differences between different degrees of irreality

Greater fluidity! (if we are going in the upward direction)

1. Barriers in the environment offer little resistance (one can do what one wants to do in irreality)
2. the boundaries of environmental regions can be shifted more easily
Dynamic differences between different degrees of irreality

Greater fluidity! (if we are going in the upward direction)

1. Barriers in the environment offer little resistance (one can do what one wants to do in irreality)
2. The boundaries of environmental regions can be shifted more easily
3. A diffuse discharge of an inner-personal tension system occurs more quickly
Dynamic differences between different degrees of irreality

Greater fluidity! (if we are going in the upward direction)

1. Barriers in the environment offer little resistance (one can do what one wants to do in irreality)
2. the boundaries of environmental regions can be shifted more easily
3. a diffuse discharge of an inner-personal tension system occurs more quickly
4. the boundaries between person and environment are less clear
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Schizophrenia

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Schizophrenia representing of the person as two dynamically separated regions which belong to different levels (dimensions) of reality.

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Topology of the person
Schizophrenia

Representing of the person as two dynamically separated regions which belong to different levels (dimensions) of reality.
Does that make sense?
Life space as a space in the sense of mathematics

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Life space as a space in the sense of mathematics

„I am convinced that these concepts which we use for the representation of psychological facts, like region, spacial relationship in life space, connectedness and separateness, belongingness, etc., are real spatial concepts in a strict mathematical sense.”  K. Lewin
To ”come closer” to another person through a conversation
To ”come closer” to another person through a conversation

The goal to become a physician (The ”path” to this goal leads through definite stages)
Thank you for your attention!