Periodic catatonia and the systematic catatonias

psychopathology and differential diagnosis according to the Wernicke-Kleist-Leonhard-School

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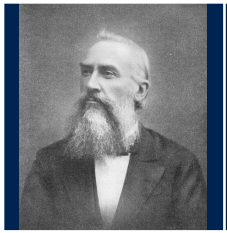
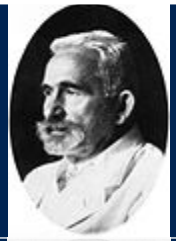
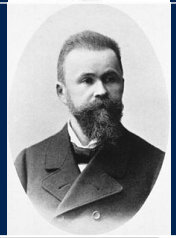
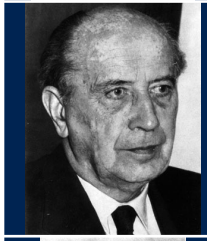
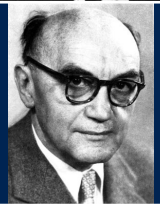
Strasbourg, November 20, 2015

Landmarks in the classification of catatonia

	**K. L. Kahlbaum** (1828–1899)	Die Gruppierung der psychischen Krankheiten und die Einteilung der Seelenstörungen. 1863 Die Katatonie oder das Spannungsirresein. Eine klinische Form psychischer Krankheit. 1874
	**E. Kraepelin** (1856–1926)	Psychiatrie. Ein Lehrbuch für Studierende und Ärzte. 7. Aufl. 1904 Katatonische Formen pp. 209–238
	**C. Wernicke** (1848–1905)	„Grundriß der Psychiatrie“ (1900) Betonung der akuten, ausheilenden Formen von Psychosen (Angstpsychose; agitierte Verwirrtheit/Amentia; akinetisch-hyperkinetische Motilitätspsychose) chronische Formen: paranoische Zustände, Heboid, Katatonien Sejunktionstheorie
	**K. Kleist** (1879–1960)	„Die Auffassung der Schizophrenien als psychische Systemkrankheiten (Heredodegenerationen)“ (1923) Die Hebephrenien/Katatonien/Paraphrenien aufgrund von katamnestischen Untersuchungen 1940–1965 Die Gliederung der neuropsychischen Erkrankungen (1953)
	**K. Leonhard** (1904–1988)	„Die defektschizophrenen Krankheitsbilder“ (1936) „Grundlagen der Psychiatrie“ (1948) „Biopsychologie der endogenen Psychosen“ (1970) „Aufteilung der endogenen Psychosen“ (1956–2003)

Basic diagnostic differences between ICD-10/DSM-5 and Leonhard's classification

DSM-5 / ICD-10

Diagnosis is made by the appearance of a **minimum number of symptoms** from a given symptom-catalogue which have to exist over a **given period of time („Chinese menu algorithm")**

Leonhard's classification

Diagnosis is made by the evidence of **characteristic symptom constellations (specific symptoms** form **characteristic syndromes),** which run a **typical course (prognosis)**

Diagnostic Criteria for Schizophrenia, Catatonic Type (DSM-IV 295.20; ICD-10 F20.2)

Presence of characteristic psychotic symptoms in the active phase for at least 1 week:

A (1) delusions/prominent hallucinations/incoherence/catatonic behavior/flat or inappropriate affect; (2) bizarre delusions; (3) prominent hallucinations

B functioning is markedly below the highest level achieved

Catatonia: The clinical picture is dominated by any of the following:

1. Motoric immobility as evidenced by catalepsy (including waxy flexibility) or stupor

2. Excessive motor activity (that is apparently purposeless and not influenced by external stimuli)

3. Extreme negativism (an apparently motiveless resistance to all instructions or maintenance of rigid posture against attempts to be moved) or mutism

4. Peculiarities of voluntary movement as evidenced by posturing (voluntary assumption of inappropriate or bizarre postures), stereotyped movements, prominent mannerisms*, or prominent grimacing*

5. Echolalia* or echopraxia*

* not included in ICD-10

not included in DSM-IV: verbal perseveration, automatic obedience

Proposed Diagnostic Criteria for Catatonia
(Fink & Taylor 2003)

Immobility, mutism, or stupor of at least 1 hour's duration, associated with at least one of the following: catalepsy, automatic obedience, or posturing, observed or elicited on two or more occasions

B. In the absence of immobility, mutism, or stupor, at least two of the following, which can be observed or elicited on two or more occasions: stereotypy, echophenomena, catalepsy, automatic obedience, posturing, negativism, Gegenhalten, ambitendency

Essential psychopathological levels for differentiated diagnosis of schizophrenia subtypes

affectivity
- „mood“ (elevated/depressed)
- „quality of affect“ (e.g. blunting of affect)

thought
- formal
  - -- stream of thought
  - -- coherence of thought/speech
- thought content

(psycho)-motility
- quantitative (hyper-/akinetic)
- qualitative
  - -- simple movement pattern
  - -- complex motor pattern

perception
- qualitative
  - -- hallucinations without disturbance of consciousness

Leonhard's classification of the schizophrenic psychoses

	psychic system		
	psychomotility	affectivity	thought
cycloid psychoses	motility psychosis	anxiety-ecstasy psychosis	confusion psychosis
	good prognosis		
	poor prognosis		
unsystematic schizophrenias	periodic catatonia	affect-laden paraphrenia	cataphasia
systematic schizophrenias	systematic catatonias	hebephrenias	systematic paraphrenias

Disturbances of psychomotor behaviour I

Iteration
simply composed, repetitive movements repeated in the same way, without goal-oriented behaviour or expressive character

Stereotypy
recurrent, not goal-directed, limited movements carried out in a uniform way

Mannerism
complex motor patterns triggered by external stimuli
rituals and habits involving certain sequences of movements resembling obsessive and compulsive phenomena but lacking fearful worries (affective link)
recurrent, static, unvaried, un-changing motor behaviour in a stiff way
movement mannerisms („Bewegungsmanieren“)
movement omissions („Unterlassungsmanieren“)

Disturbances of psychomotor behaviour II

Parakinesia / Grimacing
distorted, disharmonious reactive and expressive movements
absence of fluidity or loss of harmonious gestures and facial expression merging into each other
jerky, intermingled movements, incongruent to affect
stiff or choppy movements, abrupt movements in a stiff motion sequence

Psychomotor negativism
active resistance with characteristic opposite trend (ambitendency), e.g. alternating between desire and aversion;
e.g. head looks in another direction than would be expected from the body‘s stance
motiveless resistance not related to anxiety or delusions

Proskinesis
abnormal tendency to turn towards the examiner and to begin with automatic movements as a result of external stimuli („Anstoßautomatie“, „Gegengreifen“, „Mitgehen“)

Disturbances of (psycho-)motor behaviour III

Tardive dyskinesia
involuntary movements of tongue, jaw, trunk or extremities
spasmodic with subjective impairment (in relation to antipsychotic medication); different patterns:

- **choreiform (rapid, jerky, nonrepetitive)**
- **athetoid (slow, sinuous, continual)**
- **rhythmic (stereotypes)**

Tics
brief, sudden, simple composed, repetitive movements
spasmodic motor movements
temporarily suppressible and preceded by a premonitory urge

Psychoses of the psychomotor sphere

quantitative disturbances

↓

hyperkinetic-akinetic motility psychosis

qualitative disturbances „true“ catatonias

↓

periodic catatonia
systematic catatonias

Clinical symptomatology of diseases of the psychomotor sphere

motility psychosis	**periodic catatonia**	**systematic catatonias**
bipolar phasic	**bipolar with residual syndrome**	**chronic progressive**
hyperkinesia: restlessness with increase in expressive and reactive movements	hyperkinesia with akinetic traits: parakinesia, restlessness with stiff motor activity, stereotypies, grimacing	**distinct subtypes involvement of discrete functional psychic units „Symptomenkomplexe“**
akinesia: rigid posture and rigid facial expression disappearance of reactive movements	akinesia with hyperkinetic traits: uniform movements, iterations, stereotypies, bizarre postures, perseveration stupor with negativism	Parakinetic Manneristic Proskinetic Catatonia Negativistic Speech-prompt Sluggish, speech-inactive
accessoric symptoms: incoherent speech/mutism hallucinations/delusions full remission after each episode	periodic onset;episodes of worsening in the course apathy, stiff movements, isolated stereotypes, or grimacing; residual state of varying severity	gradual beginning chronic course without remission, stable symptomatology, refractory to treatment

Periodic catatonia

central syndrome
qualitative psychomotor disturbances

hyperkinetic pole

- hyperkinesia with akinetic traits
- psychomotor excitement and restlessness with iterations, stereotypes
- parakinesia, facial grimacing
- distorted movements
- impulsive actions

mixed states

akinetic pole

- akinesia with hyperkinetic traits
- stupor with negativism
- stiff motor activity
- bizarre, stereotype postures
- uniform movements
- perseveration

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intermittent, bipolar course with accessory hallucinations and delusions

characteristic catatonic residual syndrome with psychomotor weakness of expressive movements, isolated stereotypes, grimacing facial movements, disharmoniously stiff or parakinetic movements and diminished incentive

Periodic catatonia

therapeutic strategies

hyperkinetic episodes
(depending on the level of agitation and irritability)
higher potency antipsychotics (and sedative drugs)

akinesia with negativism
benzodiazepines and/or higher potency antipsychotics in low doses
antidepressant drugs
electroconvulsive therapy

Maintenance therapy of persistent symptoms
cave: enhancement of psychomotor inhibition / akinesia
improvement of drive and motivation

antidepressant drugs
clozapine or 2nd generation antipsychotic drugs
reduction of dosages

Periodic catatonia: differential diagnoses

manic-depressive disease

cycloid psychoses
- anxiety-happiness psychoses
- hyperkinetic-akinetic motility psychosis

unsystematic schizophrenias
- cataphasia, severely inhibited or excited episodes

systematic catatonias
- parakinetic catatonia
- manneristic catatonia
- negativistic catatonia

hebephrenias
- eccentric hebephrenia
- autistic hebephrenia

Systematic schizophrenias: general criteria

typically: onset is often gradual and turns to a chronic course without stable remissions (no phasic or periodic course)

in the beginning often unspecific, so-called accessory symptoms appear (epiphenomena), e.g. depressive or euphoric mood swings, short-time delusional symptoms or hallucinations, which disappear and are replaced by the developing characteristic residual syndrome

clinically sharply distinguished symptom constellations: not only a combination of symptoms, but distinct and autonomous syndromes

development of sharply defined, stable and irreversible residual syndromes („Defektsyndrome"), which can be reliably demonstrated in each examination in their specific symptom constellation

refractory to antipsychotic treatment

specific disturbances of affectivity, thought, psychomotor behaviour as well as perception as breakdown of higher psychic systems

==> systematic schizophrenias

Systematic Catatonias
qualitative psychomotor disturbances

Clinical subtype	Characteristic syndrome
Parakinetic Catatonia	parakinesis, bizarre expressive and reactive movements, agrammatical sentences, jumpiness of thought
Manneristic Catatonia	mannerisms within complex movements and/or omissions, progressive stiffness of psychomotor activity
Proskinetic Catatonia	proskinesis (“Mitgehen, Gegengreifen”), murmuring with verbigeration
Negativistic Catatonia	psychomotor negativism, ambitendency
Speech-prompt Catatonia	empty, meaningless facial expression, autism, short-circuiting of speech, talking-past-the-point (“Vorbeireden”)
Sluggish Catatonia	extremely extinguished initiative with sluggish verbalizations, continuous hallucinations with distracted facial expression

Frequencies of systematic catatonia subphenotypes

	Stöber et al. 1996 N=56		Leonhard 1986 N=206	
simple systematic catatonias	32	57.1 %	130	63 %
parakinetic catatonia	5	8.9 %	29	14 %
manneristic catatonia	11	19.6 %	36	17.5 %
proskinetic catatonia	2	3.6 %	16	7.8 %
negativistic catatonia	6	10.7 %	12	5.8 %
speech-prompt catatonia	2	3.6 %	15	7.3 %
sluggish catatonia	6	10.7 %	22	10.7 %
combined systematic catatonias	24	42.9 %	76	37 %
speech-prompt-parakinetic catatonia	0	0 %	3	1.5 %
speech-prompt-proskinetic catatonia	0	0 %	3	1.5 %
speech-prompt-manneristic	1	1.8 %	8	3.9 %
speech-prompt-negativistic	2	3.6 %	7	3.4 %
speech-prompt-sluggish catatonia	4	7.1 %	5	2.4 %
sluggish-proskinetic catatonia	2	3.6 %	7	3.4 %
sluggish-parakinetic catatonia	2	3.6 %	3	1.5 %
sluggish-negativistic catatonia	3	5.4 %	5	2.4 %
sluggish-manneristic catatonia	1	1.8 %	8	3.9 %
proskinetic-parakinetic catatonia	2	3.6 %	8	3.9 %
proskinetic-manneristic catatonia	0	0 %	4	1.9 %
proskinetic-negativistic catatonia	2	3.6 %	5	2.4 %
negativistic-manneristic catatonia	1	1.8 %	8	3.9 %
negativistic-parakinetic catatonia	3	5.4 %	0	0 %
parakinetic-manneristic catatonia	1	1.8 %	2	1 %

Parakinetic Catatonia

prominent parakinesis: with gradual beginning, pseudo-expressive movements, bizarre expressive and reactive movements, choppy, jerky movements

parakinesis: **grotesque distortion** of a variety of gestures of threat, greeting, astonishment, love, and of facial expressions of thinking, testing, coquetting, exaggerated laughter (grimacing)

movements seem to have a purpose, but intermittent movements disturb the fluidity of the normal movement, „foolish, eccentric“ movements

stimulation increases briskness of parakinetic restlessness and reactive, pseudo-reactive, parakinetic movements

thought disorder: jumpiness of thought, short sentences, appropriate remarks go along with nonsensical digressions

unmodulated articulation, abrupt verbalization

cheerfulness, carefree mood

erratic drive, diminished incentive

Parakinetic Catatonia

differential diagnoses

acute, gross parakinetic excitement in periodic catatonia

Chorea Huntington

Manneristic Catatonia

acceptance of the obsessions and compulsions, increasing impoverishment of involuntary movements, rigidity of posture and movements

movement mannerisms, omission mannerisms
stiff positions and stiff facial expression
relatively preserved affectivity
no prominent thought disorder; alogical thinking

treatment of choice: modified behaviour therapy

continuous training of activity to reduce mannerisms and to avoid omissions (prompting!)

work therapy and occupational therapy

remissions do not occur

Manneristic Catatonia II

Complete picture:

stiff and „wooden“ psychomotility (gait and facial expression)

movement mannerisms:

stereotyped kneeling, touching the floor, touching objects or other patients, turning the body before passing through a door, pushing rocks and papers off the side walk

pecularities when eating: holding a spoon in an odd manner, putting the fork down after every bite

pecularities when visiting the toilet / washing room: repetitive tooth brushing, scrubbing up, towelling himself (frequently procedure takes hours)

movement omissions:

refusing certain food, refusing all food intake, mutism, refusing body hygiene, standing on a fixed place

Manneristic Catatonia

differential diagnoses

obsessive-compulsive disorder (in the beginning)

anancastic personality disorder

anancastic type of depression

periodic catatonia

eccentric hebephrenia

Parkinsonism

Proskinetic Catatonia

proskinesis: abnormal tendency to turn towards the examiner and to begin with automatic movements as a result of external stimuli; purposeless handling with objects, rubbing the hands, placking at the clothes, rubbing the thigh

if addressed they always look up, turn their head to the interviewer, left alone they sit around motionless

impulse-automatism („Anstoßautomatie“) with contra-suggestions

- **going with reactions („Mitgehen“)**
- **responsive grasping („Gegengreifen“)**

verbigeration: when being addressed the patient begins to speak in an undertone and further stimulation causes murmering with verbigerations of isolated words or phrases („mumbling sounds“)

stereotyped repetitions of certain expressions in short sentences

stiff movements, reduced facial expression

lack of initiative, severe affective flattening

Proskinetic Catatonia

differential diagnoses

periodic catatonia

parakinetic catatonia

hebephrenias

whispering to auditory hallucinations

Negativistic Catatonia

negativism: psychomotor tendency to resist, forceful turning away without anxious or paranoid ideas

ambitendency: if approached in a gentle, friendly manner, the patient is equally attracted by attention and avoidance;

with the head half turned to the observer while the body remains fixed

if examined brusquely and attempts are made to overcome their negativism by force, severe excitement occurs

in the beginning: failure to carry out instructions or to answer questions (omissions), if approached they look indifferently to the side

posture: tendency to sit in a peculiarly contorted manner with the upper body at an awkward angle to the legs, the head turned in yet another direction, and one shoulder pulled up

impulse-automatism (Mitgehen, Gegengreifen)

general lack of contact, stiff movements

affective blunting with lack of initiative, impulse actions with aggressiveness

Negativistic Catatonia

differential diagnoses

personality traits with reluctance, refusal of carrying out orders (in the beginning)

periodic catatonia

autistic hebephrenia

Speech-prompt Catatonia

absence of normal speech (no talkativeness or loquacity!):

replies only when a relevant stimulus comes from outside

short, non-grammatical answers to questions

talking past the point („Vorbeireden“): abnormal readiness to say what is immediately present in the mind, even to senseless questions (provoked by specific question-and-answer games)

short-circuiting of speech („Sprechbereitschaft“): quick and premature answers when spoken to

often sitting around mute, rarely start with communication, but if addressed they give short, prompt, but often incorrect answers (depending on the formulation of the question; echologism)

empty, meaningless facial expression, lack of gestures

severe autism

stiff movements, loss of initiative

Speech-prompt Catatonia

differential diagnoses

term: „talking past the point“ („Vorbeireden“)
in contrast to digressive answers in confused patients due to disturbed perception, speaking on themes not relevant to the question

negativistic catatonia
proskinetic catatonia

autistic hebephrenia

Sluggish Catatonia

completely extinguished initiative, all motor reactions are slowed down

posture: sitting bent forward, motionless for hours

impoverishment of facial expression, inwardly directed facial expression

sluggish verbalizations, increasing taciturnity, distracted by continuous hallucinations on all sensorial areas, looking around distractedly and move their lips in whispers, respond to the hallucinations, and not to the questions, incoherence of thought

mostly totally unapproachable, oblivious to all external stimuli

continuously changing hallucinations with visual, auditory and somatic experiences; in the beginning reports on fantastic ideas, short confabulations

short periods of hallucinatory excitement (hours)

Sluggish Catatonia

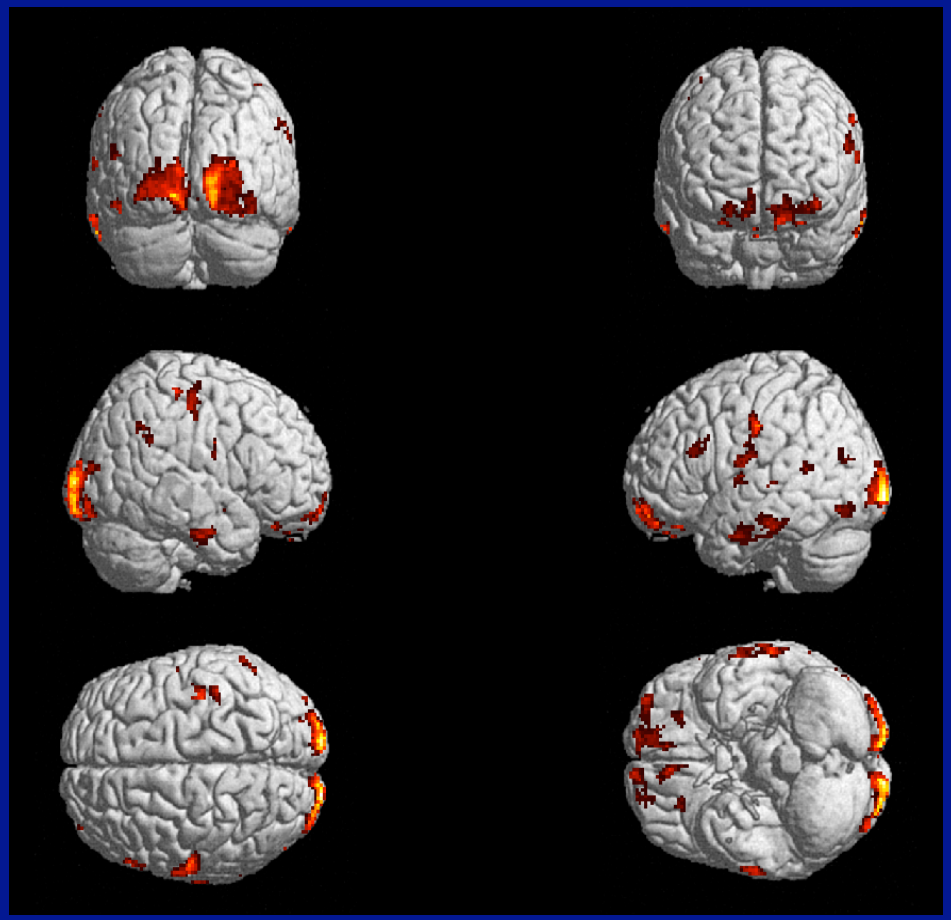
differential diagnoses

stupor
cataphasia
incoherent paraphrenia

Sluggish Catatonia

Quantitative F-18-Fluor-Deoxy-Glucose PET

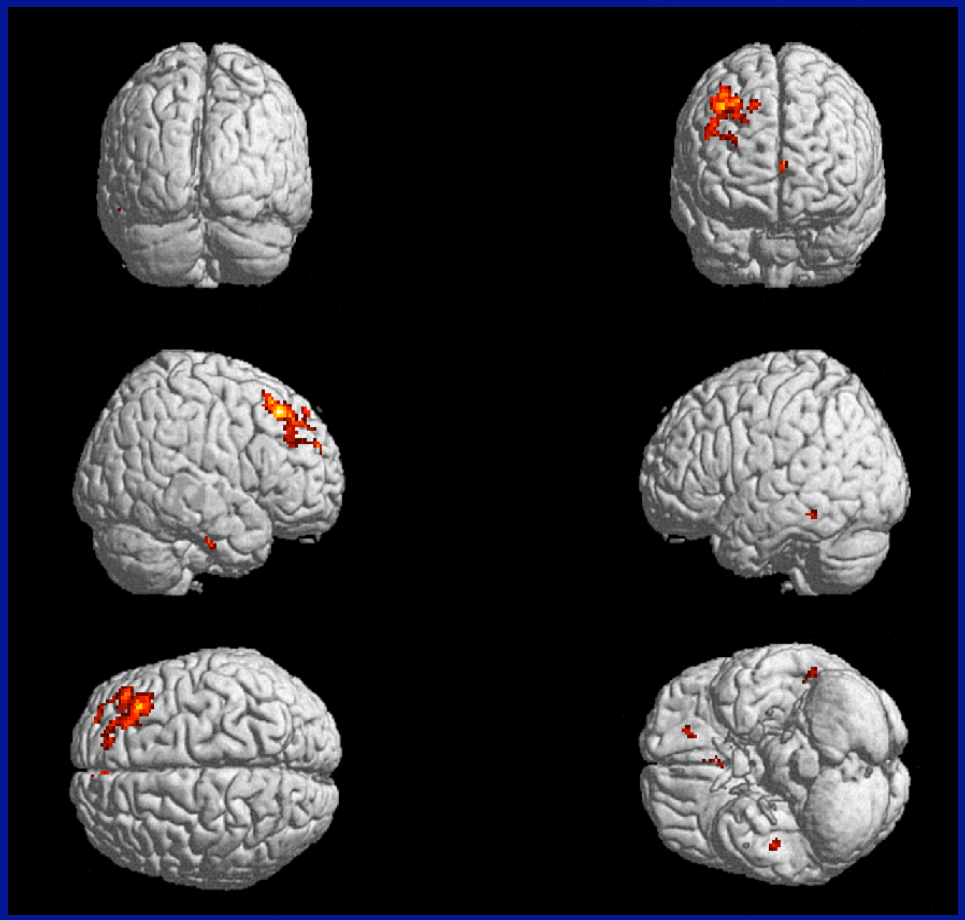
(Patient B.A. Hypermetabolism of the visual association-cortex)



Sluggish Catatonia

Quantitative F-18-Fluor-Deoxy-Glucose PET

(Patient B.A. Hypometabolism of the dorsolateral prefrontal cortex)



Ausfall Willenskräfte bei systematischen Katatonien

Ausfall der Willenskraft der Einschaltung	parakinetische Katatonie
Ausfall der Willenskraft der Abschaltung	manierierte Katatonie
Enthemmung der negativen Willenskraft der Auswahl	sprechbereite Katatonie
Ausfall der negativen Willenskraft der Auswahl	sprachträge Katatonie
Ausfall der Willenskraft der Sperrung	proskinetische Katatonie
Enthemmung der Willenskraft der Sperrung	negativistische Katatonie

Ausfall logischer Kräfte und Ausfall der Gefühlskräfte von Bewußtseinseinengung/-ausweitung bei systematischen Paraphrenien

positive Urteilskraft der Beziehung	inkohärente Paraphrenie
negative Urteilskraft der Beziehung	phantastische Paraphrenie
positive Urteilskraft der Unterscheidung	expansive Paraphrenie
negative Urteilskraft der Unterscheidung	phonemische Paraphrenie
Gefühlskraft der Bewußtseinseinengung	hypochondrische Paraphrenie
Gefühlskraft der Bewußtseinsausweitung	konfabulatorische Paraphrenie

Ausfall der Kräfte der Gefühlsvermittlung und der Willensbildung bei Hebephrenien

Ausfall der positiven Kraft der Gefühlsvermittlung	läppische Hebephrenie
Ausfall der negativen Kraft der Gefühlsvermittlung	flache Hebephrenie
Ausfall der Kraft der Spannung	autistische Hebephrenie
Ausfall der Kraft der Entspannung	verschrobene Hebephrenie

Sluggish-proskinetic Catatonia

sluggish-distracted component:

- continuous hallucinations (visual and somatic, predominantly auditory)
- fantastic ideas, short confabulations
- during examination repeatedly distracted by hallucinations (distracted eye movements, move their lips, respond to the hallucinations)

proskinetic component:

- proskinesis: abnormal automatic movements on external stimuli, stereotyped repetitions
- impulse-automatism despite contra-suggestions
- speaking in a soft voice with no modulation

New symptoms compared to the simple forms:

- increase of repetitive movements, handling with objects
- increased drive of speech, lack of verbigerations
- report on hallucinations, reduced thought disorder

Sluggish-negativistic Catatonia

sluggish-distracted component:

- continuous hallucinations (predominantly auditory), whisper with their voices, move their lips, facial expression related to hallucinations, severely distracted by hallucinations
- sluggish movements
- affective blunting, completely extinguished initiative

negativistic component:

- psychomotor negativism with resistance and ambitendency: sit in a peculiarly contorted manner, impulse-automatism despite contra-suggestions
- impulsive, negativistic excitement

New symptoms compared to the simple forms:

- **give no response to questions, barely face the examiner,** spoken to they pay attention only for a short period
- uncommunicative, withdrawn facial expression, animated only in reference to their hallucinations
- uniform repetitive movements, iterations, proskinetic hand movements carried out with little energy

Medical treatment of systematic catatonias

in general: there exist no type-specific treatments

acute and maintenance treatment

- characteristic symptomatology is not suppressed or resolved

- treatment of **dysphoric resentments** with antidepressant and/or anxiolytic and/or antipsychotic drugs
- negativistic or hallucinatory excitement with antipsychotic drugs
- manneristic omissions with antipsychotic drugs and/or ECT

- **work therapy and occupational therapy**

wkl

15. Fortbildungsveranstaltung

Internationale Wernicke-Kleist-Leonhard Gesellschaft

15. - 16. Juli 2016

Hörsaal des Zentrums für Psychische Gesundheit
Füchsleinstraße 15, 97080 Würzburg

Die Spannweite affektiver Veränderungen bei endogenen Psychosen