General psychopathology

1. Pathology of Perception. Illusions. Hallucination

Perception is a subjective mental reflection of subjects and phenomena; it develops of sensations, formation of an image, its addition by imagination. The following groups of pathological changes of perception are distinguished: illusions, hallucinations (true and pseudo-hallucinations), psychosensorial disturbances, and agnosias. Psychosensorial disturbances include depersonalization and derealization. Pathological fantasy generation refers to the pathology of imagination.

The process of perception consists of elementary sensations which are synthesized in the image of an object or phenomenon, distinguished by concreteness, integrity, constancy, categoricity, which are expressed by ability to correspond the perceived object to a certain class of objects.

Symptoms and Syndromes

In psychopathology disorders of sensations are revealed to which the following refer: **hyperesthesia, hypesthesia, anesthesia, paresthesia and cenestopathy, as well as a phantom-symptom.**

Hyperesthesia is the disturbance of sensitivity which is expressed in super strong perception of light, sound, smell. It is characteristic of the conditions after the suffered somatic diseases, cranio-cereberal trauma. Patients can perceive a leaf rustle at wind similar to roaring iron, and natural light — as very bright.

Hypesthesia is the decrease of sensitivity to sensory stimuli. Environment is perceived as faded, dim, and imperceptible. This phenomenon is typical of depressive disturbances.

Anesthesia is more often the loss of tactile sensitivity or functional loss of ability to perception of taste, smell, separate objects; it is typical of dissociative (hysterical) disturbances.

Paresthesia is the sensation of pricking, burning, creeping. It is typical of somatoform disorders and somatic diseases. Paresthesias are caused by features of blood supply and innervations, thus differing from cenestopathy.

Cenestopathies are complex unusual sensations in the body with experiences of moving, transfusion, dynamics. They are quite often mannered and expressed by unusual metaphorical language, for example, patients speak about replacement of tickling inside the brain, transfusion of liquid from the throat to the sexual organs, distension and compression of the esophagus.

Phantom-syndrome is marked in persons with the loss of extremities. The patient supersedes absence of extremities and as if feels pains or movements in the absent extremity. Frequently such experiences arise after awakening and are supplemented by dreams in which the patient sees himself with existing extremity.

The basic disturbances of perception are illusions and hallucinations. Patients may speak about these phenomena reluctantly or hide them.

Indirect signs of perception disturbances are:

-conversation of the person with himself (in loneliness or in the presence of others),

-unreasonable and sudden change of attitude to associates,

-the occurrence of new words (neologisms) in speech,

-mimic grimaces,

-propensity to solitude, change of mood,

-reduction of chewing muscles and sternocleidomastoid muscles,

-tension of the orbital area at half-opened mouth,

-a sudden glance aside at conversation,

-dissociation of facial expression, posture and gesture,

-not purposeful, unexpected gestures at rather motionless facial expression.

Illusions are a deformed perception of really existing objects: in the sound of falling water (a really existing stimulus) the voice (an illusory image) is heard. The basic characteristics of illusions are:

-the presence of an object or phenomenon which is exposed to distortion, for example, visual, auditory or other sensory image; -a sensory character of the phenomenon, that is, its connection with a concrete modality of perception; -the deformed estimation of an object, estimation of the deformed sensation as a real one; -disappearance of illusion after the estimation of thinking or inclusion of other modality, for example, at visual illusion the attempt to touch an object allows to exclude an illusory perception.

According to complexity the illusions are divided into: elementary, simple, complex, panoramic and paraeidolic (for example, images which we may see in a turn of clouds or pattern of a carpet).

According to sense organs the illusions are divided into: tactile, visual, olfactory, acoustical, proprioceptive and kinesthetic.

According to reasons of occurrence of illusions, they are divided into:**physical**, connected with objective properties of the environment, for example, caused by features of refraction of light or reflection of sound; **physiological**, connected with peripheral analyzers, for example, illusions of luminous light — luminescence around lanterns in patients with glaucoma; **mental,** in particular connected with expectation of any person whom we, being mistaken, suddenly see in a crowd; **eidetic**, connected with imagination.

Illusions are characteristic of neurotic disorders, and also of the first stages of development of consciousness disorders, for example, delirium. Some illusions occur at mentally healthy persons in special stress conditions of the environment. For example, at landing on the Moon cosmonaut Armstrong felt being shadowed that was connected with illusory perception of fluctuation of the aerial of the space shuttle.

Hallucination is the perception of an object or a sensory image, which arises without the presence of a real object, but is accompanied by confidence in the fact that this object exists. The term «hallucination» is introduced for the first time by J. - E. D. Esquirol in 1838. By a degree of complexity they are divided into elementary, simple and complex.

To elementary hallucinations, the most typical of epilepsy, simple sounds of a rumble heard from the outside, ring, hooter of a steam locomotive (acuphen), flashes of light or simple luminous figures which can be simulated at the closed eyes by pressing on eyeballs (phosphen), smells of decay or pleasant smells usually accompanied by sialorrhea (parosmias) refer.

Simple hallucinations are typical of organic cerebral affections. For example, at local affections of the occipital area of the left hemisphere the patient may observe the completed and subject image of a fish, human face or a hanging axe which is observed in a concrete place of space (Charles Bonne's hallucination). The patient may feel the moving of insects under the skin in a concrete zone of the body that is typical of organic affection of cerebral peduncle (peduncular [mesencephalic] hallucinosis).

Complex hallucinatory images remind of the dynamic phenomena. For example, the audible voice may comment events or associates, and a visible image may move, smile or cry.

According to sense organs, hallucinations are divided in the same way as illusions.

According to conditions of occurrence, hallucinations are divided into those preceding falling asleep — **hypnagogic** (these are usually consecutive images, reminding of frames of film) and those marked at the moment of awakening **—** **hypnopompic** hallucinations.

Hallucinations are also divided according to the space of their occurrence into **true hallucinations and pseudo-hallucinations**.

True hallucinations are projected in natural space, for example: voices are audible in the street or in a room; the image is visible directly in front of the

patient. By the contents true acoustical hallucinations may be **commenting** (voices explain the behaviour of the patient), **imperative** (voices force to do something), **conversational** (voices talk to each other).

At true visual hallucinations concreteness of images is so high that patients communicate with them as if with alive people, besides the patient is convinced that associates also see these images. True hallucinations tend to occur more often in the evening, it especially concerns visions.

At pseudo-hallucinations visions are transparent and incorporeal, they are closely connected to thinking and may associate with a concrete idea. The Russian poet V. Khlebnikov determined such connection as a «thought-form». Pseudo-hallucination images interfere with mentality violently, therefore they are explained by the patient as a result of influence of another's will, energy or force. Representation may arise that they speak by the patient's own voice, operating his organs of speech and consequently the stated ideas do not belong to the person at all (speech-motor hallucinations of Segla). They may also be combined with the ideas of management, for example experiences that mood is connected with an alien force, which operates movements of the body, ideas and intentions. This phenomenon is called **mental automatism.**

Acoustical pseudo-hallucinations are projected into conceivable ' space, for example, voices may be heard from another room which is well isolated, and even from other planets or come from the body. More often they are audible inside the head as sounding or inconsistent ideas. Pseudo-hallucination subject images inside the body are referred to as somatic hallucinations. It may be the experience of a concrete, frequently moving foreign body inside the abdomen — of a child, animal or mechanism. The internal image may have pseudo-hallucination ideas which it exchanges with the patient. Pseudo-hallucinations are the most typical of schizophrenia.

Psychosensorial disorders are sometimes considered intermediate between disorders of consciousness and perception. To these experiences of

depersonalization and derealization, as well as special syndromes described below relate.

Depersonalization is expressed by the following symptoms:

- changes of I, original sensations of transformation, more often negative, of own personality, accompanied by fear to go mad, experience of own uselessness, futility of sense of life and loss of desires. This condition is typical of affective disturbances and some neuroses.
- splitting of I, typical of schizophrenia and dissociative disturbances, is expressed in the feeling of presence of two and more persons in oneself, each of them has own intentions, desires.
- change of the body scheme is expressed in abnormal perception of the length of extremities, shortening or extension of hands and legs, changes of the form of the face, head. This condition is observed as a result of organic disturbances.

Derealization is expressed by the change of:

- colours, for example: at depressions the world may seem to be grey or with prevalence of dark blue tones, that is especially appreciable in creative work of artists (for example, E. Munk during depressions used mainly black, dark blue and green colours). Patients with manic conditions and at the use of at-ropine-like preparations mark prevalence of bright colours in the environment. Perception of red and yellow tones or a fire is typical of twilight epileptic states.
- forms and sizes: the environment may increase or decrease (syndrome of Alice in Wonderland), come nearer and move away, be constantly transformed. The patient may perceive the right side as the left one and vice versa (syndrome of Alice through the Looking-glass). Such conditions are characteristic of intoxications by psychoactive substances and of organic disorders of the brain.
- rate and time: the surroundings may seem extremely quickly varied, similar to the sequences of the old cinema (syndrome of the cinema) or, on the contrary, may seem delayed. In some cases it seems that months run as an instant, in others — the night is endless. Patients may say that they notice one and the same repeated plot.

All the specified experiences are connected with emotionality, for example, at good mood it seems that time flows faster, and at bad one — slowler.

To psychosensorial disturbances some conditions typical of epilepsy — **«already seen (heard)», «never seen (heard)»** — refer, which in general are close to the experience of «already experienced and felt». At the symptom of «already seen (heard)» the patient speaks about a new place, as if familiar to him, and, accordingly, about the new heard information, as familiar to him. He interprets it sometimes by dreams which were as if prophetical. At the symptom of «never seen (heard)» the patient assures that earlier familiar place or information are completely unknown and alien to him.

Hallucinatory-paranoid syndrome is such a syndrome at which the patient explains his hallucinatory images by, for example, prosecution or by special relation to him; but it so happens that in these syndromes the delusion is initial, and hallucinati ons occur later.

Kandinsky-CIerambout's syndrome includes experiences of automatism of ideas, desires, actions and emotions with delirious interpretation, more often in the form of delusion of control. In western psychiatry it corresponds to syndromes of the first rank at schizophrenia.

2. Pathology of Memory
Pathology of Intelligence

Memory is the process of accumulation, retention and reproduction of information. The following are distinguished: dysmnesia — hypermnesia, hypomnesis, amnesia, the phenomena of displacement and paramnesia — confabulation, pseudo-reminiscence, echomnesia, palimpsest.

Symptoms and Syndromes

Among derangements of memory dysmnesias are distinguishred:

Hypermnesia is characterized by involuntary inflow of memories of the past, the increased ability to imprinting, long retention of information and easiness of its reproduction. Hypermnesia is characteristic of some paroxysmal states, intoxications by psychoactive drugs, hypomania. As a symptom they may be at mentally healthy persons, in particular, such hypermnesia was at well-known pianist S. Richter who in many years remembered how the car in which he was taken to the concert many years before looked like and how the hands of the boy turning over pages of his score at the performance looked like.

Hypomnesia — weakness of memory resulting in difficulties of memorizing, retention and reproduction. It is characteristic of asthenic conditions, depression, and organic disturbances.

Amnesia is the loss of fragments of memory.

The following are distinguished:

Dissociative amnesia characterized by forgetting the emotionally significant traumatic events, is a special case of extreme replacement as natural property of memory to replace memories for traumatic event to the unconscious. Reproduction of memories in this case is possible in the course of psychoanalytic process or in hypnosis.

Retrograde amnesia is the loss of memory for events previous to trauma (more often — craniocerebral).

Anterograde amnesia is forgetting the events occurring after stress or a craniocerebral trauma.

Fixating amnesia is forgetting the current events, including conterminous to trauma, more often — to the events of the current day.

Progressing amnesia is characterized by the consecutive destruction of memory from the present to the past, thus events of the far past are remembered better than events of the present or nearest past. The law of the loss of memory from the present to the past is determined by Ribout's law.

Thus, disturbance of memory occurs at the majority of organic atrophic processes of the brain, in particular Alzheimer's disease and vascular dementia.

Reproduction of traces of memory may be broken as a result of speech disturbance — in these cases the patient cannot name the object because he does not remember how it is called, but remembers, what it is necessary for (amnestic aphasia).

Besides, reproduction of memory may be disturbed as a result of disturbance of recognition of an object (sensory aphasia) or disturbance of identification of applicability, sense of objects or phenomena (semantic aphasia). Sensory and amnesic aphasias are characteristic of local focal organic lesion of the brain, and semantic — of schizophrenia However, there are analogues of these psychopathological phenomena in usual life, for example, we may use objects, intended by their creators for other purposes, different from those we use them for.

Paramnesias are processes of distortion of memories.

They include:

Confabulation is replacement of sites of the lost memory by imaginations or fantastic delirious constructions (confabulate delusion). In these cases the patient speaks about ostensibly accomplished by him in the past feats, achievements, riches or crimes.

Pseudoreminiscences — replacement of sites of the disturbed memory by a fragment from another site of the past, which really occurred to the patient. The specified memories remind of mess of dates. A combination of fixating amnesia and retroanterograde amnesia with confabulations and pseudoreminiscences is typical of Korsakoff's syndrome.

Cryptomnesia — patients ascribe to themselves memories and data received from other persons, from literature sources. Sometimes these phenomena are called involuntary plagiarism. It is typical of organic disturbances and delusion.

Echomnesia — sensation that the event occurred earlier in the past or was seen in dreams and is further repeated. Supervaluable significance is usually attached to such events. It is typical of delusion and organic disturbances, in particular of delirious interpretation of the past.

Palimpsest — there is a double description of the given symptom. The first is as the short-term loss of memory at alcoholic toxic inebriation with narrowing of

consciousness and at pathological affect. The other definition of palimpsest is connected to simultaneous reproduction of two equivalent memories which fall on the same period of time, thus, the patient hesitates, which of them is essential and real. It is marked at disturbances of multiple personality, but is also observed in the course of psychoanalytic process.

Pathology of Intelligence

Intelligence is an integrative mental function including the ability to cognition, the level of knowledge and ability to use it. Among the disturbances of intelligence the intellectual retardation and dementia are distinguished, which are divided into diffusive and lacunar, and also developmental delay and defects.

Intelligence is thinking in operation. It reflects the integral ability to adaptation of mentality and is the instrument of the individual survival. At animals the I. Q. may be determined by the ability to decide the problems, for example by the speed of passing a labyrinth. For the development of intelligence a combination of genetic, including constitutional, factors and influence of environment, including education and training, is important. F. Halton established that intelligence is inherited. Probably, some forms of intellectual insufficiency, as well as abilities are inherited according to a dominant type, for example musical abilities, others — according to a recessive and polygenic type, though there are also the forms reminding of mutations, that is, single cases in families.

Symptoms and Syndromes

In pathology of intelligence **the intellectual retardation** and **dementia** are distinguished, which are divided into **diffuse** and **lacunar** ones, as well as **delays of development** and **defects.**

Difference **of intellectual retardation** from dementia consists in the fact that the former represents the initial insufficiency, while **dementia** — the acquired condition. The critical point is considered the age of about 3 years. If the child

loses his abilities up to this age, he is considered mentally retarded, if after it — suffering from dementia. The reasons of intellectual retardation may be genetic and acquired. Among the genetic reasons the genetic and chromosomal anomalies, mutations which lead to metabolic disorders are possible. Among the environmental reasons the influence of teratogenic, including genetic factors, damages at labor and the diseases acquired during the first three years of life are distinguished. For intellectual retardation, except for some metabolic processes, the increase of semiology is not typical, but even some progress is peculiar as a result of special training.

Dementia is expressed by acquired cognitive deficiency in the sphere of memory, thinking, learning, will activity. If the change of intelligence concerns only one function, for example memory, we speak about **lacunar,** i. e. **focus dementia**, dementia which is typical of atrophic dementias, for example Alzheimer's disease. If it concerns gradual decrease or loss of several functions, we speak about **diffuse dementia**. However, frequently these two types of dementia penetrate each other, therefore it is possible to say that the majority of dementias develop in dynamics — from a focus to diffuse one. Dementias more often have a continuous character, and they are irreversible.

Developmental delay is usually caused by specific conditions of environment, for example: education of the child by mentally ill parents, isolation, deprivation of normal training (as a result of economic difficulties). However, as against mental deficiency and dementia at developmental delay the fast gain of the level of intelligence is possible as a result of correct training; quite good abilities to adaptation in real life are also marked.

At schizophrenia **functional dementia (defect)** is marked, it is expressed by the fact that, despite inactivity and avoidance of new knowledge, coldness and detachment, patients produce imaginations and productive experiences. Besides, they may completely leave the condition of defect, including before death.

3. Pathology of Consciousness.

In psychiatry consciousness is defined as ability in concentration of attention and orientation in oneself, time and own personality.

Quantitative and qualitative disorders of consciousness are distinguished.

The **quantitative** disorders are torpor, sopor and coma.

The **qualitative** disorders are delirium, oneiroid, amentia, twilight state of consciousness, automatism, fugue and trance, double orientation.

Methods of Researches

The psychiatric model of consciousness is rather simple: it equates consciousness to orientation in oneself, time and space. Orientation in oneself includes comprehension of I — corporal, interpersonal and projected elements, orientation in time has only a calendar character, and orientation in space is formally territorial. A person should say, who he is, who he communicates with, to name the current date and place. If he does it approximately, they speak about the narrowed consciousness. If he cannot name anything correctly, they speak about disorientation. For definition of features of attention it is important to establish a degree of passivity of attention, the presence of clearness of perception (the patient looks closely at or listens to, asks questions again), a degree of weakening of memorizing and recalling, disturbance of comprehending, reduction of ability to judgements and conclusions. In speech at the minimal disorders of consciousness it is possible to reveal repetitions (perseveration), repetitions of a question (echolalia), increase of distance between words, increase of number of words such as «yes», «well», swallowing the endings of words.

Symptoms and Syndromes

Torpor (raush) is preceded by **drowsiness (somnolence)** at which the patient answers questions in a slowed-up way, sometimes with half-closed eyes, he is in lethargy and sleepy. Actually for torpor all minimal symptoms of the

disturbed consciousness are characteristic, that is, passivity of attention, unclear perception, weakening of memorizing, impairment of judgement, decrease of ability to judgements and conclusions. Euphoria and fussiness are possible.

Sopor — further disturbance of disorders of consciousness. It is characterized by disorientation, catching and proboscis movements and reflexes, muttering speech, uncoordinated movements. Painful sensitivity, papillary, conjunctivae and corneal reflexes are present.

Coma — the complete loss of consciousness. It is characterized by muscular atony, areflexy, mydriasis with absence of papillary reactions. Quantitative disorders of consciousness refer to exogenous disturbances and are marked at vascular impairment, heavy intoxications, endocrine disturbances, epilepsy (epileptic coma), after the brain traumas and in terminal stages of dying (vegetative coma). The outcome of coma is frequently characterized by the so-called out-body (extracorporal) experiences, which remind of sleep-like (oneiroid) experiences.

Delirium (the delirious syndrome) is characterized by disorder of orientation in place and time at preservation of orientation in own personality, inflow of frightening visual, less often acoustical hallucinations, fear. Hallucinations are more often zoooptical (animals, especially frequently reptiles, devils). The behaviour of the patient is determined by the contents of hallucinatory images. On outcome of delirium amnesia is absent. It is met at organic disturbances and intoxications and is considered to be an exogenous syndrome.

Amentia (the amentive syndrome) is characterized by complete disorientation, speech incoherence (thinking), gathering movements and a partial or full amnesia on outcome of amentia. At transition of delirium into amentia one of the first symptoms are mutter and gathering movements (delirium mussitans). It is found at organic disturbances and intoxications, refers to exogenous syndromes as well.

Twilight states are characterized by narrowing of consciousness with inflow of visual hallucinations frequently coloured with yellow and red tone (erythropsia)

and a partial or full amnesia on outcome of twilight. It is more often met at epilepsy.

Oneiroid (oneiroid syndrome) — disorder of consciousness with complete disorientation, inflow of space or apocalyptical visual hallucinations, outcome of oneiroid without amnesia. It is characteristic of catatonic schizophrenia, sometimes is found at intoxications by psychoactive drugs and epilepsy. It is considered mainly to be an endogenous syndrome.

Ambulatory automatism is characterized by loss of consciousness with automatic actions and amnesia. If such actions are accompanied by excitation, but proceed about several seconds (jogging, shutting the door with a bang), we speak about a fugue; if they last for a long time (some days), we speak about a trance. They are met at epilepsy.

Double orientation is characteristic of delusion, for example delusion of grandeur when the patient calls himself simultaneously a significant person and his own name, or at delusion of dramatization when the patient asserts that though he is in the given place, nevertheless this place is not real but dramatized.

Double orientation is also possible at dependence on a computer game when the patient considers himself actually as himself and names a real place and time, but simultaneously designates the person, place and time of the character of the computer game in which he has existed lately.

Pathological affect is an inadequate strong reaction to insult, humiliation, loss with the narrowed consciousness, aggression, autoaggression. Special ethnic changes of consciousness (amok, lou, mirriri) also refer to a pathological affect. According to the description of ethnographers, the Indian custom of self-burning of widows after the death of the spouse was frequently connected to affective narrowing of consciousness.

Plural consciousness is also distinguished at multipersonal disturbance, which is characterized by transition of personality into another personality with other habits, behaviour, name and amnesia of the previous person.