

## Topic 2.

### Informative processes (Memory, Perception, Thinking)

#### Memory

**Memory** - ability of the individual to fix, perceive, keep, and to renew the information and the gained experience. There is no kind of mental activity which would not lean against memory. As the information for storing emotional experiences, verbal messages, own thoughts, visions can serve. Depending on the perceived information the following kinds of memory are distinguished:

- **Emotional memory** - memory on feelings, as it is known positive emotions facilitate any storing. Emotional memory is strongly developed in children.
- **Verbally - logic (semantic) memory** - images and an essence of the phenomena, their sense are remembered not.
- **Figurative** - memory on sounds (it is well developed at musicians), pictures and images (are well developed, the visual memory of artists).
- **Impellent** - memory on movements, abilities (it is well developed at ballerinas, dancers).

Distinguished also are **short-term** and **long-term** memory.

#### Theories of Memory

As it is known the perception is the initial stage of the informative activity, the following stage is memory; process of reflection of an objective reality occurring in the past. Storing can involuntarily occur (besides the will of the person) at any stage (for this purpose it is necessary to make strong-willed efforts).

- **The associative theory** is based on storing of objects on similarity or contrast. Similarity can be for example on color, the form etc.

- **The neural theory** of memory is based on works of Hebb (1949). The theory consists in circulation (reverberation) of excitation on the closed nervous ways. Impulses constantly come back to the same structures of a brain, supporting them in wild spirits.
- **The biochemical theory of memory** - is based that DNA (deoxyribonucleic acid) and RNA (ribonucleic acid) are carriers of the genetic information.

**Memory process consists of storing, preservation (information deduction) and reproduction of the information.**

### **Memory research**

Memory research consists of several stages: memory studying on the remote past, on the recent past and current events. In conversation at rough infringements of memory of the patient cannot name a date of birth, age, names of the relatives etc. At insignificant decrease in memory patients confuse some events from the life, date of events. For memory research on current events of the patient ask about receipt date in hospital, a surname of the doctor that he a\*e yesterday and today etc. The most widespread psycho diagnostic technique of research of memory is the technique of learning of 10 words, offered Luria. The patient proposed a set from 10 words (wood, bread, water, a window, the brother, a mushroom, a needle, a horse, honey). After a while the patient is asked to reproduce the words remembered to it. In norm it is necessary to recollect not less than 8 words.

### **Control questions:**

1. Concept about memory.
2. What theories about memory do you know?
3. Memory process consists of what stages?
4. You know what kinds of memory?
5. You know what infringements of memory?

6. What is hypomnesia?
7. What is hypermnesia?
8. What is amnesia?
9. Memory infringements (paramnesia).
10. Name the basic methods of research of memory.

### **Perception**

**Perception** - complete display in consciousness of the person of processes and the phenomena at their influence on sense organs.

**Sensations** - reflection in consciousness of the person of separate properties of subjects and the phenomena.

**Informative process**, that is process of reflection of an objective reality - begins with sensation. Objects of external and internal world influence the central nervous system through external and internal proprioceptors.

**The receptor** - is a peripheral part of any analyzer. At irritation, impulses are transferred from the afferent receptors to the central areas of a cerebral cortex' and as a result we feel sensation. On the location of receptors of sensation, the following are indicated: exteriorreceptive - (skin, visual and acoustical), interioreceptive - receptors are located in an internal (a pain, feeling of hunger, satiety, thirst, a spasm) and proprioceptive - with which help the person feels change of position of a body, acceleration, sensation of balance.

**By the form the analyzer distinguish some kinds of sensations:**

1. Visual.
2. Acoustical.
3. Gustatory.
4. Touch (tactile, temperature, vibration, equilibrium).
5. Olfactory.
6. Proprioceptive.
7. Interoceptive.

Any sensation has quality, force and duration.

**Quality** - feature of sensation which distinguishes it from another, For example: on colour, on a voice timbre.

**Ability to adaptation** - by stimulus, the threshold of sensitivity to the stimulus is changed. For example, in a noisy workshop hearing is dull.

**Interaction of sensations** - under the influence of the stimulus of one sense organ, the sensitivity of another analyzer changes. For example, in a dark room, you begin to hear better.

**Duration of sensation** - time in which for a person remains impression of concrete sensation. Duration of sensation differs from duration of irritation (for example after a sting of a bee, the person feels pain for a long time).

Depending on force, duration and quality of sensation positive or negative emotions can be shown or expressed (for example the cool scent of lilaces promotes occurrence of pleasant feeling, and a concentrated aroma promotes headache and dizziness).

**Synaesthesia** - the irritation of receptors of one analyzer leads to automatic, involuntary experiences in a second analyzer. A so-called phenomenon of "color perception" (for example Rimsky - Korsakov perceived difficult chords painted in lilac - golden colours).

**Properties of perception:** concreteness (allocation of a subject from a background), activity, selectivity, constancy (we perceive the object: hairstyle, clothes, but the person is not present), apperception, intelligence and generality. In the course of perception sets of sensations are recreated as concrete images of subjects and the phenomena is compared to last experience.

listening to voices. Patients with visual hallucinations search for hallucinatory images: look under bed, banish insects, animal. Patients with tactile hallucinations comb skin, causing itself damage, exposing the veins.

**Apperception** - dependence of perception of subjects and the phenomena on previous experience of the person, from its individual personal features (For example, everyone looks at man in different ways: a psychiatrist, the orthopaedist).

**Physiological basis of perception** - interaction different analysis systems and education of conditioned reflexes on complex stimulus and reconstruction of images.

**Images when** perceived in the past can be recovered in consciousness. The result of revival of the images perceived in the past is called as **representation**. In informative activity representation takes intermediate place between perception and thinking. The ability of the mirror to exactly reproduce previously submitted by the former perception is Eideticism. Distinguish Eideticism visual, acoustical, tactile. As example ability of artists after drawing from nature precisely can reproduce appearance of the model in its absence (ability to remember image). Infringements of sensations, perception and representations.

### **Methods of research of sensations, perception and representations**

The basic methods of research are the conversation, gathering of complaints and the anamnesis, survey and supervision over the patient testifying to inadequate behaviour. At auditory hallucinations, patients close ears, cover head with pillow, can speak with voices, grimace and wriggle. Thus the mimicry, gestures, emotions and answers don't correspond to conversation theme; patients can be silent, listening to voices. Patient with visual hallucinations search for hallucinatory images: look under bed, banish insects, animal. Patients with tactile hallucinations comb skin, causing itself damage, exposing the veins.

### **Control questions:**

1. Concept of sensation.
2. Sensation mechanisms.
3. List properties of sensation.
4. Sensations and emotions. Synesthesia.
5. List kinds of sensations and their feature.
6. Perception definition.
7. The perception mechanism.
8. List properties of perception.

9. Apperception.

10 What is the representation?

11. Concept Eideticism.

12. A pathology of sensations: the characteristic hyperesthesia, hypoesthesia, paraesthesia, anaesthesia, senestopathy.

13. A perception pathology: illusions and hallucinations.

14. Infringements of touch synthesis: derealisation and depersonalization.

15. Methods of research of sensations, perceptions, representations.