



NEUROPSYCHOLINGUISTIC FOUNDATIONS OF HUMAN THOUGHT AND
ITS CULTURAL EVOLUTION

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ANNOTATION

This thesis analyzes the neuropsycholinguistic foundations of human thought, the interrelationship between language and thought, and the cultural evolution of human consciousness. The study examines brain-related mechanisms of linguistic activity, functional asymmetry of the cerebral hemispheres, primitive and modern forms of thought, Eastern and Western cognitive styles, and the impact of contemporary information and communication technologies on human consciousness from a neuropsycholinguistic perspective. In addition, the formation processes of mythological thought, magical beliefs, and syllogistic reasoning are explained based on scientific sources.

Keywords: *thought, neuropsycholinguistics, phylogeny, prelogical thought, cerebral hemispheres, mythological thought, imagery, analytical thought, communication.*

Human thought is one of the most complex and fundamental phenomena in human development. Through thought, a person interprets the environment, perceives reality, generalizes experiences, and produces new knowledge. Language, as the principal medium of this process, serves to express, shape, and transmit human ideas. Therefore, the study of the relationships among language, thought, and consciousness remains one of the important directions of contemporary science.

Today neuropsycholinguistics, as an integrative discipline, plays a special role in investigating these complex relations. This field has emerged at the intersection of linguistics, psychology, neurobiology, anthropology, and cognitive sciences, and examines the neurophysiological bases of human speech and thought. In particular, analysis of the brain's functional systems associated with language opens up the possibility of explaining the biological and cultural foundations of cognition.

Cognition has continually changed over the historical development. Whereas primitive human thought tended to be more imaginative, concrete, and mythological character, modern thought is distinguished by analytical, and scientific features. This evolution is closely linked to the development of language, the emergence of writing, and the formation of science and educational systems.

The main purpose of this thesis is to analyze, on the basis of scientific sources, the neuropsycholinguistic foundations of human thinking, its historical and cultural evolution, as





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well as the transformations occurring under the influence of modern communicative processes.

In the nineteenth century, the French physician Paul Broca identified the brain region responsible for speech production. Later, the German neurologist Carl Wernicke discovered the center responsible for speech comprehension. These scientific discoveries proved that human speech activity is carried out through specialized functional zones of the brain.

In the twentieth century, the prominent neuropsychologist Alexander Luria developed the theory of the systemic organization of brain activity. According to the scholar, human thinking and speech arise from the interaction of several functional blocks. Luria distinguished the following three major functional systems:

- the system responsible for maintaining energy and wakefulness;
- the system responsible for receiving and processing information;
- the system responsible for planning and controlling activity.

Thus, human thinking is not the product of a single brain center, but rather the result of the complex integrative activity of the entire brain system.

The relationship between language and thinking is considered one of the central issues in psycholinguistic research. Language serves as the external form of human thought, through which individuals formulate, generalize, and communicate ideas. Words, metaphors, and grammatical constructions shape specific cognitive models in human consciousness. Therefore, language is not only a means of communication but also a fundamental mechanism that structures human thinking.

For example, humans often comprehend abstract concepts such as time and space through metaphorical images. This demonstrates the deep neurocognitive connections between language and thinking.

The historical evolution of human thinking has been extensively studied within the fields of anthropology and ethnopsychology. Research indicates that thinking in primitive societies was predominantly figurative and mythological in nature. The French philosopher and ethnopsychologist Lucien Lévy-Bruhl referred to primitive thinking as “prelogical thinking.” According to the scholar, primitive human thought was based not on the laws of logic, but on the principle of participation. According to this principle, mystical connections were believed to exist between phenomena that were similar to one another or appeared close together in time and space.

These beliefs contributed to the formation of magical and mythological representations. The English ethnographer James George Frazer, in his famous work *The Golden Bough*, identified two fundamental principles of magic:

- the law of similarity;
- the law of contact (contagion).

Homeopathic magic is based on the idea that “like produces like.” For instance, it was believed that harming a representation or image of a person could produce harm to the person





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themselves. In contagious magic, it was believed that a mystical connection remained between objects that had once been in contact with one another. Consequently, it was assumed that a person could be affected through their hair, nails, or clothing.

Olga Freidenberg identified three principal characteristics of primitive thinking:
concreteness;
inseparability;
imagery.

According to the scholar, primitive humans perceived not abstract concepts, but rather concrete images. Time and space were also conceived as tangible objects. Therefore, primitive thinking possessed an emotional and mythological character.

Modern neuropsychology demonstrates that human thinking is closely connected with the functioning of the cerebral hemispheres. The brain consists of the left and right hemispheres, each of which performs different functional tasks.

The left hemisphere is primarily responsible for:

Logical thinking, for example, logical thinking in the left hemisphere can be observed when a person solves a mathematical or syllogistic problem through step-by-step reasoning:

- All humans are mortal.
- Socrates is a human.
- Therefore, Socrates is mortal.

Analytical reasoning, for instance, if a computer does not turn on, a person may analyze the situation step by step:

- Check whether the computer is connected to electricity;
- Examine the power cable and battery;
- Determine whether the operating system is functioning properly;
- Compare possible causes and identify the most likely problem.

Deductive inference, in this process, the brain draws a logical conclusion from general premises. For example,

- All birds have wings.
- A sparrow is a bird.
- Therefore, a sparrow has wings.

Processing grammar and syntax, this is understanding the difference between the sentences. For instance,

- “The boy chased the dog.”
- “The dog chased the boy.”

Although the same words are used, the left hemisphere analyzes grammatical structure and word order to determine the meaning of each sentence.

Perceiving sequences and order, this can be observed in tasks that involve following step-by-step instructions, such as a recipe. For instance,

1. Boil water;





2. Add pasta;
3. Cook for ten minutes;
4. Drain the water.

The left hemisphere helps organize actions in the correct chronological and logical order.

The Paul Broca and Carl Wernicke centers are also predominantly located in the left hemisphere, where they regulate speech production and speech comprehension.

The right hemisphere is associated with:

Figurative thinking- The right hemisphere helps people think through images, symbols, and visual representations rather than through strict logic or words. For example, imagining a landscape while reading a novel or visualizing shapes in art involves figurative thinking.

Intuitive perception- This refers to the ability to understand or sense something immediately without conscious analytical reasoning. For instance, a person may feel that someone is upset simply from their facial expression or tone of voice, even before any words are spoken.

Emotional experience- The right hemisphere plays an important role in processing emotions such as happiness, sadness, fear, or excitement. It also helps people recognize emotional cues in others through gestures, facial expressions, and intonation.

Artistic and aesthetic perception- This function is related to appreciating beauty, music, painting, poetry, and other forms of art. For example, enjoying a melody, interpreting a painting emotionally, or responding to poetic imagery involves the activity of the right hemisphere.

the comprehension of metaphors- The right hemisphere helps individuals understand figurative and symbolic meanings beyond literal language. For example, in the expression "Time is a thief" the brain interprets that time "steals" moments of life, rather than understanding the sentence literally.

During the process of reading a literary text, the left hemisphere analyzes grammatical and logical structures, whereas the right hemisphere processes imagery and emotions.

In the twenty-first century, the development of information and communication technologies has exerted a profound influence on human thinking. The Internet, television, advertising, and social media transmit information not only in logical forms, but also through emotional and figurative representations.

As a result, the role of the right hemisphere in communicative processes has been increasing. The expansion of visual information is giving rise to new

Human thinking is shaped through the complex interaction of biological, psychological, and cultural factors. Neuropsycholinguistics, by examining the relationship between language, thinking, and consciousness, makes it possible to explain the deeper mechanisms of the human psyche.

Research demonstrates that while primitive thinking was predominantly figurative and mythological in character, the course of cultural development transformed human cognition





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into a more analytical and abstract form. The functional asymmetry of the cerebral hemispheres, in turn, contributes to the formation of different cognitive strategies.

Modern information and communication technologies are causing new transformations in human consciousness, strengthening the communicative and emotional dimensions of thinking. Therefore, neuropsycholinguistics is increasingly developing not only as a biological and psychological discipline, but also as an important field within cultural and anthropological studies.

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