



## **STUDYING THE CHARACTERISTICS OF INTUITION AND SYNERGIES IN SCIENTIFIC KNOWLEDGE**

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### **Abstract:**

This article reflects the scientific basis of intuition in the world of science, synergetic analysis, the place of memory and attention, balanced connections between the conscious and the unconscious.

**Key words:** cognition, scientific cognition, intuitive cognition, synergetics, scientific thinking, memory, attention, imagination and imagination.

### **Introduction:**

Man has always sought to know the structure of the universe, the laws of development of things and events in it. In the process of knowing, there are cases when a person unexpectedly, by chance, needs to make a quick decision in a situation where information is limited, he makes his decision "as if he sensed it in advance", "as if it should be done exactly like this". One of these states is what we call intuition.

Intuition is a unique way of generating true knowledge, a complex phenomenon of cognition. In science, the mechanism of intuitive knowledge was not known for a long time. Because of this, various views, approaches, and theories about intuition have appeared. Different views, different approaches, and different doctrines appeared about intuitive knowing. Some have deified intuitive knowledge and expressed the opinion that it is characteristic only of great and classical people, while others put forward views that it is characteristic only of the creative process, that is, the process of scientific discoveries, inventions and artistic creativity. From their point of view, intuitive knowledge is a transition from an old idea to a new idea in the creative process, that is, a leap. According to another group of researchers, intuition is related to creativity, intuition is the birth of a new idea. In fact, intuition is related to the creative activity of a person, which happens when a researcher or creator is completely occupied with something, when a new idea suddenly comes to his mind. Intuitive cognition is actually an aspect of the human cognitive process, that is, it is not only characteristic of the creative process, but also characteristic of the normal everyday practical cognitive activity of a person. Intuitive cognition is closely related to other forms of human cognition and complements them. "

### **Materials and Methods**

Pythagoras (576-496), one of the ancient Greek philosophers who first thought about the role of numbers in the world of thought, is directly related to the theory of knowledge.

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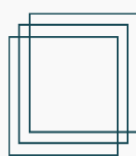


Pythagoras knows that the basis of the universe is numbers, so he connects his knowledge with these numbers. So, according to Pythagoras, existence is numbers, we need to understand the essence of numbers in order to know the essence of existence. In our opinion, the totality of things and events in existence has its own specific form, characteristics, signs, and quantity, and it should be said that the quality of things and events is determined due to the quantity in a certain sense. This situation is known to us as the law of reciprocal transition of quantitative changes to qualitative changes, that is, one of the laws of dialectics. This law "reveals the most general way of development of nature, society and thinking". At the moment, quantity and quality are one of the philosophical categories that provide comprehensive knowledge about the interrelationships of things and events.

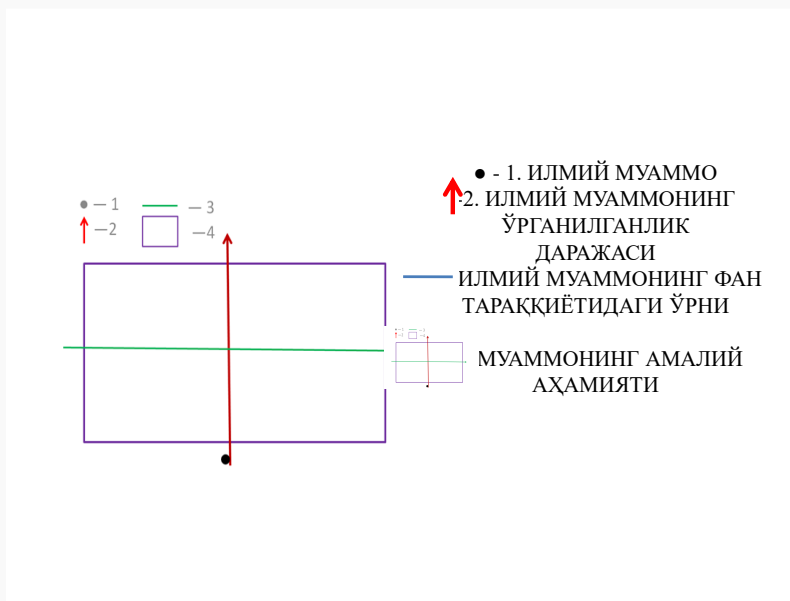
As we know, knowing the world is a complex and exciting process. One of the problems that have interested philosophers since time immemorial has been questions such as knowing the universe, whether it is possible to know it, and if possible, to what extent a person can know it. In understanding the universe, scientists initially paid more attention to emotional cognition and mental cognition. They believed that through emotional and mental cognition, the essence of things and events, their interdependence, and different characteristics can be understood.

In our opinion, the mental activity of a person has a complex process, in which the first simple ideas about the world give rise to the process of knowing, the way of thinking. The development of the cognitive process depends on a change in the way of thinking. Increasing changes in the way of thinking determines that the cognitive process has a certain stage. The stages of the cognitive process are formed in the developed new way of thinking. It can be said that the process of thinking is important in the process of knowing. While the process of knowing is relatively slow and continuous, the process of thinking has a complex structure like discontinuities and jumps. Thinking about thinking acquires the character of integrity, harmony. The emergence of a new thinking process in the human mind is expressed in intuitive thinking. Intuition acts as a turning point in the human mind, a necessary link in the chain of development. Therefore, the dependence of the cognitive process on the way of thinking is of great importance for scientific knowledge and practical activity. It allows us to correctly understand the development process of the objective world, to have a comprehensive knowledge of things and events, to understand intuitive thinking and to use it in the further development of society.

Pythagoras was right about the reasoning that numbers depend on existence, development, knowledge. Realizing the essence of things and phenomena creates an opportunity to understand not only their qualitative and quantitative characteristics, but also the mutual dialectical relationship between them, as mentioned above. In nature and society, as a whole, things and phenomena exist because of each other, this process finds its expression in the dialectical relationship between them.



We will consider the reasoning as an example in the opinions given by Pythagoras. According to him, "point" is number one, number two is "straight line", number three is "plane" and finally number four is "whole body". The idea the following drawing through describe can :



Saying may know \_ about the object in process whole of information sum intuitive thinking formation possibility creates \_ In the views of Pythagoras rational thinking with of intuition that it is connected let's see can \_

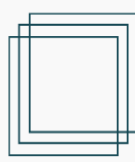
Mathematics to know in the process importance French scientist , philosopher , one of the founders of geometry one Rene Descartes (1596-1650) in his "On Method Mathematical knowledge in the work "Observations " . a person mind , nature special , such knowledge the most main that knowledge \_ calculated was \_ Also in the field of mathematics work take went scientists to the concept of intuition separately their attention they look In particular , the present time the direction of intuitionism in mathematics was formed . This direction german philosopher I. Kant , French mathematician and philosopher Henri Poincaré and Dutch mathematician L. Brauer basis leave it Current time epistemology and in science directly scientific creativity in practice , primarily mathematics, chemistry , theory in physics many great discoveries are in the form of intuition to the body the arrival known . Henri Poincaré, Jacques Adamard, Leon Brauer, German Weyl and others mathematical creativity without intuition imagination do it they can't . Current time of geometry important department of taftology\* to the body on arrival his the founder A. Poincaré's " geometric " Intuition " played a big role . Taftology main Poincaré's concepts are intuitive obviously has been imaginations based on before pushes \_ Henri Poincare discovers innovation through intuition the creation of a mathematical idea from earlier old mathematical ideas cause not issued that counts.



In mathematics makes sense from the evidence besides, knowledge summarizing new synthetic considerations \_ and ideas forward push that Poincaré intuition calls \_ Ours In our opinion , intuition is certain ideas summary in the system harvest to be to know process . L. Brauer in mathematics his own all hopes logic only with not by intuition connected . "It is intuition in mathematical creativity of mathematics the only one source , mathematics disconnected cut off justification basically and mathematical theories authenticity criterion that announcement did \_" From this except in mathematical knowledge of symbols creative to the role many great mathematicians attention they looked Big german Mathematician Felix Klein of mathematical symbols to the power a joke mixed " Pen from man stronger \_\_ definition gave was \_ In this he signs using new the truths discover reach for own thoughts on paper pencil using characters in the form of to understand possible that mean held \_ The classic electrostatics of the great physicist Heinrich Hertz Maxwell equations about so said : " This great theory while studying time time in mathematical formulas with soul and mind perception as they are from us , even own from the author smarter being it seems ." said was \_ Saying perhaps intuitive \_ thinking in formation of numbers , sign and symbols , mathematical thinking own importance has said \_ for consideration we will come The Greek philosopher Heraclitus (530-470) notes that the problem of intuition has a social nature. He calls the wise men in the society "the chosen ones": "They stand out from the crowd, have sharp eyes and divine intuition. " In this opinion, we come to the opinion of Heraclitus that a person with intuitive thinking can be wise and he can lead a society wisely. One of the famous representatives of Islamic philosophy and jurisprudence who supported the ideas of Heraclitus, Maulana Muhammad Qazi, emphasized the need for the ruler to be able to foresee the events and incidents that may occur in the society and to be able to understand the dangerous problems for the people in advance. " in the work "Ingenuity is shown as one of the ten qualities that a ruler must have. " Also, Abu Nasr Farabi, one of the thinkers who expressed his moral and political views about man, his essence, role in society, goals and tasks in the philosophical teachings of Central Asian thinkers, in his treatise entitled "The people of the noble city", Abu Nasr Farabi, in his treatise "The people of the noble city" should fulfill the intuition that is considered a spiritual phenomenon also offers intuitive ability as one of the ten requirements. Here, intuition can happen in the management of society, while science and reason are powerless to regulate events, the manager's intuitive ability makes it possible to find a solution to any problem. Farabi evaluates the higher stage of knowledge as intellectual, that is, logical knowledge, and intuition as logical. Therefore, in the process of classifying sciences, he evaluates the science of logic as the art of thinking correctly and compares it to the science of grammar: "just as grammar ensures the correctness of human speech, logic ensures the correctness of thought. According to Farabi, human activity is characterized by comparison, politics, activity and foresight of events.



According to Farabi, knowledge consists of the reflection and expression of things and events in the human senses and mind, real objects that exist outside of a person affect a person and create their own images in him, and due to this process, a person acquires knowledge about the substances and accidents that surround him. The initial information comes to a person from the outside - through the senses, then memory and imagination come into play. The highest level of knowledge, according to Pharaoh, is rational thinking. When the senses reflect the qualities and characteristics of things, the mind penetrates into their essence. "The mind is capable of knowing what is hidden behind the color," he says. Knowing takes place in two stages—emotional and mental knowing. "Mental power" represents the mental reflection of things in existence. The scientist says that after learning the essence and causes of things on earth in the process of cognition, a person begins to strive to know the heavenly bodies and their forms, and at this last stage, he merges with the universe, which shows its influence on a person. and will have the quality of eternity. One of the Greek philosophers, Plato (428-347), who called Heraclitus' "World of Virtue and Beauty" the "World of Ideas", said: "The process of human knowledge is a complex process that exists independently of the conditions of time and the changes of existence. "- puts forward the opinion. This idea can be found in the concept of philosophical intuition of the French philosopher, winner of the Nobel Prize in literature, Henri Bergson. According to him, "With the help of intuition, the philosopher penetrates into the essence of the subject of research, philosophical intuition is a specific internal impulse that creates a philosophical system independent of time and space." In our opinion, we can see a situation related to human memory, attention, and understanding in the process of cognition. The following thought of Plato continues this reasoning. "In the process of knowing, a person strives towards the beginning, not the end." Focusing on the importance of memory in the process of cognition, it is the mental process of remembering and, when necessary, retrieving perceived objects and events or past experiences. At the same time, Plato also expresses thoughts about the human psyche: "There are some strange desires hidden inside the human psyche, which manifest themselves in dreams." In our view, concepts such as understanding, imagination, memory, attention, insight form emotional and intellectual cognition in the process of cognition, and it is directly related to the psyche of a person and is manifested as a result of finding a solution to a problem in the unconscious, that is, in a dream. The human spiritual world has a special place in the process of cognition; the solution of the problem in the dream, the unexpected appearance of a new idea in the unconscious is a clear proof of this. As we know, in the history of mankind, there are many examples of scientists, designers and artists making new discoveries in their field. In particular, the Russian scientist D. I. Mendeleev worked three days and three nights while compiling the periodic table of elements, but he could not complete this task. After that, the tired scientist falls asleep on his desk, and in his dream he sees a table of these elements arranged in an orderly manner.

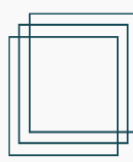


### **Conclusion:**

According to the sources, "Intuition is not a principled deviation from ordinary ways of perceiving reality, it is a legal form related to the logical form and practice of the occurrence of these ordinary ways. "Suddenly" noticing the truth is based on accumulated experience, previously formed knowledge. Meanwhile, "experience" is imagination concept with directly depend \_ To this the following examples we bring possible : I. Newton's per head don't take down leaving As a result, "The whole world gravity "law " decision found \_

### **Consideration**

Isaac Newton (1642-1727) English physics, mathematics, mechanics and astronomer, one of the founders of classical physics one \_ " Naturally mathematical principles of philosophy " fundamental of his work the author, then he is whole universe gravity the law and the three laws of mechanics present did \_ Integral and differential calculus, colors theory work came out That's it period Galileo, Copernicus and Kepler's discoveries known to be despite, Cambridge at the university Natural science and philosophy from sciences Aristotle to the doctrine relying on trainings was \_ A lot of Newtons He studied astronomy, mathematics, phonetics and optics all to the news interested left \_ Young a guy even music theory, in general, itself for new has been and mind which all things too learned. Isaac Newton in 1664 independent work started \_ He is human and of nature main problems determined. This year the department of mathematics of the university teacher in the life of the gifted mathematician Isaac Barrow appear from being after of the student biography case changed. A bit time later, Barrow Newton teacher and part time of a scientist one how many from friends one it happened Newton to mathematics through Barrow love more increased, he is science serious to learn entered \_ Soon he is in the field of mathematics the first discovery is rational exponential binomial decay with to be proud of possible was \_ The result is Isaac of light corpuscular model discover it is light from the source flying outgoing, eng near to the fence right line with moving particles flow determined. This model that's it from being objective in period very long was, but for classical physics basis it happened His using events of physics modern concepts later on was formed. That's it William Stukeley antiquary of the period historian and was an archaeologist, with his friend Newton has been the events of April (April 15, 1726). so describes: " Mr. Isaac Newton pilgrimage did ... and whole the day with him I spent Air good It was from lunch after apple trees under in the garden sitting down tea we drank Other things with one in line, he to me under the same circumstances the first in line matter attraction to do nature - from a tree fell apple with that he understood said \_ " What? for this apple always falls perpendicular to the ground? What for it up does not fly, sideways or diogonal won't fall?" - says Newton.



And I knew that Newton was in his mind this condition gravity is where the object is located height with decrease , the object and the center of the earth between distance per square reverse proportional respectively to change guess doer thoughts appear it happened This of calculations results , itself as you can see , almost perfect united . It is also like this gravity another orbital of actions reason to be possible and calling it "universal gravity". "

Aristotle intuition ready knowledge sum that calls \_ His according to this knowledge never how to the analysis needs not them \_ doubt under get possible not \_ So Aristotle means This is the intuition ready of knowledge the product of knowing higher phase , that is for consideration we will come

### **Summary**

First of all, it can be understood from the philosophical views of Pythagoras that number, number - their addition and subtraction, multiplication creates the formation of the first thought process in the human worldview. The views of Pythagoras reflected the integrity of the process of knowledge. Meanwhile, philosophers such as Pythagoras, Plato and Aristotle mean holistic wisdom when they say "philosophy". Regarding number, numbers, "Plato hangs the inscription on the facade of his philosophical school: "He who does not know mathematics should not enter my presence."

**Mathematics teaches a person to think philosophically.** As he teaches people to know from a small point to the infinite universe, he forms knowledge by putting the dialectical relationship of order and chaos in the world into a whole system. From this point of view, we can give the following formula for this conclusion:

***Sonlar+thinking=intuition forms a synergistic state.***

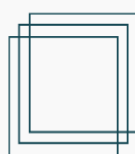
**Secondly**, the role of intuition in social life is clearly reflected in the views of Heraclitus. The philosopher assumes that the ruling ruler knows the various processes occurring or may occur in the society and the problems that arise as a result of the interaction of these processes and has a holistic knowledge of the society. In this opinion, we can see that **intuition forms in a person not only predictability, but also high moral qualities** . It is known that ethics is a social phenomenon, a social problem includes natural-scientific problems, and the following formula is derived from it:

***Social thinking + moral thinking = the strategic position of social life has been formed.***

**Thirdly**. In the thoughts of Empedocles, Al-Kindi and B. Spinoza, we can observe the issues of body and soul. As we know, man is a biosocial being. It is known from history that initially material need resulted in material production as a result of material appropriation. Later, spiritual production arose in people due to the first simple ideas about the world and mental work.

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Man has become a force that produces material and spiritual blessings at the same time. This in case we in man the body and soul harmony let's see can \_ To this example as art work we get possible , that person too physically too spirit to action encourages . Knowing in the process while emotional from knowing mental to know towards or , on the contrary , mental from knowing emotional to know has been movement intuitive knowledge to form possibility creates \_ saying we can and the following the formula we bring :

**Zhism + ruh \u003d intuition .**

**Adabiyotlar:**

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