

# The Concept of Number. The Establishment of the Concept of Natural Number and Zero

<sup>1</sup>Usmanov Mahsud Tulkin o'g'li and <sup>2</sup>Saipnazarov Jonibek Muhammadiyevich

<sup>1</sup>Tashkent University of Information Technologies

Karshi branch 3rd year student

+99891 947 13 40

[maksudusmonov22@gmail.com](mailto:maksudusmonov22@gmail.com)

<sup>2</sup>Teacher of Software Engineering, Karshi branch of TUIT

+998997356563

**Abstract:** Numbers and actions were not invented by anyone. In ancient times, people needed to know arithmetic, how many sheep there were in the barn, and how many sacks of wheat there were in the barn.

**Keywords:** the emergence of the concept of natural numbers and zeros, the concept of numbers, the method of calculation, the naming of two numbers.

## I. INTRODUCTION

In ancient times, people did not know how to count, but thousands of years later, a clay potter made a body for each sheep. One day, as the sheep entered the sheepfold to make sure that the sheep was not lost, the shepherd fell asleep. In addition, in addition to sheep, people have cows and goats. So we had to make other figures out of clay. The landowners calculated the harvest using clay figures and small stones. They knew how many sacks of wheat were in the barn, and how much butter was burned from the cream. Solved simple addition and subtraction problems by adding and subtracting things.

## II. MATERIAL AND METHODS

There was enough practice to move clay figures and pebbles from one place to another. Thousands of years later, people learned to recount objects. To do this, they need to think about naming the number.

The study of the languages of different peoples and nations gave rise to the names of numbers. For example, for humans, the shape of an object played a big role in the calculation, such as "two eggs," "two stones," "two eyes," and so on. Initially only the numbers 1 and 2 were named.

For a number, the word "one" is related to the simple word "sun," and the number two is associated with a variety of objects.

connected, i.e., "ear," "foot," "hand," and so on. Sometimes associated with the pronouns "I" and "you". Languages that recognize "one" as "male" and "two" as "female" are rich. The words "one" and "two" are followed by "many." Then it was necessary to name other numbers. In doing so, they used the numbers 1 and 2. For example, people on the Pacific island of New Guinea thought 3 was 1 and 2, 4 was 2 and 2. They put 10 as "many" and 100 as "more." Some people later accepted 3 as "one, two, many". Even now, after making tea, the mother, upset with her son, says, "What do I have to say three times?"

The number 3 has always divided the surrounding earth, subterranean and cosmic kingdoms. So for many locals, the number 3 is valuable.

Sometimes the word "many" is seen as the number 7.

For example, "Seven people are not expected by one person", "Measure seven times and cut one". So those who could think of counting slowly.

## III. RESULTS

The people harvested a lot of crops. It takes 2 to 50 repetitions to say the word "face." They switched to the old method of counting, i.e. counting using fingers.

The fingers acted as an excellent calculator. With their help it is possible to count to 5, if we take two sheep, to 10. Then people took another step in counting and counted 10 requirements. It is true that many people are involved in this at once. Fingers are

directly related to counting, and the word "count" in ancient Greek means "five." In Russian, the word "besh" means "pyat", which means sheep. In England, the number 10 is called the "fingers". This means that the British once counted with their fingers.

The concept of natural numbers is one of the basic concepts in mathematics. It, like the whole science of mathematics, came into being as a result of the needs of human practical activities. The need to compare different finite sets has led to the emergence of natural numbers.

During its development, the concept of natural numbers went through several stages. Among the collections given in ancient times to compare finite sets, or

established a one-of-a-kind correspondence between the subset of one set and the subset of the other set, i.e., at this stage, people perceived the number of sets of items without counting them.

Over time, people have learned not only to name numbers, but also to designate them, and to perform operations on them. In ancient India, the decimal system and the concept of zeros were created. Gradually, the idea of the infinity of natural numbers began to take shape.

After the formation of the concept of natural numbers, numbers became independent objects, and the possibility of passing them as mathematical objects c formed. The science that began to study numbers and operations on numbers was called Arithmetic. It is no secret that the numbers 1, 2, 3, 4, 5, 6, 7, 8, 9 are used in the designation of objects. The smallest number, 1, is the sum of the following numbers.

The numbers used to count things are called natural numbers. Natural numbers are written as 1, 2, 3, ...

Putting three dots after the comma means that the natural numbers continue in sequence. If the smallest number is 1, is there a larger number? The notation 1, 2, 3, ... means "the number of natural numbers is infinite."

We use the decimal number system. The notation of numbers representing the position of a value is called a positional system. You can write any natural number using the numbers 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9.

Keep in mind that the number 0 is not a natural number. The natural number can be read in groups of 3 from the right. This group is called a class. We study mathematics using the classes of ones, thousands, millions, and billions, the first four numbers.

To read the number 26 902 718 586, you need to say the number of each class in order from left to right and add a name to it, i.e. "26 billion 902 million 718 thousand 586".

Arithmetic originated in the countries of the ancient East, Babylon, China, India, Egypt. The mathematical knowledge accumulated in these countries was developed and continued in ancient Greece. In the middle of the century, mathematicians from India, the Arab world and Central Asia, and from the 18th century onwards, European scientists made significant contributions to the development of arithmetic.

4 - E. Jumayev 49 www.ziyouz.com Library There are three different approaches to building a set of natural integers:

#### **IV. DISCUSSIONS**

- 1) based on set theory;
- 2) on the basis of axiomatic method;
- 3) on the basis of measuring quantities.

After the development of the theory of sets by G. Cantor in the 19th century, the theory of natural numbers was developed on the basis of this theory. At the heart of this theory is the concept of finite set and one-dimensional compatibility.

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