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THOUGHTS ON THE ORIGIN OF UNITS OF MEASUREMENT AND THEIR USE BY HUMANS

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ABSTRACT
In this article is discussed the origins of units of measurement and their use by humans. It is very important from a scientific point of view to know the name, quantity, reasons for various units of measurement, who used them and what names they are called in the sources. There is no direction in which people can reach their sphere of activity, but without the help of measurements and their means, they can learn, seek and achieve their goals.
KEY WORDS: *units of measurement, quantity, value, gas, centimeters, weight, zakat,*

INTRODUCTION

We know, today, in all developed countries, these services are regulated by law. Since the system of units of measurement is included in school textbooks, almost every one of us has information about it. But many are interested in what units of measurement our people used in the past. It is very important from a scientific point of view to know the name, quantity, reasons for various units of measurement, who used them and what names they are called in the sources.

Whatever science the human mind may study, form and develop with its mind, we will not follow its direction, we will inevitably encounter measurements, their different methods and relationships. With the help of these methods and measuring instruments, which ensure their unity, a single measurement with the required accuracy is carried out only through the science of metrology. For this reason, any modern science, be it natural or social, is to some extent connected with metrology. There is no direction in which people can reach their sphere of activity, but without the help of measurements and their means, they can learn, seek and achieve their goals. Therefore, knowledge of the basics of metrology, its understanding and practical application in the field of specialization is one of the important factors for graduates of undergraduate programs in engineering and technology.

MAIN PART

Each unit of measurement has its own long history. In times when units of measurement did not exist, people used them to measure the amount of something, depending on their needs. In the past, parts of the human body were also used as a means of measurement. In the written monuments that have come down to us, they found their expression and at different times were held in different ways. Most importantly, they introduced these measurements, given that anyone can use them. For example, fingers, hands, feet, eyes, ears, joints, miles, elbows and other things are used to use them.

Measurements are an integral part of human activity, and its life cannot be imagined without measurements. As soon as a person wakes up early, he first of all estimates the time, and while drinking tea, he estimates the temperature, distance, when he goes to work or school. Measurements occur continuously, repeatedly or periodically, sometimes consciously, sometimes unconsciously. The Creator endowed man with such a wonderful, unique quality, that is, a feeling that is an invaluable gift not only for people, but for all living beings. We can understand emotions as a very complex measuring tool. However, it should be noted that knowledge of the world around us and being around us only through the senses is still not enough. For example, it is impossible to know the value of the voltage in the electrical network with the sense organs alone. To do this, we need a tool called a voltmeter. You also need to know the existing procedures for using this measuring tool.

Currently, there is no specialist who does not use measurements in his work. The more complex the task before him, the more important measurements are. According to UNESCO, more than 3,000 areas of human activity are now closely related to measurements. Just as there are certain procedures in each specific case, there are also certain rules, methods of measurement and methods that serve as guidelines for the implementation of these methods, and all of them are combined into a system based on specific regulatory documents. The above measurements, whether simple, complex, one-dimensional, multi-dimensional, with a simple ruler or very large special instruments, constitute a separate science that applies to everyone and deals with these issues, and is called ungametrology. The science of metrology, in

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turn, is divided into several branches. These networks differ in their essence, content, scope and objects of activity. Metrology (Greek metro - measurement and 1ogos - teaching) is a branch of physics, as well as the science of measurements, methods and means of ensuring their unity, as well as ways to achieve the required accuracy. The main problems of this science are: a) the general theory of measurements; b) creation of units of quantities and their systems; c) methods and means of measurement; g) methods for assessing the accuracy of measurements (the theory of measurement uncertainty, the theory of measurement error) and methods of its expression; d) ensuring the uniformity of measurements; e) creation of standards; j) methods for determining the characteristics of measuring instruments and measuring instruments and converting unit sizes from all standards to other measuring instruments.[5:615]

The need for measurements dates back to ancient times. If we analyze the literal meaning of the term "measurement", then in ancient times humanity received mainly "organoleptic measurements" - that is, approximate information about a particular physical property through the organs of perception. In this case, these sense organs acted as a means of measurement. Although in such measurements no exact value is obtained, in each measurement, more precisely, the comparison is made in relation to a specific measurement. Initially, the measure of comparison was not intangible, but was determined individually based on the level of experience, intelligence and knowledge of the person about the environment. Later, as tools for working and foraging became more practical, comparative measurements became more essential. In everyday life, a person began to measure different quantities: distances, surface areas, sizes and masses of objects, time, etc., based on his own intuition and experience, not knowing the causes and sources of these processes.

As mankind developed, it continued to improve its tools and its way of life. He was in the process of further improving living and working conditions. Because of the inconvenience and individuality of working with intangible dimensions, he was looking for ways to materialize it. At the same time, different units of measurement appeared. In the early days, people preferred to "see" and "perceive" the world before they knew it in depth.[1:30]

The oldest units of measurement are anthropometric, which are based on correspondence or inclination to specific human organs. For example: the elbow is the distance between the thumb and forefinger with a spread palm, the ear is the distance between the arms spread apart in two directions, the step is a unit of walking with a calm step of an adult, the elbow is the distance between the palm and the elbow, the mile is the sound of one in an open field distance , which is heard, kabza (palm) - the width of the other four, not counting the thumb; feet - the length of the sole of the foot; span - the distance between the fixed head and index fingers, etc. The great Roman architect and theorist Vitruvius wrote in his book "10 Books on Architecture":The part of the face from the chin to the upper forehead line and the beginning of the hairline, as well as the part of the outstretched paw from the wrist to the tip of the middle finger, makes up a tenth of the body.The distance from the chin to the top of the head was one eighth, the heels - one sixth of the length of the body, the elbow of the arm and one quarter of the body of the chest. If we analyze the opinion of the philosopher, then in fact the human body is a metrological system, consisting of both simple and complex units of measurement at the same time. In medieval Central Asia, the unit of length equal to the cubit was the dice, also known as the gas. The two units were used interchangeably as there was more gas circulating than them. Both terms are used in Eastern sources, but gas is relatively more common.[4:77]

In the history of metrology, the introduction of such units is also based on the anthropometric measurements of great scientists or statesmen. For example, the English king Henry I (early 12th century) introduced the unit of measure yard (91.44 cm). The standard measure was the distance from the tip of the king's nose to the tip of the middle finger of the outstretched hand. Along with anthropometric units of measurement, natural units of measurement began to appear. As these units, the properties of some permanent, unchanging objects in nature are taken. For example, "carat", which means "pea", and "gran", which means "grain of wheat", are widely used as a unit of measurement for various gemstones. Another aspect of the first natural measurements are the ubiquitous measurements of time. As a result of many years of observations by astronomers in ancient Babylon, the concepts of year, month and hour were used as units of time. Later, 1/86400 of the time during which the Earth completes a complete rotation around its axis, began to be called a second. The ancient Babylonians measured time in mines as early as the 2nd century BC. The mine is located about two astronomical hours apart, during which time a "water mine" weighing about 500 grams flowed out of the water clock depicted in Babylon. Then "mine" changed and became the minute we recognized.

For a modern historian studying the medieval system of measurement, finding a way through the labyrinth of units collected from sources and drawing an analytical conclusion is the most difficult process in this field. The slowness in the development of medieval metrology can be explained by the complexity of the field.[2:149]

When studying the metrological system, many misunderstandings can be encountered. We can point to several reasons for this. We list them below: 1. Territorial delimitation in units of measurement; 2. Different names for units of the same type; 3. The information given in the sources is contradictory.[3:77]

Much attention paid to the field of metrology on the territory of our country can be seen in the works of Nosiruddin Burkhonuddin oglu Rabguzi of 1310 in the Turkic language "Kissasi Rabuzy", Amir Temur, Alisher Navoi, Zahiriddin Muhammad Babur and dozens of other scientists. The unit of measurement of the time of Babur was widespread in the eastern countries. Sometimes the armor also had a different value depending on the unit of measure used. It was the gas of the Persians and the gas The development of time has led to changes in culture, customs and some terminology. This also

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affected the ancient Sharia units of measurement. After all, since ancient times, each nation had its own culture and traditions. Certain rules and terms were used to regulate everyday tasks, economics, politics, social relations. In particular, trade played an important role in the life of every country. Interstate cultural ties developed through trade caravans. This led to an exchange of civilizations. Markets were built around caravanserais. Scales played an important practical role in ensuring that trade was fair and honest. Each nation traded across different dimensions, depending on their culture and customs, including Muslims. But now it's new as units of measure were acquired, the old measurements became almost obsolete. Consumption, on the other hand, must be expressed in modern terms. To meet this need, this article provides an overview of the units of measurement in Islamic authoritative sources expressed in modern measurements of the Turks. The average value was taken to be 54.04 centimeters.

CONCLUSION

In a word, the science of metrology is of great importance in the study and analysis of information from sources, regardless of the area of our history. Although the information presented in the sources is contradictory and changing, this information is invaluable. Although most of them are quantifiable, we can shed some light on the number of some units with a logical and systematic approach. Each of these units has a long gradual past. The originality of these units appearing in sources and dictionaries is determined by their sociality, their universality. The units used by the local population were formed and popularized mainly from the needs of everyday life. By studying, researching and conveying to the younger generation the units of measurement used in the countries of Central Asia at different times, we will be able to give them a comprehensive idea of the values of our people.

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