

SCIENCE AND TECHNOLOGY OF ANCIENT EGYPT

student Kibisov E. A.

scientific supervisor – senior lecturer Tsimafeyeva Yu. V.

Belarusian National University of Technology

Minsk, Belarus

Egypt is one of the oldest civilizations. All modern achievements have their roots, including in the culture of Egypt. Without scientific knowledge, the normal functioning of the economy, construction, military affairs, and governance of the country is impossible. 2500 years BC the Egyptians already had extensive knowledge in geometry, medicine and astronomy [1].

Water and sundial stand out noticeably among the technical achievements of Ancient Egypt. The obelisks served as a sundial, the shadow of which represented the hour hand. In the first half of the 2nd millennium BC, a water clock appeared. They were an inverted stone cone, through the hole of which water dripped evenly. The time was determined by changing the water level.

The Egyptians began to produce paper from the *papyrus* plant. For this purpose, strips from the core of the plant were used. Many ancient papyrus sheets have reached our time in perfect condition. In addition, in many European languages, the word “paper” is directly related to the Egyptian “papyrus”.

Ink and pen appeared after the papyrus and undoubtedly had world significance. To create black ink, a mixture of soot with vegetable oil and beeswax was used. The durability of these inks has been proven by time. The role of the pen in ancient Egypt was played by reed pens.

The *plow* (in which the ox was harnessed) was of great economic importance. The use of the plow facilitated and accelerated the process of loosening the soil. The plow was attached to the animal's body with straps. Two people were required for plowing: one led the plow, the other drove the animal with a stick.

Without irrigation systems, the development of a high-level civilization in Egypt would not be possible. The first invention that increased the efficiency of irrigation was the *shaduf* – a water-lifting “crane” for watering fields. Then the Egyptians invented a *water-lifting wheel*, inside of which there were jugs.

It was the Egyptians who invented the decimal system. They also knew how to determine the area and volume, divide and multiply, had an idea of fractions and the square root. *Mathematics* played the role of applied science, which was actively used to solve practical needs.

The Egyptians distinguished planets and stars. There were fairly accurate maps of the starry sky and catalogs of stars. It was thanks to *astronomical knowledge* that the Egyptians managed to compile an accurate calendar. Unlike other peoples of the East, the Egyptians had not a lunar, but a solar calendar.

The basis for the development of Egyptian *medicine* was the custom of mummification, which allowed studying the anatomy of the human body. One of the main achievements is considered to be the doctrine of blood circulation and the heart. In ancient Egypt, such complex operations as skull trepanation and amputation were carried out [2].

References:

1. History of the Ancient East / V. I. Kuzishchin // . – M. : Higher Education, 1988. – 38 p.

2. History of Science and Technology [Electronic resource] : Educational and methodological complex for students of all specialties / Ministry of Education of the Republic of Belarus, Belarusian National Technical University, Department of History, World and Domestic Culture; comp.: A. I. Bogdanovich, L. A. Dovnar. – Minsk : BNTU, 2018. – P. 20–26.