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CHRONOLOGY EXPERIMENTS IN DETERMINING THE AGE OF A PERSON

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Abstract:

This article is devoted to the study of the experience of chronology among the Karakalpaks on the basis of the Muslim calendar, when, in the conditions of illiteracy of the majority of the population, a person's age was determined by oral information transmitted from parents to children. Also, in turn, it is focused on taking into account the age and individual characteristics of the educational process, increasing the effectiveness of education and realizing the potential of the individual.

Keywords: Age, calendar, chronology, education, ability, hobbies, interests, horizons, behavior.

1. INTRODUCTION.

Before the establishment of Soviet power on the territory of Karakalpakstan, people determined their age on the basis of the Muslim calendar. This method was remembered and passed down from generation to generation, from father to son, orally. The method was called "zhyl kaytariy" which, according to its content, translates as "countdown". The population was illiterate and few knowledgeable persons were engaged in this method of chronology. They were considered literate and respected. To calculate the age, a person turned to such people and they calculated the age from the scant data that were passed orally from parents to descendants.

Among the Karakalpaks, people with a phenomenal memory who remembered the spoken language they heard were valued and honored with respect, they had a special place in society, they were called "katykulak" or "tahua"[1]. Such people were contacted if it was necessary to calculate the age of a person. Therefore, it was important to educate and develop in children memory and memorization abilities from an early age.

2. THE MAINPART.

With the development of Islam and religion, the Muslim calendar was spread among the peoples of Central Asia. Before the revolution, on the territory of present-day Karakalpakia, they used the Muslim calendar - "Hijra". According to this calendar, the year began with the date of the resettlement of the Prophet Muhammad and the first Muslims from Mecca to Medina[2] (July 16, 622). It was compiled on the basis of the lunar calendar and consisted of months in which there were 29-30 days and a year consisted of 12 months. The year consisted of 354 days i.e. shorter than the current calendar by 11 days. This meant that 33 Muslim years were equal to 32 years of the Gregorian calendar.

You can calculate what date according to the Muslim calendar is today by comparing the days and months of the calendar with the current calendar. The beginning of the year according to the Muslim calendar corresponds to the first day of the month of Moharrem[3]. Knowing this, you can draw up a schedule. To do this, add 355 days by July 16, 622, this will be the beginning of the next year. It falls on July 5, 623, and will continue so on.

According to the "Lunar calendar", the Muslim year consists of 12 months and they are as follows:

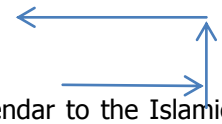
1. Muharram,
2. Safar,
3. Rabi' al-awwal,
4. Rabi' al-thani,
5. Jumada al-awwal,
6. Jumada al-thani,
7. Rajab,
8. Sha'aban,
9. Ramadan,
10. Shawwal,

11. Dhu al-Qi'dah,
12. Dhu al-Hijjah.

According to the above method, the translation from the Gregorian calendar to the Muslim calendar and vice versa is easy.

A) Method of translation from the current calendar to the Muslim one:

1. Subtract 622 from this year;
2. Divide the resulting number by 32;
3. Add 43 to the resulting number;



An approximate translation of dates from the Gregorian calendar to the Islamic one is carried out according to the following formula:

I=G– 622+[(G– 622)/32]

Where G-Gregorian calendar, I-Islamic calendar, square brackets means that the whole part of the quotient is taken.

For example, 2021 according to the Gregorian calendar corresponded to

I=2021– 622+[(2021– 622)/32]=1399+[1399/32] =1399+43=1442

This formula can give an error of one year.

Reverse translation formula:

G=I+622– [I/33]

G=1442+622– [1442/33]=2064– 43=2021

Hence, it is clear that the current year corresponds to the year 1442 of the Muslims. These calculations were given with difficulty and simple peasants and cattle breeders could not count, this was done by "akhuns" who studied special sciences in madrasahs.

Since ancient times, the Karakalpak people have been engaged in agriculture, cattle breeding, hunting and handicrafts. This is directly related to natural phenomena, seasons, changes in nature and required observation and knowledge of the calendar. Observing daily, monthly, seasonal and annual changes, studying what the next day or month brings, also observing what happens with an increase in the sun's rays, an eclipse of the moon or sun, the phenomenon with the stars, they predicted and forecasted what they would lead to in cattle breeding, crops and also in the birth and development of offspring. As a result of many years of experience and curiosity, possession of knowledge in the field of astronomy and hydrometeorology, helped to find mathematical patterns in the connections between these two sciences and connected this with the geographic location of the earth.

Like all Turkic peoples, Karakalpaks, the year was divided into 12 months, if the year consists of 12 months, then 12 years were combined into one cycle and called "mushe". This made it easier to calculate when determining the age of someone.

By the beginning of the 11th century, the "solar calendar" had spread on the territory of the Karakalpaks. According to this calendar, each month of the year had its own name - different from the Turkic ones, the year began on the day of the spring solstice and consisted of 365 days, 12 months had 30 days each, an extra 5 days were added to the last month.

The year began on the day of the equinox in the month of March and this day was called "Nauryz". This day was considered the beginning of the new year and was celebrated as a great holiday. After the establishment of Soviet power, this holiday, like many other Muslim holidays, was banned.[4] And only from the beginning of the 90s these holidays began to revive and are celebrated with special importance. On this day, special dishes from the national cuisine are prepared, there are even such dishes that are prepared only on these holidays.

Unlike the Gregorian calendar, according to the Muslim calendar, each month began on the 21st and ended on the 20th of the next month.

Below is the calendar used by the Karakalpaks

Month names by Gregorian calendar	Month names by karakalpak calendar	Days of the beginning and end of the Karakalpak month
March	Nagryz, Hamal	21.03-20.04
April	Syawir	21.04-20.05
May	Jauza	21.05-21.06
June	Saratan	22.06-22.07
July	Schille	23.07-23.08
August	Sumbile	24.08-23.09
September	Miyzan	24.09-23.10
October	Akhrep	24.10-22.11
November	Kauys	23.11-21.12
December	Zhadi	22.12-20.01
January	Dalu	21.01-20.02
February	Hoot	21.02-20.03

As you can see, the month does not start from the 1st, but from the 21st, for example, January or the month "Dalu" starts from the 21st of January and ends on the 20th of February.

In oral folk art, you can find a lot of proverbs and sayings associated with the names of these months and seasons.

For example: Until Syawir comes, summer will not be seen.
Changes like the wind in Syawir.
There will be no summer after Miyzan.
As Jauza arrives, sowing of seeds will begin.
Summer Saratan.
The heat of the Saratan.
The year consists of 4 seasons and according to the calendar, there are 3 months for each season:
Spring - Hamal, syawir, jauza.
Summer - Saratan, shile, sumbile.
Autumn - Miyzan, akhrep and Kauys.
Winter - Zhadi, dalu, hut
Three months - milk
Three months - melon
Three months - pumpkin
Three months - fish.

The meaning of the saying is as follows:

For a whole year, the land and livestock feed the people with their gifts. For the first three months, as a people engaged in cattle breeding, the main product consumed is milk and milk processing products (kefir, yogurt, sour cream, cottage cheese, ayran, etc.).

For the next three months, the people feed on melons (melon, watermelon, etc.).

For the next three months, there are different types of pumpkins that could be stored very well and are very useful products. Three more months are spent on fish. At that time, the Aral Sea had a very large place in the diet of the Karakalpaks as the main source of food[5].

Nomadic peoples believed that the whole world moves around the eternal blue sky. In search of pastures, pastoralists were guided by the heavenly bodies, determined the parts of the world and found their way home. They knew from the stars and their movements that the largest star is Jupiter. Jupiter has been known to humans since ancient times. In Mesopotamian culture, the planet was called "White Star". The first description of the 12-year cycle of motion of Jupiter was given by Chinese astronomers, who called the planet "Star of the Year". Modern astronomers have calculated that the planet makes one revolution around the sun in 11.86 Earth years.

1	**Rat**	1900	1912	1924	1936	1948	1960	1972	1984	1996	2008	2020
2	**Cow**	1901	1913	1925	1937	1949	1961	1973	1985	1997	2009	2021
3	**Tiger**	1902	1914	1926	1938	1950	1962	1974	1986	1998	2010	2022
4	**Rabbit**	1903	1915	1927	1939	1951	1963	1975	1987	1999	2011	2023
5	**Fish**	1904	1916	1928	1940	1952	1964	1976	1988	2000	2012	2024
6	**Snake**	1905	1917	1929	1941	1953	1965	1977	1989	2001	2013	2025
7	**Horse**	1906	1918	1930	1942	1954	1966	1978	1990	2002	2014	2026
8	**Goat**	1907	1919	1931	1943	1955	1967	1979	1991	2003	2015	2027
9	**Monkey**	1908	1920	1932	1944	1956	1968	1980	1992	2004	2016	2028
10	**Rooster**	1909	1921	1933	1945	1957	1969	1981	1993	2005	2017	2029
11	**Dog**	1910	1922	1934	1946	1958	1970	1982	1994	2006	2018	2030
12	**Boar**	1911	1923	1935	1947	1959	1971	1983	1995	2007	2019	2031

The pastoralists associated each turn with certain events on the earth and each year they tied a special character and called this year an animal corresponding to this character. Since it takes 12 years for one revolution of Jupiter, 12 animals were tied to these years, respectively. The ancient number "12" had a certain meaning. It was believed that the human body consists of 12 main organs, 12 years in a person's life determines a separate period (childhood, adolescence, maturity, etc.). Since most people were illiterate, the age of someone was determined in "mushels" ie in 12 summer cycles6 (the term "mushel" meant "mushe" -organ, "el" -year). To do this, it was enough to know the twelve-year cycle by heart, and then some calculations were required. The first year began with the year of the rat, then the cow, tiger, rabbit, fish (dragon according to the eastern calendar), snake, horse, goat, monkey, rooster, dog and boar.

If you know one 12-year cycle of this calendar, you can calculate the next. In Karakalpakstan, until the 1920s, births were not registered and no documents were kept. People themselves calculated their age from memory. For example, if in 1924 (and this is the year of the rat) an adult said that he was born in the year of the rat, then he was calculated that he was born in 1876 and he is 48 years old. It is unlikely to be mistaken with a difference of 12 years, therefore the calculation turned out to be more accurate.

In this way of the "countdown", the philologist I. Sagitov determined the age of the classic poet Berdakh, who was born and died in the year of the cow. Calculations showed that the poet was born in 1828 and died in 1900.

Also, by the type of animal on which the year was named, they predicted what the year would be. The character of the animal characterized the coming year, for example: in the year of the rat - the year will be fruitful for grain, the birth rate will increase, in the year of the tiger - the winter will be cold, those born in the year of the horse are hardy and beautiful, in the year of the rabbit the people will be restless, discontent will grow, the year of the dragon the year will be rainy, barren, etc.

Examples of such predictions, forecasts are given in the book of Doctor of Philology, Professor, Honored Scientist of Karakalpakstan S. Bakhadyrova "The Karakalpak People".

3. CONCLUSION

Studying the methods and types of calculating a person's age and comparing calendars of different times and religions, the conclusion suggests itself that the Karakalpak people lived in harmony with nature, studying the laws of nature and using the experience of past years and at the same time used simple arithmetic calculus, and also, when possible, used mathematical formulas. The future generation from an early age was brought up with the help of games and tried to develop memory in children from an early age, special attention was paid to the formation and development of mathematical abilities through games.

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