

## FROM THE HISTORY OF EARTHQUAKES IN AZERBAIJAN

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**Introduction.** Throughout history, the material and spiritual cultural samples that have been created and formed in Azerbaijan have also contributed to the universal value system. Unfortunately, these unique cultural values having faced a serious test as a result of natural disasters and earthquakes that occurred from time to time; in some case it has faced the threat of extinction, and sometimes it has been completely destroyed. Historically, the earthquakes that occurred in the territory of the country have not only damaged material and moral values, but also resulted in numerous human losses and had a negative impact on demographic processes. It should be noted that the information about the first earthquake in history dates back to 2050 BC. Earthquakes that occur from time to time in different seismo-active zones of the world have caused numerous casualties and seriously damaged material and moral values. Due to its scale and power, as well as the great destruction it caused the Ardabil earthquake [year 893, death toll 150 thousand people] [1], the Kanto earthquake [1923 year, death toll 142 thousand people] [2], the Erzincan earthquake [1939, death toll 33 thousand people] [2], the Ashgabat earthquake [1948, death toll 110 thousand people], the Turkiye-Syria earthquake [2023 year, the death toll is more than 50.000 people] [2] which are especially remembered in the world and Azerbaijan are considered the worst natural disasters in human history. On the whole, during the last 500 years, about 5 million people lost their lives as a result of earthquakes in the world.

### 1. *From the history of earthquakes in Azerbaijan*

The first earthquake in the history of Azerbaijan occurred in 427. That year, hundreds of thousands of people died as a result of the 9-magnitude earthquake that occurred approximately 25 km southeast of the city of Ganja. The basis of the seismological history of Azerbaijan starts from this year [6]. We would like to note that the information about this earthquake is very limited.

Musa Kalankatli (Movses Kaghankatvatsi) [8], while describing the events of the 5th century in Albania, gives brief information about another earthquake that occurred in Albania in his book “The History of Albania”: “A strong earthquake occurred at daybreak and all those standing there fell to the ground... at that moment a black cloud descended from the sky and people were afraid of it and returned to their homes”.

This earthquake, described by Musa Kalankatli [8], is believed to have occurred in the northwestern region of Azerbaijan. It appears from the description of the events that this earthquake did not cause such great destruction and loss of life.

One of the most tragic earthquakes in Azerbaijan happened in Tabriz. As a result of this earthquake, which occurred in 1042, a great loss of life was recorded. The medieval historian Ibn Al Asir wrote about this [7]: “This year (1042) there happened a big earthquake in Tabriz. The city fortress, wall, bazaar, houses and a great part of the government building were destroyed. Amir escaped due his being in the garden at that time. The number of people who died in the city was about fifty thousand...” [7].

Nasir Khosrov, a Tajik poet who came to Tabriz 4 years after the earthquake of 1042, wrote: “On Safar (is the second month of the lunar Islamic calendar) 20, 438 (August 26, 1046) I reached Tabriz. This city is a settlement of Azerbaijan. They told me that on the 17th of Rabi-ul-Awwal 234, on Thursday, after the night prayer (November 4, 1042), an earthquake occurred in this city. Some parts of the city were damaged, while other parts were not damaged at all. It is said that forty thousand people died at that time.

Qatran Tabrizi, a prominent Azerbaijani poet of the 11th century, who was a live witness of the Tabriz earthquake, dedicated a special ode to this natural disaster [19, pp. 208-209, 249-251].

One of the most destructive earthquakes in Azerbaijan occurred in 1139 [8]. The biggest consequences of this earthquake hit the city of Ganja. Albanian historian Mkhitar Gosh wrote about this in the “Albanian Chronicle”: “...on the day of St. George holiday [September 30, 1139], the world was punished by God. The fury of the earth and great destruction spread terribly and reached this Albanian land... As a result of this earthquake, many places were destroyed in the provinces of Parisos and Khachin provinces (Karabakh region), both in the plains and in the mountains. The capital city of Ganja was also destroyed by the earthquake along with its population. Many fortresses and villages were destroyed in mountainous regions, along with monasteries and churches that collapsed. Countless people perished under the collapsed buildings and fortresses...” [8].

Historian Ibn al-Asir described this natural disaster as follows: “This year (1139) there was an earthquake in Arran, Ganja and other places adjacent to Azerbaijan. But the most severe one happened in Ganja and many places were destroyed. Countless people died. According to sayings, two hundred and thirty thousand people died. Among the dead were the two sons of Azerbaijani ruler Gara Sungur...” [7]. We find information about this natural disaster in Nizami Ganjavi’s poem “Iskendernameh” [6]:

An earthquake broke out, shook the sky,  
 Cities were destroyed and sunk into the ground.  
 As if needle stuck into Yusifs’ eyes,  
 As if the Nile overflowed and flooded Egypt.  
 No eye was left safe, believe me,  
 The world was in mourning  
 How many treasures was lost that night  
 Ganja disappeared on Saturday night. [6].

According to the information provided by historian Kirakos Ganjali, “... In those days, darkness and fog covered all the mountains and plains, a terrible earthquake broke out and the capital Ganja was completely destroyed. Many men, women and children died, and the number of deaths because of buildings collapsing on them was uncountable. Also, Mount Kepaz collapsed and blocked the river bed here and formed the sea (Ghoygol is meant - M.A.) that exists today”. [5].

One of the devastating earthquakes in Azerbaijan occurred at the end of the 12th century. The devastating earthquake that occurred in the town of Shamakhy in 1192 hindered the development of Shamakhy, which was progressing rapidly at that time, and caused the decline of the town. The Georgian source “The History and Definition of Tajdars” describes this natural disaster as follows: “...The earthquake shook and destroyed the walls and fortresses of the town of Shamakhy, and all those who were there died. Shirvanshah’s wife and children also perished”. After the Shamakhy earthquake of 1192, Shirvanshah Akhsitan I had to move his residence to Baku.

Information is found in historical sources about devastating earthquakes in different provinces of the empire during the reign of the Safavi dynasty in Azerbaijan (1501-1736), [11, 12, 15].

It should be noted that 50 (51) of the most devastating earthquakes were recorded from 1503 to 1722 in a wide area from Dagestan to Hormuz, Hakkari and Erbil up to Asfarayin, within the boundaries of the Azerbaijani Safavi state [13].

In the 16th century, only in the city of Tabriz, three devastating earthquakes were recorded (in 1522, 1527, 1550) [13]. During the earthquake that occurred in 1522, 70.000 people died [13]. Even during the earthquake of 1527, the number of people died in Tabriz is likely to be high, but exact statistical information is not found [13].

Although the number of casualties is not specified in the 6- 7 magnitude earthquake that occurred in Tabriz on January 20, 1550 [3], it is calculated to be much more. It is no coincidence that referring to Ibn Fazlullah al-Omari, Yahya Zaka wrote about this earthquake in Tabriz in his work “Tabriz Earthquakes” that the earthquakes that occurred in Tabriz in 987 AH (1550 AD) lasted for 6 days and even a mountain near Tabriz broke into 4 parts, the resulting dust and fog covered the horizons in darkness” [23].

The Safavi era Azerbaijani historian Iskender Bey Munshi Turkman, in his work “The History of Abbas, who decorated the world (Tarix-e-alamaraye-Abbasi) [11], gives information about the Khorasan earthquake in 1549/50 and writes: “A strange event occurred during the reign of the Late Shah (Shah Tahmasib-M.Z.) among the events are the great earthquakes in the province of Khorasan called Gayin, which occurred in five villages of that province in the year nine hundred and fifty-six (1549/50 AD) [11]. Thus, three thousand people were destroyed by staying under the earth. Mevlânâ Baghi, the Qazi (confessor) of that province, was an astrologer and lived in one of those five villages. He had informed the people of the village in advance and said that due to the position of the horoscope and the influence of the stars, there will be a heavy earthquake tonight, so they should stand outside and not stay in their houses as a precaution. The villagers did not listen to him, and the Qazi left the house with his men and stayed in the desert until midnight. Unable to bear the cold, he listened to his children and returned the village, and at that very hour an earthquake occurred. Qazi and all his children and men, remained under the earth and perished” [11]. The sources of the period do not provide much information about the earthquake that occurred in Tabriz in 1567. Abdi Bey Shirazi wrote about this in his work “Takmilul-Akhbar”: “In the house where Sam Mirza and his children were in the Qahgaha Castle, Algas’s sons - Sultan Ahmad and Sultan Farrukh were talking together, and a strong earthquake happened and that house fell. All perished...” [15].

Iskender Bey Munshi Turkman reported in his work [12] about the next earthquake that occurred in 1619 in the imperial territory. The author writes about this: “This year, an earthquake occurred in some parts of Zave province and in some areas of Khorasan, but in Dugabad, the prosperous *qerye* of that province, there was an earthquake that such a destructive earthquake had never been seen before. We heard from truthful people that the houses were collapsed on top of each other in such a way that the prosperous settlement turned into a huge pile of earth, and there was no trace of the houses there. As most of the people of Dugabad went outside to collect crops, only seven to eight hundred residents remained under the earth and died. A wedding party was held in one person’s house. Seventy women of that party remained under the earth, and thanks to the wisdom of the god, that joy turned into mourning. It is one of the rare and strange cases that the bride, out of fear, threw herself between the door and the window and survived...” [12].

Among the earthquakes that occurred in Azerbaijan in the 17th century, the Tabriz earthquake of 1640 stands out due to the consequences it caused. On February 27, 1640, many people died as a result of an earthquake in Tabriz and its surroundings. During this period, in the information provided by Rustam Khan, the Beylerbey of Azerbaijan, to the Safavi ruler, Shah Safi, it is mentioned that 4.900 houses were destroyed and 12.600 people died during the earthquake in the city and surrounding settlements. [14].

In 1721, 75 percent of the city was destroyed as a result of the earthquake that occurred in Tabriz. As a result of the earthquake, 10 thousand people died, and according to some estimates, the death toll varied from 8 to 250 thousand people [10].

As the Shirvan region of Azerbaijan is located in the seismologically active phase, most earthquakes occurred in these areas. The earthquakes that occurred in Shamakhy in 1667, 1669, and 1671 are considered the strongest natural disasters in the history of Azerbaijan [1]. More than 100 thousand people died as a result of these earthquakes. The earthquake that occurred in Shamakhy in 1667 had a magnitude of over 8, and 80.000 people died as a result of the earthquake. As a result of the earthquake that occurred again in Shamakhy in 1669, thousands of houses were destroyed, and 7 thousand people became victims of this terrible natural disaster [1].

At the beginning of the 70s of the 17th century, the Dutch traveler Jan Streis reported about the previous earthquakes that occurred here while he was in Shamakhy. The traveler described the terrible earthquake of Shamakhy in 1667 so: “What surprises me more than anything is that the city was rebuilt after not even three years had passed since its destruction and desolation. During the year I was here, there were several earthquakes. However, no one remembers such a strong earthquake as the earthquake of 1667. As a result of the earthquake, the city was shaken to its foundation, not only large buildings and towers did not survive, but even residential houses collapsed so quickly that no one could save their lives. They calculated that during this terrible devastation, if women, children, and servants are not taken into account, more than 80.000 men with weapons in their hands died, and the misfortune not only befell Shamakhy, but also its surroundings. Solid mountains and solid rocks were separated, entire settlements and villages were destroyed and plunged into ravines. The roads were so destroyed that the caravans often had to take a detour...” [9].

Jan Streis, who was a live witness of the earthquake of 1671, describes what he saw: “...on the first day of 1671, when we wished each other happiness, there was such a heavy earthquake that many people remember this day with sadness because of the great losses. People experienced fear, sadness and horror. It was painful to see the destruction of numerous houses, the death of people and livestock... The earthquake made itself felt again the next evening, creating the fear of great and terrible consequences, but compared to the previous one, it was weak and stopped without causing much damage...” [17].

The Russian orientalist Ilya Nikolayevich Berezin, who visited Azerbaijan in the 1940s, reported in his “Travelogue” about the earthquake that occurred in the Mashtaga settlement of Baku. He writes: “... Indeed, Mashtaga was a very beautiful settlement. Most of the houses were destroyed by the recent earthquake. This village suffered from the earthquake 80 years ago as well. In December 1841, the village of Mashtaga suffered this misfortune again. Heavy earthquakes started at 10 o’clock in the morning, dwellers were unable to take anything from their homes. Most of the houses were destroyed, but no one died. Earthquakes were recorded at great distances. The chief of Baku uyezd and other officials personally went to Mashtaga. I also was among them...” [4].

The 1859 earthquake in Shamakhy, which was considered one of the largest guberniyas of the South Caucasus in the mid-19th century, dealt a great blow to the city’s political and economic position. Since the devastating earthquake occurred in 1859, in Shamakhy, one of the largest guberniyas of the South Caucasus [1], heavily destroyed the city, the center of the guberniya was moved to Baku. As a result of the earthquake, a number of historical buildings were destroyed.

One of them was the famous Shamakhy Juma (Friday) Mosque. As a result of this earthquake, 100.000 people died [1]. The magnitude of that earthquake was so great that it was not erased from people's memory for a long time. The phrase "as Shamakhy was destroyed" [28] also appeared after that natural disaster.

The Shamakhy earthquake of 1902 is also considered one of the strongest and most terrible earthquakes in the history of Azerbaijan. As a result of the earthquake that occurred on January 31, 1902 at around 12 in the day-time, the city was completely destroyed [1].

During the earthquake that occurred in 1902, more than 2.000 residents of the city died, thousands of people were injured, up to 20.000 people were left homeless, 4.000 residential houses, 8 ancient mosques, more than 10 madrasas, 40 ancient oriental baths, many bazaars and shops were razed to the ground. As a result of the earthquake, more than 3.000 houses, 40 mosques and many farm buildings were destroyed in 126 villages located in Shamakhy region [1].

Even during the years of Soviet rule, earthquakes occurred in Azerbaijan that did not cause serious consequences. On September 2, 1953, an earthquake of magnitude 7 occurred in Oghuz district. The impact of the main earthquake was most felt in the villages of Ogua, Mukhas and Jumat. Cracks appeared in the corners and walls of most houses. In some places, the walls were separated from each other, the tops of the windows and doors fell off [16]. Even after Azerbaijan regained its state independence, although earthquakes occurred with small shocks, they did not cause serious consequences. However, the earthquake that occurred in Baku on November 25, 2000 was different from the others. An earthquake with a magnitude of 6.2 was felt in Baku [27]. Although cracks appeared in certain buildings as a result of the earthquake, no serious damage was observed in general.

**Conclusion.** Analyzing information about earthquakes in historical and literary sources, it can be concluded that very destructive earthquakes have occurred in Azerbaijan throughout history. As a result of these earthquakes, hundreds of thousands of people died, social and economic life was severely damaged, and material and spiritual monuments were destroyed. When comparing the historical data on earthquakes with the that available today, it can be concluded that seismo-active regions that have existed in Azerbaijan for hundreds of years still maintain their degree of danger. Analyzing the data related to earthquakes in historical sources in a consistent and comparative manner, it is possible to obtain very important conclusions by evaluating the geographical area of this natural disaster that occurred in Azerbaijan in all periods, its scope, power, consequences, and loss of life.

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