

The 1509 Istanbul Earthquake and Subsequent Recovery

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Le Tremblement de terre d'Istanbul de 1509 et les efforts de reconstruction de l'après-séisme

L'Anatolie (connue aussi sous le nom d'Asie Mineure) comprend 97% du territoire de la République de Turquie actuelle. Cette région a été de longue date une zone exposée aux tremblements de terre, ayant des magnitudes sismiques comparables à celles du Japon, pays réputé pour ses séismes. L'Anatolie repose sur la plaque tectonique Anatolienne, entourée par l'énorme plaque eurasiennne au nord, la plaque arabique à l'est, la plaque de la mer Égée à l'ouest, et la plaque africaine au sud. Les lignes de failles qui en résultent, comme la faille nord anatolienne allant de l'est vers l'ouest, ont causé de nombreux tremblements de terre. En Août 1999, par exemple, un séisme de magnitude 7.5 a secoué une grande partie du nord-ouest de l'Anatolie, y compris Istanbul, tuant 17,000 personnes et causant d'énormes dégâts.

Les tremblements de terre ne sont pas un phénomène nouveau en Anatolie. Les nombreux documents historiques disponibles décrivant des catastrophes naturelles à Istanbul montrent à eux seuls que des séismes majeurs y étaient récurrents. Un tremblement de terre particulièrement dévastateur a eu lieu en Septembre 1509. Cet événement était localement connu sous le nom de "*Kıyamet-i Suğra*" (le Jour du Jugement mineur) en raison des nombreuses victimes et graves dégâts qu'il avait occasionnés à Istanbul. Ce tremblement de terre a également été la première grande catastrophe naturelle après la conquête de Constantinople par l'Empire ottoman en 1453.

Dans cet exposé, je vais aborder, à partir d'un point de vue historique, le tremblement de terre majeur qui a frappé Istanbul en 1509 et les efforts de reconstruction qui l'ont suivi. Les progrès réalisés en matière de recherche sur l'activité sismique contemporaine et historique au Japon et dans d'autres pays sont indéniablement impressionnants. Nous avons été en mesure d'estimer l'ampleur et le nombre de victimes du séisme de 1509 en nous basant sur la géologie et la sismologie. Mais, en plus de cette recherche quantitative sur les valeurs d'amplitude et le nombre de décès, nous devons également mener des

recherches qualitatives sur la nature expérientielle de ce gigantesque tremblement de terre sans précédent et les réactions qu'ils a engendrées. Des documents historiques de l'époque nous fournissent des informations très détaillées sur le processus de reconstruction de l'après-séisme. Dans le contexte de prévention des catastrophes, il est crucial que nous étudions ces documents historiques afin d'en tirer les enseignements nécessaires.

A cette fin, je vais utiliser les chroniques de l'Empire ottoman ainsi que des documents historiques de l'archive du Palais de Topkapi. Ces chroniques copieuses sont couramment utilisées dans la recherche ottomane récente, mais n'ont, jusqu'à présent, pas été utilisées à propos du tremblement de terre ayant eu lieu à Istanbul en 1509. Dans cet exposé, je vais tenter, en utilisant une combinaison de dossiers historiques et des chroniques ottomanes, de clarifier des détails précédemment inconnus à propos du grand tremblement de terre d'Istanbul de 1509 et la reconstruction de l'après-séisme.

Introduction

Anatolia (also known as Asia Minor) comprises 97% of today's Republic of Turkey. This area is a long-established earthquake zone, with earthquake intensities comparable to notoriously seismic Japan. Anatolia lies on the Anatolian tectonic plate, surrounded by the huge Eurasian Plate to the north, the Arabian Plate to the east, the Aegean Plate to the west, and the African Plate to the south. The resulting fault lines, such as the east-west running North Anatolian Fault, have caused many earthquakes. In August 1999, for example, a 7.5 magnitude earthquake shook a large section of northwestern Anatolia, including Istanbul, killing more than 17,000 people and causing massive damage.

Earthquakes are not new to Anatolia. The many extant historical records of natural disasters in Istanbul alone show recurring major earthquakes. A particularly massive earthquake occurred in September 1509. People called this event "*Kiyamet-i Suğra*" (The Lesser Judgment Day) because of its many victims and severe damage in Istanbul. This earthquake was also the first big natural disaster after the conquest of Constantinople by the Ottoman Empire in 1453.

In this article, I will explain, from a historical standpoint, the Great Istanbul Earthquake of 1509 and the ensuing recovery. The progress being made in natural sciences research on contemporary and historical earthquakes in Japan and other countries is undeniably impressive. We have been able to estimate the magnitude and death toll of the 1509 quake based on geology and seismology¹.

¹ For example, Ambraseys, N.N., "The Earthquake of 1509 in the Sea of Marmara, Turkey, Revisited," *Bulletin of the Seismological Society of America*, 91-6, 2001, pp. 1397-1416. Ambraseys, N.N., and Finkel,

However, in addition to this *quantitative* research on magnitude values and death statistics, we should also conduct *qualitative* research on the experiential nature of this unprecedented gigantic earthquake and the reactions to it. Historical records from this period provide us with very detailed information about the post-quake recovery process. In terms of disaster prevention, it is crucial that we study and learn from these remaining historical records.

I. Chronicles and Documents

To that end, I will use the Ottoman chronicles and historical documents from the Topkapı Palace Museum Archives. These plentiful historical documents have been commonly used in recent Ottoman research, but have not, until now, been used to research the 1509 Istanbul earthquake.

Several Ottoman chronicles mentioned the Great Istanbul Earthquake of 1509. *Ruhi's Chronicle (Ruhi Tarihi)*² and the more famous *Chronicle of Kemalpaşazade (Kemalpaşazade Tarihi)*³ are contemporary historical records. A bit later, *The Crown of Histories (Tac üt-Tevarih)*⁴ by Hoca Saadeddin (1526-1599) and *The Essence of Information (Künhü'l-Ahbar)* by Gelibolulu Mustafa Ali (1541-1599)⁵ were also written in the 16th century and left some information about this earthquake.

In those Ottoman chronicles, *Ruhi's Chronicle* especially is the most important historical record on this earthquake. This is because the writer Edirneli Ruhi (d.1527) seemed to be staying in İstanbul or Edirne, which was the secondary capital city of the Ottoman Empire and situated 240 km west of Istanbul, at the time of the earthquake. On the other hand, Kemalpaşazade (1468-1535), who was the author of another contemporary record, *Chronicle of Kemalpaşazade*, was a high-class teacher (mudarris) of an Islamic school (madrasa) in Edirne at that time, and the

C.F., "The Marmara Sea Earthquake of 1509," *TERRA MOTAE*, no. 2, 1991, pp. 167-174. Ambraseys, N.N. and Finkel, C.F., *The Seismicity of Turkey and Adjacent Areas, A Historical Review, 1500-1800*, Istanbul, 1995.

2 The writer of this chronicle, Ruhi, was born in Edirne, so he was called Edirneli Ruhi, meaning Ruhi from Edirne. This chronicle covered from the beginning of the Ottoman Empire to 1511. The original title of this article was *Tevarih-i Al-i Osman (Histories of the House of Osman)*. But in this article, I call it *Ruhi's Chronicle* in order to distinguish this chronicle from *Chronicle of Kemalpaşazade*, which had the same name.

3 Kemalpaşazade served in the Ottoman army and became an ulama later. He was appointed Şeyhülislam, which is the highest rank of Ottoman ulamas in 1526. His chronicle *Tevarih-i Al-i Osman* covered from the period of Osman Gazi (1258-1326), who was the founder of the Ottoman Empire, to the reign of Sultan Süleyman I (1494-1566).

4 Hoca Saadeddin was an Ottoman official and scholar in the 16th century. He was a private teacher of Price Murat, later Sultan Murat III (1546-1595), and also appointed Şeyhülislam in 1598. *Tac üt-Tevarih* was a history book that covered from the beginning of the Ottoman Empire to the death of Sultan Selim I (1465-1512).

5 Gelibolulu Mustafa Ali was an Ottoman bureaucrat and historian in the 16th century. See also [Fleischer 1986]. *Künhü'l-Ahbar* is a long history book from the genesis creation to the reign of Sultan Mehmet III (1566-1603).

contents of his chronicle about this earthquake were inferior to *Ruhi's Chronicle* both in quality and quantity. Other Ottoman chronicles, at least those regarding the earthquake of 1509, seem to cite *Ruhi's Chronicle*, and I did not find any special information in them, excluding some chronicles that suggested a different day for when the earthquake happened.

It is a recent trend of Ottoman History to use historical documents, however, as far as I know, no such research has been done on the earthquake of 1509 until now. As a result of the research I conducted at The Prime Minister Ottoman Archives (BOA: Başbakanlık Osmanlı Arşivi) in Istanbul, I found three documents relating to the Great Istanbul Earthquake of 1509 from Topkapı Palace Museum Archives (TSMA: Topkapı Sarayı Müzasi Arşivi), which can now be searched through a terminal at BOA.

One of those documents, D.10029, is the register (*defter*) about the policy of recovery after the earthquake. In fact, this register was introduced briefly in a Turkish journal named *Arkitekt* in 1940 (Orgun 1940). However, after that, no one used this register. This particular register is the main source of this article. The other one, E.6051, is a kind of petition that was concerned with the rebuilding of a small mosque in Istanbul after the earthquake of 1509 and dated 1511. As I will mention below, this document is very important in that we can examine whether the subsequent recovery was finished in a short time or not. The last one, D.9559, is very problematic. At first, according to the catalogue of TSMA, it seemed to be concerned with the Great Istanbul earthquake of 1509. However, as I thoroughly investigated D.9559 it became clear that this document belongs to a later age. This is why I do not use D.9559 in this article.

In this article, using a combination of these historical documents and Ottoman chronicles, I will attempt to clarify previously unknown details about the Great Istanbul Earthquake of 1509 and the subsequent recovery.

II. The conquest of Constantinople and recovery from war damage: the first recovery

56 years prior to the earthquake of 1509, on the 29th of May, 1453, Constantinople was conquered by Mehmet II (1432-81) of the Ottoman Empire, who had the epithet (*rakab*) of “the Conqueror (Fatih).” Constantinople, the capital city of the Roman Empire, may have been home to many hundreds of thousands of people in its golden age. However, particularly after the occupation of the Fourth Crusaders in 1204, the population of this city continued to decrease to just several thousand in the first half of the 15th century.

After the Ottoman conquest in 1453, Mehmet II immediately commenced the city's recovery from war damage and planned to make Constantinople into the Ottoman's new capital. Consequently, through spontaneous migration or sometimes the forced emigration policy of the Ottoman government, the population of this new capital increased to 16,324 households in 1477 (TSMA: D.9524). This number of households means that nearly 35,000 to 50,000 people lived

in Istanbul 25 years after the Ottoman conquest.

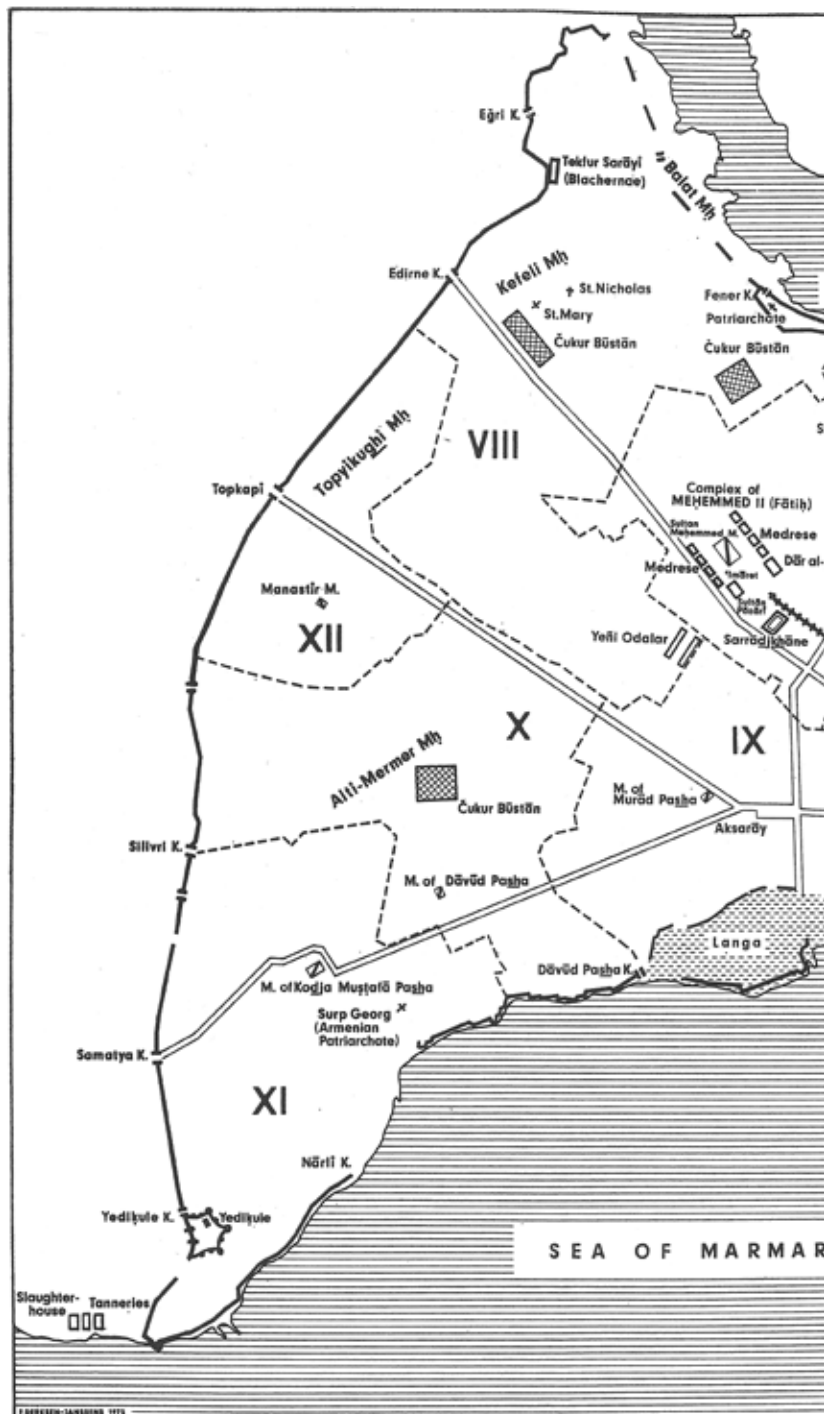
III. The great Istanbul earthquake of 1509

In the summer of 1509, a huge earthquake suddenly struck Istanbul, which was being reconstructed and developed as the Ottoman's new capital following the conquest. The time and date when the main shock happened was recorded differently in the Ottoman chronicles and European records. And as I have mentioned, among several Ottoman chronicles we cannot confirm a consensus for the date when the earthquake occurred. *Ruhi's Chronicle* showed the earliest date, that is the 12th of August, and the latest date, the 9th of October, was recorded by *The Diary of Marino Sanuto (Diarii)*⁶. But Marino Sanuto (1466-1536), the author of the latter, stayed in Venice at that time and might have learned of the earthquake later by Venetian officials or Doge Leonard Loredan (1436-1521) himself. If considering this fact, it is believed that this date is not correct.

In this regard, I would like to look at several Ottoman records, with the exception of *Ruhi's Chronicle*. For example, in *Chronicle of Kemalpaşazade*, the date of the earthquake was recorded as mid-October, and in *The Crown of Histories* by Hoca Saadeddin, it was recorded as having occurred from mid-August to mid-September. In both records, the exact date was not marked. *The Essence of Information* written by Gelibolulu Mustafa Ali a bit later introduced the date as both the 12th of August and the 10th of September. This description was also followed in the 17th century *Chronicle of Solakzade (Solakzade Tarihi)*. The earthquake was likely to have occurred on either of those two days because the 12th of August 1509 is equivalent to the Hegira's (Islamic calendar) 25th Rabi ul-ahira 915; on the other hand, the 10th of September 1509 also corresponds to the 25th, not Rabi ul-ahira but Jumada awwal, which is the following month in the Hegira calendar. It is thought that the name of the month was probably confused in the process when the information about the earthquake was transmitted later.

N.N. Ambraseys, who is a recognized authority on historical earthquakes, wrote some articles about the earthquake of 1509. He counted it backward from the 15th of September written in *The Diary of Marino Sanuto* and concluded the earthquake's outbreak to be the 10th of September (Ambraseys and Finkel 1991: 167f., Ambraseys 2001: 1401). However, in this article, in consideration of the contemporaneity of the description of *Ruhi's Chronicle*, as well as descriptions in other Ottoman chronicles written in the ages following, I want to keep as possibilities for the day when the earthquake was generated both the 12th of August and the 10th of September.

⁶ Marino Sanuto (the younger) was a senator of the Republic of Venice. He recorded a diary (*Diarii*) in detail from 1496 to 1533. In his diary, he mentioned the great Istanbul earthquake of 1509, and recorded its date as the 9th of October. However, his information was grounded on a letter from the ruler of Walachia, whose son stayed in Istanbul at that time, to the Venetian Doge.



“Istanbul,” in *The Encyclopaedia of Islam*, 2nd. ed., Leiden, 1978



The magnitude of the earthquake, although different according to previous research, has been estimated as between magnitude 7.2 and magnitude 8 (Ambraseys 2001: 1421f.). This earthquake, the epicenter of which was in the Marmara Sea, resulted in damage to vast areas ranging for 200 km from east to west and 500 km from north to south, including Istanbul. The Great earthquake of 1509 hugely damaged the major cities of Rumali (the territory of the Ottoman Europe) such as Edirne, Çorlu, Dimetoka (now Didimotiko in north-eastern Greece), and Gelibolu. And even other areas far from the epicenter that were not directly damaged experienced shaking from the earthquake. For example, famous historian Ibn Iyas (1448-1522), who was in Cairo in the same period, left a record of the sway of the 1509 earthquake in his chronicle (Little 2001: 154-158).

The death toll in Istanbul from this earthquake is estimated to be about 5,000 to 10,000 by some Ottoman chronicles. Unfortunately, information about the victims from regions outside of Istanbul has not been left. According to descriptions in the Ottoman chronicles, most victims were crushed to death by collapsed buildings or else died under the rubble when rescue was delayed. In the following, I will overview the status of the damage in Istanbul by quoting *Ruhi's Chronicle*.

On the night of the 15th Rabi al-ahira Hegira 915 (12th of August, 1509), a Tuesday night, a huge earthquake struck and the wall of Constantinople (Kostantiniye) fell down. This meant that, on the land side, from the gate that was known as Eğrikapı Gate to the Yedikule fortress, and then far away to İshak Paşa Kapı Gate on the sea side to the place around the Harem that faced the sea, and from Dilsizkapı Gate to Kayıklarkapı Gate, and along the entire seaside, many towers and watchtowers were broken down. This was a total of about 140,000 zira (nearly 106 km) as the Mimari zira (about 75.8 cm).

Furthermore, the top of four large pillars in the chancel of the Mosque of Sultan Mehmet II were cracked. The iron beams on the right side of the dome fell off and the left side of the beam was bent. The plaster of the largest dome was left peeling, and that dome was torn and cracked. Also, the dome at the top of the imaret (almshouse), the hospital gate, and the chapel fell to the ground. Stables and the baker's oven were destroyed. The auditorium and three domes of Zamiri Madrasa (Islamic school), one of the eight schools that came with the mosque, collapsed. In addition, two domes of another school fell and the wall collapsed.

A lot of shops and stores in the Market of Karamanlı were destroyed. The newly built Mosque of Sultan Bayezid II and its almshouse were also damaged. In particular, those domes fell apart and their arches were cracked. Moreover, the kitchen and food storage area collapsed, and one of the minarets of the mosque fell.

The Gate of Hadım Ali Paşa Mosque⁷ was also cracked, and six columns and obelisks that

7 This mosque was built in 1496 by Hadım Ali Paşa (d.1511) who was a Grand Vezir of Bayezid II. Hadım Ali Paşa Mosque also has been called Atik Ali Paşa Mosque.

were in the Hippodrome fell. Moreover, one madrasa that was in that place also collapsed. İsa Kapı Gate, which had been there for 1,900 years, was broken and fell to the ground. The top of the minaret of Davut Paşa Mosque⁸ fell, and two arches and one dome of that mosque were broken. In addition, 109 mosques and 1,070 houses were destroyed and 5,000 soldiers, slaves, and probationary soldiers were killed by this earthquake. Tips of many minarets collapsed. And then, for 41 days incessantly the earth trembled.

As is apparent from the above description, damage done by the Great Earthquake of 1509 was recorded in *Ruhi's Chronicle* in detail. According to that account, walls surrounding the city of Istanbul had been severely damaged by this earthquake. However, the figure of 140,000 zira, which was written in *Ruhi's Chronicle*, is clearly erroneous. In *The Essence of Information* written by Gelibolulu Mustafa Ali to a slight delay, the length of broken walls was 40,000 arşın (the same as zira), which is about 30.32 km. This number is likely more realistic. In any case, there is no doubt that the walls of Istanbul had been extensively destroyed by the earthquake.

Other public buildings such as the Mosque Complex of Mehmet II were also damaged in the earthquake. Karamanlı market, which was written about immediately after the Mosque of Mehmet II in *Ruhi's Chronicle*, was a market close to that mosque complex. The name was derived from the fact that there was a district of people who had emigrated from Karaman area in central Anatolia.

The newly completed the Mosque Complex of Bayezid II, the successor of Mehmet II, was also damaged by this large earthquake. Besides this, Hadım Ali Paşa Mosque and Davut Paşa Mosque were also affected. And, six stone pillars standing in the Hippodrome, which was used as a place for various rituals, also collapsed. Among these was one obelisk brought from Egypt in ancient Roman times.

According to *Ruhi's Chronicle*, 109 mosques were damaged and 1,070 houses were destroyed in Istanbul by this earthquake. As mentioned above, there were 16,324 households in Istanbul in 1477, and we cannot know by how much the number of households had increased in Istanbul after 30 years. But, if the description in *Ruhi's Chronicle* is assumed to be correct, and considering the fact that the population of Istanbul had rapidly increased through the early 16th century, it is estimated that 1 per 20-30 households suffered damage from the earthquake.

In terms of human suffering, in *Ruhi's Chronicle* it is recorded that 5,000 people were killed. However, this number is limited to soldiers and slaves, so if we were to estimate the number of dead including the general population in Istanbul, the total number would be much more.

8 This mosque was built in 1485 by Davut Paşa (d.1498). He was also a Grand Vezir of Bayezid II.

IV. Recovery from the earthquake: the second recovery

The document D.10029 that is stored in TSMA is a record of the recovery from the Great Istanbul Earthquake of 1509. In the following, I will clarify how Istanbul recovered from the earthquake using this document and the description given in *Ruhi's Chronicle*.

The contents of D.10029 can be roughly divided into three parts. The first part concerns the financial resources necessary for reconstruction from the earthquake. The second part describes the workers and craftsmen that were gathered using these financial resources. The last part is the description of the tools and construction materials for the recovery of Istanbul, which were procured by this fund.

Expenses necessary for reconstruction were financed by the collection of extraordinary tax (avarız). In D.10029, it is recorded that 22 pieces of Ottoman silver coins (akçe) were collected per one household. The collected total amount of money is written down in the same document with the number of the households that became taxable in each area. According to this, 4,185,016 akçe was collected from 191,228 households⁹ in the direct control district (Paşa Sancağı) of the Governor-general of Rumeli Province (Rumeli Beylerbeyliği), which constituted the European territory of the Ottoman Empire. In addition, 9,495,948 akçe was collected from a total of 431,634 households in the Bosna, Semendire, and İzvornik districts of the same province. On the other hand, 11,050,600 akce was collected from 502,300 households in the Anadolu Province located on the Asian side. It is written in *Ruhi's Chronicle* that, similarly, 22 akçe per one household was collected for this extraordinary tax, and the number on D.10029 agrees with that in *Ruhi's Chronicle*.

The sum of the extraordinary tax collected from all over the Ottoman Empire amounted to 24,731,464 akçe. This amount is equivalent to 7.5% of approximately 327,820,000 akçe, which was the total of all tax incomes of the Ottoman Empire in 1527, when 18 years had passed since the Great Istanbul Earthquake (Barkan 1953)¹⁰. If it is assumed that the tax revenues in 1509 were less than the revenue in 1527, it can be concluded that perhaps about 10% of all revenue of the Ottoman Empire was collected just for the recovery of the earthquake. The Ottoman government was running the recovery plan of Istanbul by using these ample funds.

Thus, by using the resources that had been reserved by the temporary tax, labor and materials required for the recovery of urban functions were collected. Also, for labor, for each region that is noted above it was instructed to provide one man per 20 households. According to D.10029, a total of 55,308 workers were sent to Istanbul from all over the Ottoman Empire. Specifically, 31,093 people from Rumeli¹¹, and 25,115 workers from Anatolia were recruited.

⁹ 1,000 households are exemptions from taxation.

¹⁰ However, the incomes from southeast Anatolia, Syria, and Egypt, which were not territories of the Ottoman Empire in 1509, are not included.

¹¹ For 1,000 households, as well as the extraordinary tax, it was also exempted from providing a labor force.

The breakdown of people from Rumeli was 1,250 architects (benna), 250 carpenters (neccar), and 29,593 laborers (ırgat) from among 31,093 people in total, but the breakdown of people from Anatolia are unclear from D.10029.

In *Ruhi's Chronicle*, it is also written that one man per 20 households was secured as part of the labor force for the recovery of Istanbul. However, in *Ruhi's Chronicle* it is written that there were 29,000 people from Rumeli and 37,000 people from Anatolia, numbers that are slightly larger than the description in D.10029. There is a sentence in *Ruhi's Chronicle* stating that “many more people than the ordered number was gathered.” From this fact, it is estimated that many more workers gathered than was expected by the government. Their breakdown was written in the same chronicle and was given as 3,000 masters, 11,000 craftsmen, and 52,000 laborers. Furthermore, in addition to these construction workers, 11,000 standing army soldiers were mobilized in order to burn lime, which is a raw material of mortar that becomes adhesive. In any case, if we take into account the population of Istanbul at that time, which had not reached 200,000, a large amount of labor corresponding to about one-third of the whole population engaged in the reconstruction.

Depicted at the end of D.10029 is information about the procurement of the construction equipment and materials required for the reconstruction. Here, name, unit price, order number, and total amount of these tools and materials has been classified and finely recorded. The ordering destination of these tools and materials made from iron, as also specified under materials, was Samakov (now Samokov in Bulgaria), which flourished as the largest mining city in the Ottoman Empire. Samakov is also often referred to as a mining city in the Primary Registers (Mühimme Defterleri), which is one of the most important documents for Ottoman studies, and was known as the city that supplied anchor (BOA: MD5, no. 469) and iron materials (BOA: MD10, no. 486) to Istanbul.

The various construction tools that were provided from Samakov include 10,000 pickaxes (unit price 7 akçe, total of 70,000 akçe), 10,000 shovels (unit price 7 akçe, total of 70,000 akçe), 500 hammers (unit price 25 akçe, total of 12,500 akçe), and 500 nail pullers (unit price 15 akçe, total of 7,500 akçe). The amount of money spent on the procurement of this large number of construction tools reached 160,000 akçe in total. On the other hand, the amount of money spent on building materials was several times that. Therefore, in the following, I will look in greater detail at the building materials that were reserved for the reconstruction.

The building materials for the reconstruction were also ordered from Samakov, just as the tools were. For example, 500 nails and various spikes, which specialized in a variety of applications, were ordered by weight unit (kantar, about 56.4 kg), not by number. Specifically, spikes for the floors, spikes for the walls, and spikes for the beams were ordered in quantities of 3,000 kantar (about 169.2 tons) each, and 570,000 akçe was spent in total. Although the expenditure is unknown, in addition to this 100,000 spikes for plates, 100,000 enhanced spikes, 50,000 spikes for flat bottoms, and 3,000 kantar of raw iron were sent to Istanbul. This mass of

various nails and spikes suggests that the wooden houses in the city as well as public structures, such as stone walls and large mosques, were also repaired by the Ottoman government.

V. Interference with the reconstruction

Thus, the recovery from the earthquake was carried out intensively through the enormous amount of money, laborers, and construction materials generated by the initiative of the Ottoman government. As we know well, the Ottoman Empire established a very centralized system until the 16th century. This fact made possible the planning and execution of such a reconstruction policy by the Ottoman government.

However, it did not mean that there were no obstacles to that recovery. According to some chronicles, such as *Ruhi's Chronicle*, even after the main shock was over, aftershocks continued constantly over a long period of time. It is easily presumed that restoring the functions of the city was extremely difficult while these aftershocks were occurring continually. According to *Ruhi's Chronicle*, aftershocks continued for 41 days. Another chronicle, *The Essence of Information*, wrote that the "earth continued trembling during the 45 days. People did not sleep under a roof for over two months, and were living in the field."

With a series of aftershocks and winter coming, full-fledged reconstruction was started in the spring of 1510. *Ruhi's Chronicle* described the situation as follows.

Construction was started on the 18th Dzu al-Hijja month of the above-mentioned year (29th of March, 1510). The foundation of buildings were laid and construction works were carried out. With the help of God, work was completed on the 23rd of Safar month of H.916 (1st of June, 1510) and scaffoldings were dismantled. And, the forgiveness of return to their home was given to the cavalry (*müsellem*), infantry (*yaya*), and workers who were gathered, in order to accord with the rules. And, on the 24th of Dhu al-Hijja month (4th of April, 1510), foundation work in Galata opposite Istanbul also began. It was completed on the 29th of Safar month H.916 (7th of June, 1510) by the architect Hayreddin, who was the son of the architect Murat.

From this description, it is at first glance understood that the recovery from the earthquake in Istanbul was completed in a short period of time, just 64 days. Also, according to the description of D.10029, the salaries for workers were paid for up to four months only. From this fact, it can be considered that the Ottoman government did not assume that the time required for recovery would exceed four months. Perhaps it can be also considered that most of the recovery work in Istanbul was completed within a few months.

However, it is necessary to pay attention to the fact that the description in *Ruhi's Chronicle* contains only information about the repairing of public structures, such as the city walls and big mosques. Thus, perhaps more time was needed to finish the overall recovery of the city. To

support this fact, in another document stored in TSMA, E.6051, there is a record that a small mosque affected by the Great Istanbul Earthquake of 1509 had not been repaired until the 29th of November, 1511, though it had needed to be repaired as soon as possible.

Conclusion

As we have discussed above, there is no doubt that the scale of the Great Istanbul Earthquake of 1509 was a one in a hundred years' occurrence in the eastern Mediterranean. In addition, it is certain that Istanbul, which was evolving as the new capital of the Ottoman Empire, incurred massive damage on both a human and material level because of this earthquake.

On the other hand, recovery after the earthquake was successfully planned and carried out by the Ottoman government. In the framework of Ottoman history, this recovery should be positioned as a "second recovery" following the war damage recovery that was carried out after the conquest of Constantinople in 1453. This recovery after the earthquake has not been paid much attention in Ottoman research until now. However, the recovery from the Great Istanbul Earthquake of 1509 can be evaluated as very important for having further accelerated the development of this city, which was being rebuilt as the new capital of the Ottoman Empire in the decades after 1453. After these two recoveries, Istanbul's population began to rapidly increase. As a result, in the mid-16th century, Istanbul had grown into a huge city that suffered from various urban problems, such as food shortages and insecurity, due to its overpopulation (Sawai 2007/2010).

As already mentioned, 109 mosques that had been in Istanbul at that time were damaged by the Great Istanbul Earthquake of 1509. After the recovery from the earthquake, the number of mosques in Istanbul increased to at least 205 in 1546 (Barkan and Ayverdi 1970). And in 1768, the number of mosques in Istanbul reached 821, including small Masjids (Ayvansarayi Hüseyin Efendi 2001). This fact clearly shows that the Muslim population increased year by year in Istanbul. Needless to say, non-Muslims, that is Christians and Jews, also naturally increased in number in Istanbul during this period. In any case, the Great Istanbul Earthquake of 1509 and subsequent recovery provided an important opportunity for Istanbul, with its long history dating from ancient times, to be transformed into the new capital of the Ottoman Empire.

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