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ABSTRACT

METU SCIENCE AND TECHNOLOGY COLLECTION: DETAILS FROM ARCHAEOLOGICAL EXHIBITIONS

The activities of the Science and Technology Collection located within the Middle East Technical University campus are concentrated on four main areas. These are Science and Technology History Exhibition, Classic Automobiles Exhibition, Hands-on Science Center and Open Air Exhibition Area. The Science and Technology History Exhibition can be grouped in three types of exhibitions. The first group is composed of exhibitions showing the advancement of science and technology in Anatolia down the ages. The second group includes exhibitions showing the enhancement of technologies such as writing, medicine and textile. The third group, on the other hand, is composed of exhibitions where certain working spaces (blacksmith, coppersmith, pharmacy, photography studio and laboratory, radio repair shop etc.) from Ottoman and Republican periods are reconstructed. In these collections, the replicates of archaeological objects and the originals of Ottoman and Republican periods objects are put on display.

In this article, general information will be provided with regards to exhibitions showing the development of science and technology in Anatolia throughout the millennia, and more detail will be given on the Hittite Period Exhibition. Extensive information will be given on some selected objects of Hittite Period Exhibition, such as Alaca Höyük reliefs, earthenware pipes used as part of water supply system of the city, a Hittite musical instrument (lute/guitar-like), a saw, a pot bellows, a loom, and clothes and shoes of soldiers.

Keywords: Collection, Anatolia, Hittite, Exhibition, Science, Technology

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Introduction

The Science and Technology Collection that is currently actively working as part of the Middle East Technical University Society and Science Application and Research Center was first launched in 2000. The first, introductory exhibition was opened its doors to visitors in 2003, and the collection was transferred to its current location in 2005. The collection is active in four different areas: Science and Technology History Exhibition, Classic Automobiles Exhibition, Hands-on Science Center and Open Air Exhibition.

The Science and Technology History Exhibition, currently housed within the large silo building, is composed of three different themes. One of these includes exhibitions that aim to demonstrate the scientific and technological advancements throughout the ages in Anatolia. The second group of exhibitions focusses on the development of technological fields such as writing, medicine, chemistry and textile, while third group is composed of exhibitions, where the working spaces of certain professions from Ottoman and Turkish Republican Periods are on display. To this end, replicas of objects with archaeological value are used, while originals are used for the objects from the pre- and post-Republican periods.

In the exhibitions that aim to demonstrate the scientific and technological developments in Anatolia, a chronological timeline from the formation of the universe to the Republican Era is followed, and the replicas of artefacts from Anatolian civilizations are displayed.

Geological Times Exhibition

In the first exhibition cell, where the geological timeline is explained, information is given on big bang, the formation of solar system and our planet and on the subsequent boost in the diversity of species. Visitors of this exhibition learn a lot about the formation of the universe, and also find the opportunity to closely examine models of certain dinosaurs that lived in the second period of the Mesozoic Era (61-251 million years ago), Jurassic Period (146-200 million years ago). Among these, model of Brachiosaurus especially conquers the hearts of our younger visitors. Right next to this exhibitions cell, replicas of hominid skulls from up to 3.8 million years ago are displayed. Further, replicas of stone tools, used for cutting or piercing, help visitors learn more about these appliances, once used on a daily basis.

Göbekli Tepe Exhibition

Göbekli Tepe, located 2.5 km to the east of Örencik Village in 15 km northeast of Şanlıurfa, is the archaeological site of the world's oldest temple dated to Pre-Pottery Neolithic Period (Schmidt, 2007: 115). Extensive investigations in this area led to findings from hunter-gatherer communities which show that this area is likely to have once been covered with monumental structures erected approximately 12,000 years ago for ritual purposes (Schmidt, 2009: 11). The most characteristic feature of these circular structures is that they have very heavy, monolithic T-shaped pillars within them (Dietrich et al., 2012: 52; Schmidt, 2011: 921). These limestone pillars are covered by reliefs, often depicting lions, snakes, cranes, foxes, bulls, wild boars and gazelles (Schmidt, 2011: 65). A large amount of symbolic objects was also unearthed. Another finding group is composed of shells, fills, flint knives and small blades (Dietrich et al., 2012: 54). Göbekli Tepe is extremely important as it helps us better understand how the local people in the Pre-Pottery Neolithic Period perceived the symbolical world (Sagona and Zimansky, 2015: 59; Schmidt, 2007: 115). A partial replica of this monumental structure is on display at the Science and Technology Collection. Further, pillars with depictions of lions, boars, foxes and cranes, and a high-relief portraying some type of a reptile can be seen in this collection (Schmidt, 2007: 164 Fig. 25, 188 Fig. 59, 290 Fig. 103).

Neolithic Period Exhibition

The Neolithic Period that marks the transition between a hunter-gatherer and nomadic lifestyle to animal domestication and communal living in the villages should be considered as the period when the foundations of the civilisation were laid, and thus is of utmost importance. This period can be grouped in two as Pre-Pottery Neolithic Period and Pottery Neolithic Period. During Pre-Pottery Neolithic Period, while people started a settled life within villages with distinguished architectural features, integrating grains into their diets and domesticating animals, they continued to hunting and gathering. In the Pottery Neolithic Period, on the other hand, the economic model based on farming and food production was fully adopted within the society (Özdoğan, 2011a: 56). The architectural transformation from shelters to huts completed its course in a long period. In the early Neolithic Period, the residential architecture was mostly characterised by round huts, where the upper structure was woven using twig and reed-like materials and finished with mud. These structures became insufficient in time as new necessities such as food preparation and storage emerged. This situation is believed to have led to more spacious, rectangular buildings with upright walls made of mudbrick on stone foundations (Özdoğan, 2011a: 58-59). Our collection, in addition to house models that show the architectural development of the era (Çayönü-Diyarbakır, Ilıpınar-Iznik, Hacılar-Burdur), has also a Neolithic house replica on display. These houses, also found in Çatalhöyük, do not have doors, and the entrances are from the roof via portable wooden ladders. The divans inside the houses are used to store belongings as well as for sleeping. It was found out that the dead was buried underfloor within the house, under these divans (Akurgal, 1989: 22; Hodder, 2011: 110; Mellaart, 2003: 38-42, 47, 92, 168; Naumann, 1998: 494; Özdoğan, 2011a: 61; Öztan, 2007: 224-225). The exhibition offers also replicas of certain domestic appliances, including the objects that show the food preparation technology of the era, such as grain grounding stone that we see, for in-

stance, in Körtik Tepe and Çayönü, tools and spoons made of bone, as well as vessels and obsidian mirrors that show the institutionalisation of farming village life based on a certain production model (Esin and Harmankaya, 2007: 270 Fig. 19; Mellaart, 2003: 5; Özdoğan, 2007: 409 Fig. 4-5, 419 Fig. 23; Özdoğan, 2011b: 78; Özkaya and San, 2007: 26 Fig. 23).

Fig. 1. Neolithic House (Neolithic Period Exhibition), METU Science and Technology Collection

Chalcolithic Age and Early Bronze Age Exhibitions

The current findings suggest that it was Anatolia where mining first emerged - Anatolian people discovered metal deposits and produced objects that they needed, such as tools, symbols, ornaments, guns and vessels. Archaeological findings clearly show that the first metal ever taken out and worked was copper, and that groups living in Aksaray-Aşıklı Höyük and Diyarbakır-Çayönü collected native copper, naturally present in the nature in the pure form, and worked it using simple methods to produce small tools and ornaments. Anatolian mining can be examined in the following chronological segments: Preliminary Stage – before 8200 B.C. (nonmetallic period), Beginning Stage – after 8200 B.C. (monometallic period), Development Stage – after 5000 B.C. (beginning of extractive metallurgy), Organisation/Experimentation Stage – after 4000 B.C. (advanced metallurgy), and the Industrial Stage – after 2800 B.C. (Bronze and Iron Ages). It is known that people collected malachite but not worked it during the Preliminary Stage, and that they started to produce objects with these from approximately 9000 B.C. onwards. The Beginning Stage is very noteworthy as this is when people introduced pyro-method; they started to use fire that previously used only for heating purposes for heating and shaping native copper, and realised that this way they could work copper more easily and make more durable productions. This formed the basis of mining (Bilgi et al., 2004: 3-9; Yalçın, 2008: 18-19). During the Chalcolithic Era, also called as Development Stage when the urbanisation of agriculturist villagers took place, copper ore was for the first time smelt in the crucibles into pure copper. Thus, copper was used for the first time in the production of axes and chisels by casting (Bilgi et al., 2004: 9-10; Özdoğan, 2011c: 102). The replicas of some crucibles and chisels obtained from one of the settlements of the era, Kuruçay Höyük, can be seen at the Science and Technology Collection Chalcolithic Era Exhibition. Other replicas on display in this section include a mortar, a copper knife and a copper needle, the originals of which were discovered at the same location (Umurtak, 1996a: 52 Pl. 149; Umurtak, 1996b: 56-57 Pl. 161,166; Umurtak, 1996c: 60 Pl. 166). Thanks to the melting and casting techniques, it became possible to produce larger and more complicated objects, and therefore this period marks a major milestone in the technological advancement of mining (Sagona and Zimansky, 2015: 129). In the Organisation/Experimentation Stage, miners started to produce ores with more complex compounds and try to work these. They started to produce objects made of copper ores with arsenic additives (Bilgi et al., 2004: 13). One of the locations with best examples of these is Malatya-Arslantepe Höyüğü, which also acted as one of the political centers of the area. Arslantepe is also important for showing the first appearance of a state system, which is not unique to Lower and Upper Mesopotamia (Sagona and Zimansky, 2015: 134). Among the replicas from this höyük in our collection's Chalcolithic Era Exhibition, the spearheads and swords made of arsenical copper using by casting are especially attention grabbing. These are the first long swords, and are unprecedented with their length (Belli, 2004: 9-10; Frangipane, 2000: 451, 471 Fig. 17; Frangipane, 2011: 134-135). Widespread use of metal in objects like swords and spearheads is an indication of the power and prestige of the politically dominant class. In this period when metal becomes very prevalent and metallurgy reaches quite an advanced technological level (Frangipane, 2002: 284, 289 Fig. 77). In the Early Bronze Age, which is also known as the Industrial Stage of Metallurgy, on the other hand, we observe a boost in the amount of overall production and significant improvement in the detailing. Arsenical copper was used also in this phase, but we do not have many bronze findings from this particular era. This is because tin that is needed for the production of bronze is not widely available in Anatolia. The very first bronze objects in Anatolia appear half way through this phase. We know that in the Industrial Stage, both open and closed moulds were used for forging purposes (Bilgi et al., 2004: 14-19). Some objects unearthed in Çorum-Alaca Höyük and Amasya-Mahmatlar, which are among the most important settlements of the era, are on display at the Science and Technology Collection Early Bronze Age Exhibition. These replicas include axes and other weapons, and draw a lot of attention from our visitors for the clear technological advancement they demonstrate.

Assyrian Trade Colonies Period Exhibition

During the Assyrian Colonies Period, known as the start of history in Anatolia, not only a very widespread commerce network was established, but also Anatolia was introduced for the first time with writing. Assyrian merchants who are extremely experienced in commerce started in time

to pursue their activities with Anatolia, and then they further developed this relationship, which led to a number of colonies (Özgüç, 2011: 244). Assyrian merchants brought tin and textile to Anatolia, in exchange with raw materials such as copper, silver and wood (Akurgal, 1988: 46). Assyrian colonies were called kārum and wabartum, centrally governed by the kārum located at Kültepe (Kaniş/Neşa) (Bryce, 2005: 21-23; Günbattı, 2012: 6-8). Kültepe is therefore a highly important center, where a vast amount of documents and archaeological findings from Assyrian Colonies Period were unearthed. The exhibition that deals with this particular period has replicas of some of these on display. As the most important findings from this era that marks the introduction of writing systems are tablet kilns and clay tablets, the kiln replica exhibited here draw particular attention. Visitors who often initially think that the kiln is for baking bread are rather surprised to find out that it is actually for tablets. Stone moulds and metal objects form another group of findings, currently on display here from this era (Özgüç, 2005: 217 Fig. 258-259, 220-221 Fig. 265-266). We see that the casting skills culminate in this era with past experiences (Bilgi et al., 2004: 24-29). Haematite weights show that the wide commerce network was based very much on measurements and scales (Kürkman, 2003: 18; Özgüç, 2005: 26).

Fig.2. Stone Mould (Assyrian Trade Colonies Period Exhibition), METU Science and Technology Collection

Hittite Period Exhibition

Hittites lived in Anatolia in the second millennium B.C., and founded a vast empire, centrally governed from Boğazköy in today's Boğazkale, Çorum. Hittite language used by this civilisation is known to be the oldest member of the Indo-European language family. Hittites used two writing systems (bigraph); they adopted cuneiform writing, which is a syllable writing system in the Old Babylonian style, on clay tablet, and hieroglyph writing on rocks, seals, stone blocks and certain vessels and objects. The most important cultural remains from the Hittites is the cuneiform tablets, which provide us with extremely important information from king annals, legal texts, treaties, instructions and religious texts (Karasu, 1997: 215-216; Karasu, 2006: 4-5; Savaş, 2013: 41). Cuneiform script is composed of symbols in the shape of a wedge, grooved on a clay tablet by means of a red stylus. These symbols can be in five different directions: "horizontal wedge, vertical wedge, upward diagonal, downward diagonal and a hook (in Turkish köşe çengeli, in German Winkelhaken) (Karasu, 2013: 88). Who drew up ideograms, pointing out a syllable or an entire word, were undoubtably Hittite scribes, which were thoroughly trained at the scribe schools, through a harsh education given the importance and difficulty of their occupation (Aslantürk, 2014: 38-39; Bryce, 2003: 75). In fact, the famous "House on the Slope" found in the capital Boğazköy is considered to be one of these scribe schools (Bryce, 2003, s. 81; Savaş, 2013, s. 52).

Hittite Period Exhibition, where some of the Alaca Höyük reliefs and a number of archaeological objects are on display, gives important information to the visitors about this particular era. As this is essentially an Anatolian civilisation, the artefacts that they left behind are especially crucial for our understanding of the Anatolian history. Further information about some of the objects that can be found at these exhibitions are given below:

1. Alaca Höyük Reliefs: The pantheon of polytheistic Hittites includes idiosyncratic Indo-European deities, Hattian deities, Luwian and Pala deities. Further, Hurrian deities, Sumerian and Babylonian deities as well as gods of the Indo-Aryan ethnicities were all included within the Hittite official religion and pantheon. Hurrian deities that deeply influenced Hittites from a religious perspective have an especially important place in the Hittite pantheon (Aslantürk, 2015: 61). The highest deity of the Hittites is the Storm God. Hittites depicted their gods in the form of a man or an animal, or represented via a stone object (huvaši) (de Martino, 2013: 410). As our knowledge on the societal life during this period is rather scarce, the available texts and reliefs are the major source of information about the state's cult ceremonies and festivals. We understand that it was vital to sacrifice animals or libate drinks, or accompanying worship by singing, playing music and dancing before the statue of the deity or the altar during the religious festivals, which took place with the attendance of king, queen, princes, princesses and high-rank officers, as well as during corteges and at the ritual halls often found within temples. On the vases and reliefs, Hittite kings are often depicted presenting offerings to the gods, accompanied by musicians. During these musical ceremonies, the chanters and musicians are accompanies by dancers and acrobats. This sort of scenes is abundant on reliefs unearthed in Alaca Höyük, which is dated to the Hittite period. Some of these are on display at our exhibition. The main scene of the relief exhibited here shows the king, with a praying or worshiping gesture, before the altar, doing offerings. Right behind the king the queen is depicted with her hands up, praying, and we see an officer taking the animals to be sacrificed for the cult. Another scene depicts acrobats during their show. In another scene depicting animal sacrifice, we see a musician, sacrifice animal, and officers carrying sacrifice libation or playing a musical instrument

(Alp, 1999: 1, 12, 14, 27; Baltacıoğlu, 2006: 26-28). An instrument, similar to a lavta or a guitar, was manufactured based on the depiction on this relief, and included in this exhibition (Alp, 1999: 27; Baltacıoğlu, 1995: 5 and fn. 31-32). Musical instruments common among the Hittites can be grouped in three as string (harp, lyre, lavta), percussion (cymbal, tambourine, drums) and wind (flute – long reed pipe, double oboe and cornet) instruments (Conka, 2011: 295). Alaca Höyük reliefs are therefore quite interesting with the depictions of Hittite religious scenes and their very fine carving. Further, they represent the climax of Hittite stone art.

Fig.3. Alaca Höyük Reliefs (Hittite Period Exhibition), METU Science and Technology Collection

2. Weaving Loom: While we do not have conclusive information on whether or not Hittites produced fabric, available texts talk about processing the fabric. Texts and archaeological findings suggest that people did weaving at home. One of the indicators of this is a high number of loom weights and clothing pins unearthed during excavations. The pins that were found around the big temple in Boğazköy suggest that weavers often gathered in ateliers around the temple (Doğan-Alparslan, 2011: 290). One of the texts about the KI.LAM festival, which is one of the largest festivals of the Hittites, mentions that the cult officers wore first or second class clothing, dictated by the hierarchical order among them (Arıkan, 2003: 12-13). The weaving loom that is on display at our collection is a warp-weighted loom, used in the Aegean Region of Anatolia during the Hittite period. The replica of this loom was prepared by Assist. Prof. Dr. Özlem Tütüncüler in 2000 during her graduate studies, and later was donated to METU Science and Technology Collection for exhibition purposes (Koç, 2006: 70; Tütüncüler, 2004: 293 and Fig. 3a).

3. Metal Objects: Metal was one of the most important item in the Hittites' daily lives. Information that we obtain from various texts indicates a well-established metallurgy. Metal objects produced by casting were unearthed also outside the capital Boğazköy. The majority of the metal objects from Bronze Age is composed of axes used in carpentry. Among the exhibited objects is a rare example of a saw, discovered in Boğazköy. This saw that is believed to have been used by carpenters is unique in Anatolia. The most interesting fact about this 67.5 cm long object, weighing 2.5 kg, is that it is surprisingly similar to its modern counterparts. Another object that is worth to mention is an anvil/cutter with multiple tips/four armed nail that is thought to have been used by jewellers. This tool that can be fixed to a wooden base via its long arm might have been used to shape up various metal objects by means of its levers with different tips (Bilgi, 2004: 90, 97; Jacob, 2002: Fig. 148-149; Savaş, 2006: 93-95 and fn. 315). Other metal objects on display include axes, sickles, spearheads and a fishing rod that is considered quite important for fishing history (Ertem, 1988: 19, 22 and Cat. 37-38, 28-29 and Cat. 75-78, 31-32 and Cat. 87).

4. Water Pipes: Hittites founded a pipe network in order to transfer spring water to the cities and to meet the water demand. The network that was designed for this purpose was composed of earthen pipes, whose rims sit in one another, to form a long pipeline. Pipes had wide, punctured rims, and these punctures, which were used to clean up the congested parts of the pipeline and for maintenance purposes, were filled up with stones or clay. Water pipes are often 60-96 cm long, with rim diameter ranging between 20-25 and 11-15 cm (Jacob, 2002: Fig. 150-152; Naumann, 1998: 199-201; Seeher, 2006: 60, 98 and Fig. 104; Ünal, 2005: 70-71). In an edict that contains the orders of the Hittite king to a castle commander includes this passage about the water pipeline:

"Water pipes (canals) of the bathhouse and house of the cupbearer are to be gathered! They are to be looked into! Those that are congested with (dirty) water are to be swept upwards. Make sure that the birds around puddles in the area under your administration are healthy (Alp, 2005: 79)."

Water pipes used to bring drinking water to cities were also used to take away and discharge dirty water and rainwater. A passage from a text regarding the maintenance of the roof of the temple dedicated to the Hittite Sun Goddess, as well as a slab unearthed in Alaca Höyük and dated to the Hittite period, give evidence to this conclusion (Arıkan, 2003: 22-23; Naumann, 1998: 206-209). Replicas of these water pipes that are currently on display at our Hittite Period Exhibition provide detailed visual information about this ancient water network and attracts massive attention from our visitors.

5. Pot Bellows: Bellows, which are an extremely important apparatus for metallurgy, were used by Hittites in order to melt metal by providing an efficient and controlled airflow into the furnace or the kiln. A number of bellows were unearthed in the ateliers discovered in Kültepe. There are grooves under bellows' mouths that are used to tie them up with skin cover. At the bottom, a cylindrical nose, and airflow is transferred into the furnace via the blowpipe attached to this nose. The ateliers found during the excavation at Kültepe, pot bellows, furnaces, crucibles and

moulds for casting purposes were found all at the same place (Bilgi et al., 2004: 25; Savaş, 2006: 95 and fn. 321). Our exhibition houses the replica of a pot bellows discovered in Alaca Höyük, which draws a lot of attention for demonstrating one of the metallurgical technologies of the era.

Fig. 4. Pot bellows (Hittite Period Exhibition), METU Science and Technology Collection

6. Hittite Warrior Clothing and Equipment: The soldiers of the regular army of the Hittites wore short skirts, shield, helmet and boots/shoes with upturned end/toe, and used daggers, swords, spears, axes, bow and arrows for warring. However, the biggest power of the army was the chariots. The skeleton of these two wheel chariots, each driven by three soldiers during the war and pulled by two horses, was made of timber, and it had a leather cover (Koç, 2006: 74-75). The reliefs and wall-paintings in Abu Simbel and Luxor, depicting the Battle of Kadesh that took place between Hittite and Egyptian forces provide important information about the Hittite troops composed of infantry and charioteers (Lorenz and Schrakamp, 2011: 126, 128-130 Fig. 1-4, 132-134 Fig. 5-7). The god relief on the King's Gate, which is one of the three main gates of the capital Boğazköy, is believed to depict the equipment of a Hittite soldier during an expedition (Bryce, 2007: 15-16). The warrior outfit and equipment that is currently on display at our collection were originally produced for the documentary film titled "The Hittites" and following the film were donated to the exhibition by the director Tolga Örnek (Örnek, 2003).

Iron Age Exhibition

Following the devastation that the Hittites went through in the beginning of the 12th century B.C., Bronze Age came to an end and Iron Age started, new people and political powers started important civilisations, including Neo-Hittites in the south central Anatolia and neighbouring regions with Syria, Urartians in the eastern Anatolia, Phrygians and Lydians in the central Anatolia, Lycians in the Southwest Anatolia and Ionians in the Aegean Region (Akurgal, 1995: 96; Sagona and Zimansky, 2015: 257). In this period the use of iron became more widespread, however the amount of bronze artefacts was still higher. The findings from this era include Neo-Hittite, Urartian, Phrygian and Lydian reliefs and objects.

Neo-Hittites did not use cuneiform script, and most of the written material that survived to this day from that era is composed of monumental inscriptions. They further developed the relief technique that was also used during the Empire (Sagona and Zimansky, 2015: 261-262). Neo-Hittite reliefs on display at our exhibition as a continuation of the Hittite tradition include replicas of the following: Tombstone depicting a mother and a son, that was unearthed in Maraş and currently located in Adana Museum; Tombstone depicting a man holding a scale, presently on display at the Louvre Museum in Paris; relief depicting king of Sam'al (Zincirli) and (possibly) his scribe, which is currently exhibited in Berlin-Das Vorderasiatische Museum (Akurgal, 1995: Pl. 117, 147, 152). Further, a copy of Barrakib's throne was manufactured based on this relief, and is currently on display at the Iron Age Exhibition.

Fig. 5. Mother and (scribe) son (Iron Age Exhibition), METU Science and Technology Collection

Urartians, who founded a theocratic state, centrally governed from Van-Tuşpa, despite not being dominant over as vast an area as the Hittites, have been equally successful with establishing access to raw material. They produced outstanding metal artefacts and were highly advanced in the art of casting (Bilgi, 2004: 102; Sagona and Zimansky, 2015: 281-282). Archaeological findings suggest that Urartians introduced and developed iron metallurgy. All these were produced by forging technique (Bilgi, 2004: 102). Especially from the 7th century B.C. onwards, Urartians produce a vast amount of iron objects and weapons. Because iron is not resistant to nature's destruction as much

as bronze, the objects found during the excavations are often rather deteriorated. Also because of the deformation caused by oxidation, these artefacts have often been neglected. Therefore, although this is an Iron Age kingdom, the majority of the unearthed artistic objects were made of copper and bronze (Çilingiroğlu, 1997: 108). Agricultural pitchforks, quivers and large caldrons made of bronze from this era can be seen at our exhibition. That among Urartian artefacts are also copper, silver and golden objects in addition to iron and bronze suggests that this civilization was a metalworking and production center (Çilingiroğlu, 1997: 107).

The center of the kingdom of Phrygians that are believed to be originally from outside Anatolia Polatlı-Gordion. We understand that they were in close cultural relationship with the Hittites, and produced extremely interesting rock-cut monuments and tumuli (Sagona and Zimansky, 2015: 317). The most well-known of these is the Arslantaş Monument located in the Göynüş Valley. A small-scale replica of the relief depicting self-standing two lions, located at the entrance of this monument, was produced and is now on display at the Iron Age Exhibition. This artefact is important for showing the level of monumental architecture that the Phrygians attained. The rest of Phrygian artefacts found in the exhibitions are composed of bronze caldron and pots found in the Great Tumulus.

Lydians, who mixed gold and silver in certain proportions and minted electron coins, are known to be the first civilization inventing money (Sagona and Zimansky, 2015: 327). Some examples of these coins can be seen in the exhibition, along with a number of punches for earrings and square rosettes.

Fig.6. Electron coins (Iron Age Exhibition), METU Science and Technology Collection

Roman, Seljuk-Ottoman and Republic Periods Exhibitions

The Roman Period Exhibition houses a number of glass objects and others demonstrating food production technologies, but perhaps the most important artefacts on display here are the Ephesus Medical Instruments. These tools were unearthed from a tomb, which probably were buried with the body of a doctor (Uzel, 2000: 219 and Pl. LIX-LXVI). In the subsequent Seljuk-Ottoman Exhibition, on the other hand, medicine and astronomy related objects and more daily tools are displayed, with posters that provide thorough information about the era. Further, other objects that reflect the Turkish Republican Era industrialization via printing machines, printing blocks, weighbridges, old banknotes and newspapers from recent past can be seen here.

Conclusion

The most important characteristic of these archaeological exhibitions housing replicas of artefacts from Anatolian civilizations is that they show the scientific and technological advancement in Anatolia throughout its history, covering a wide range of different technologies.

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