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## INVESTIGATION OF THE HISTORICAL DEVELOPMENT OF THE INKWELL FROM ANTIQUITY TO THE PRESENT IN THE LIGHT OF TERRACOTTA, FAIENCE, METAL AND GLASS ARTIFACTS

Eskiçağ'dan Günümüze Mürekkep Hokkasının Tarihsel Gelişiminin Pişmiş Toprak, Fayans, Metal ve Cam Eserler Işığında İncelenmesi

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### Abstract

The invention of writing in ancient times is a literary beginning of the record archive for mankind. While the records in this archive were initially processed on elements such as stone, clay, wax and wood, in the later process they were processed on easy-to-write elements such as papyrus, parchment and paper. The substance used to write on them is ink. The functional properties of the ink such as long-term use, preservation of quality and no odor have been made possible by the use of inkwells. In this study, it is aimed to examine the inkwells made of terracotta, tile, metal and glass chronologically, to deal with their forms, to determine their place among writing and writing instruments and to deal with their historical development as a whole.

**Keywords:** Antiquity, Inkwell, Glass, Faience, Terra-cotta.

### Öz

Eskiçağda yazının icadı, insanoğlu için kayıt arşivinin yazınsal bir başlangıcıdır. Bu arşivdeki kayıtlar ilk başlarda taş, kil, balmumu ve ağaç gibi unsurlara işlenmeye başlarken, sonraki süreçte papirüs, parşömen ve kâğıt gibi üzerine yazımı kolay unsurlara işlenmiştir. Üzerlerine yazmak için kullanılan madde mürekkeptir. Mürekkebin uzun süreli kullanımı, kalitesini koruması ve koku yapmaması gibi fonksiyonel özellikleri de hokka kullanımları ile mümkün olmuştur. Bu çalışmamızda pişmiş toprak, fayans, metal ve camdan üretilmiş mürekkep hokkalarının kronolojik olarak incelenmesi, formlarının ele alınması, yazı ve yazı gereçleri arasındaki yerinin belirlenmesi ve tarihsel gelişiminin bir bütün ele alınması amaçlanmıştır.

**Anahtar Kelimeler:** Eskiçağ, Mürekkep hokkası, Cam, Fayans, Pişmiş Toprak.

## 1. INTRODUCTION

One of the most important events of antiquity is undoubtedly the invention of writing. Many events and subjects were recorded through writing, and they were transferred from generation to generation regardless of time and place. On this occasion, societies learn all the events recorded by the previous societies and ensure their sharing. This recording event is first carried out using elements such as stone, clay, wood and wax. In the next process, it is made with easily accessible elements such as papyrus,

parchment and paper. However, it is very important to preserve the ink that unites them as well as writing and paper, that is, allowing the writing to be written permanently on a piece of paper. In this regard, historical chronology has been re-examined and discussed. Because when the sources are examined, it is seen that the inkwell was lost among the invention of writing and the materials on which the writing was written. It is as if the existence of the inkwell was forgotten. However, it is undoubtedly ink that best introduces us to writing and its elements. The biggest share in preserving this is the inkwell. Accordingly, black and red inks were used in the written texts of the Old Kingdom Period in Egypt. The use of black and red ink continued in Egypt during the Hellenistic Period. Black ink is obtained from soot and soot. The red ink was created using ocher. Animal and vegetable oils were used in the mixtures. Generally, it has been tried to obtain quality ink. In order to preserve them, sea shells such as mussels and oysters were used at first. They were also used as ink palettes. In the Roman Period, inkwells gradually took the expected shape and started to appear as cylindrical, flat-bottomed and single-handled types. Inkwells appeared a lot, especially in the writing of manuscripts and paintings during the Byzantine Period. The most common known forms are inkwells with a spherical body and a cylindrical neck. Since the use of “divit” became popular in the Ottoman Period, the writing culture also became widespread. For this reason, bottle-shaped inkwells have started to become widespread for the protection of inks. Nowadays, flat-bottomed inkwells with a leak-proof cap, in which the pen is easily dipped into, have gained popularity. However, the culture of using ink has begun to turn to very different formations, apart from handicrafts and nostalgic areas of use.

The effect of technological factors on this issue is an undeniable fact. In this study, the inkwell was examined in all its aspects, and its development was reconsidered in the light of historical and archaeological data. Also while examining the historical development of the inkwell, its forms and the change in their forms are explained in detail. Terracotta, faience, metal and glass artifacts related to the subject are emphasized. While doing this, attention was paid to the chronological situation.

## **2. INKWELL: A NEW LOOK ON ITS HISTORICAL DEVELOPMENT AND A CHRONOLOGICAL REVIEW**

### **2.1. Definition and Technical Explanations: A Brief Overview**

Writing is essential for the development of civilization. Writing has been used to enable people to keep records, to transmit and store information

relatively easily, and to disseminate it over a wide area and time. Archaeological data indicate that writing began in 3500-3000 BC with inscriptions engraved on the surface of stone, clay or wax tablets and tree bark. At a later stage, papyrus, parchment and paper came into use. However, writing was created by using brushes, reeds, pencils and similar tools. Writing on any surface using different materials has also revealed a contrast situation. These contrast agents are commonly known as inks (Sibilia, Stani, Gigli, Pollastri, Migliori, d'Amico, Schmid, Licen, Crosera, Adami, Barbieri, Plasier, Aquilanti, Vaccari, Buson and Gonzato 2021: 1).

Inkwell comes from the Greek word “enkauston” meaning burnt, cooked (Sibilia, Stani, Gigli, Pollastri, Migliori, d'Amico, Schmid, Licen, Crosera, Adami, Barbieri, Plasier, Aquilanti, Vaccari, Buson and Gonzato 2021: 1). It is defined as “ātrāmentāriūm” in Latin (Özer and Doksanaltı, 2017: 296; Bussiere and Wohl, 2017: 1), “Siyahidan” in Persian (Özgeriş 2014: 187), and “devat” in Arabic (Memiş 2017). Similar to an inkwell, inkwell (Isings 1957: 93, Form.77; Whitehouse 1997: 209, No. 360; Wight 2011: Fig. 95) or oil lamp (Wight 2011: 122-23, Fig. 92-93; Lightfoot 2013: 425-426). In Arabic, the word “hokka” meaning “small box” and the words “devat”, “mihbere”, “furza”, “mecma” are used in the same sense (Özgeriş 2014: 187). The Turkish equivalent of the word devat is the word “divit”. Divit consists of an inkwell and a narrow and long body (pen) in which writing instruments such as pens, sharpeners and makta are kept (Kayaoğlu 1998: 136; Memiş 2017: Photo 10). With a general definition, the opinions that the examples with lids, also called inkwells, are used for the storage of various objects, emerged as a result of the comparison of similar examples in different museum collections.

It is thought that this type of vials, which have a cap and a narrow mouth, were used as inkwells (Delemen and Çokay-Kepçe 2009: 3, Fig. 9; Lightfoot 2013: 431, Figs. 3-4). These forms, which are equipped with small lids, are composed of shells (Marwan, Eldin and Aboudy 2022: 18. Pl. 16), terracotta (Streckert and Seevens 2019: 51-52, Fig.1-2. (Early Roman Period); Vitoa, Medeghini, Mignardi, Coletti and Contino 2017: 1779-1788), metal (Uzel, 2000: LXXV, No. 48; Belli 2004: 160, Res. 108; Rasmussen, Tenorio, Bonaduce, Colombini, Birolo, Galano, Amoresano, Doudna, Examples made of Bond, Palleschi, Lorenzetti, Legnaioli, Plicht and Gunneweg 2012: 2957, Fig. 2), glass (Lightfoot 2013: 431, Figs.1-2) and faience (Kidd 2017: 242, Fig. 4) are known (Lightfoot 2013: 427; Bussiere and Wohl 2017: 1).

## 2.2. A Chronological Re-Examination of the Data: A New Arrangement

The oldest known papyrus is from the Old Kingdom Period of Egypt (2500 BC). Today it is exhibited in the Egyptian Museum in Cairo. It was found in Wadi El-Jarf Harbor. It describes the daily life of the workers working in the pyramid. Black ink is used in the text. The first papyrus from the Middle Kingdom Period.

Written near the Pyramid of Senusret (1887-1878 BC), it presents problems with arithmetic progression. This is also known as the “Kahun IV Papyrus”. Today it is exhibited in the Petrie Museum. Black ink was used on the earliest medical papyrus of the late Middle Kingdom (1800 BC) (Hassaan 2018: 8, Figs. 1-3). Both black and red ink appear to have been used on papyri from the Second Intermediate to Late Period of Ancient Egypt (Kelly-Simpson 2003: 6; Scalf 2017: Fig. 37, 2.7, 68, Fig. 5.2; Hassaan 2018: 10-14, Fig. 12-13, 19-20, 24, 28-29).

Remains of black and red ink have been found on Egyptian papyri dated between the IIIrd and IIInd centuries BC. According to the analysis results of the papyri, the Egyptians used organic and inorganic materials to obtain these colors. Business/institution for black ink; They used ocher for the red ink. They mixed it with gum arabic as a binder. It is thought that animal and/or vegetable oils are also used in the mixtures (Christiansena, Cotteb, Nolfb, Mourb, Reyes-Herrera, Meyerd, Vanmeertd, Salvadof, Gonzalez, Lindelofh, Mortensen, Ryholta, Janssensd and Larsen 2020: 3, Fig. 1). Quality ink flows easily from the reed pen; does not change color when dry; When the water touches and moistens, the writing does not immediately distort and disappear; Even if there is no fragrance added to it, it never smells bad and the longer it stays, the better it will be written. Bad ink, on the other hand, smells sour, becomes grizzled over time and a mold like lemon mold occurs (Fig. 1) (Acar 1998: 92).



Fig. 1: Ink and pallet. Marwan, Eldin and Aboudy 2022: 18. Pl. 16.

In ancient Egypt, the shells of bivalve sea creatures were widely used in the use of cosmetic products, as a presentation plate or as a jewelry material. The shells of bivalve sea creatures such as mussels, oysters and scallops were used as ink palettes by the printers (Fig. 2). In the analyzes made on the shells, traces of black and red ink were found. It is also depicted in the tombs of princes, queens, high officials and individuals during the Old Kingdom Period. During the Middle Kingdom Period, the sculptures of the printers with ink and palette in their hands began to appear in this period (Marwan, Eldin and Aboudy 2022: 18. Pl. 16); It spread during the New Kingdom Period, and its production began to decline in the Late Period (Marwan, Eldin and Aboudy 2022: 3, 21, Pl. 30).



Fig. 2: Shell pallet. Marwan, Eldin and Aboudy 2022: 21. Pl. 30.

Reed pens, writing palettes, inkwells and historical records from Egypt's Middle Kingdom Period (2050-1650 BC) are exhibited at the Boston Museum of Fine Arts (Kelly-Simpson 2003: 5).

Faience inkwells are very rare. One of the rare specimens was identified in Fayoum (Kidd 2017: 243, Fig. 4). It belongs to the Ptolemaic-Roman Period. It is oval shaped. It has simple workmanship. The upper parts are circular. It is seen that it is surrounded by a groove so that the ink does not spill out. The hole in the middle is small in diameter. The wall thickness is too much. The inkwell does not have a handle or any holes made for carrying/hanging. It is undecorated (Fig. 3).



Fig. 3: Inkwell, Ptolemaic-Roman Period. Kidd 2017: 243, Fig. 4.

One of the different examples of metal inkwells from the IInd and Ist century BC has been discovered at Qumran (Rasmussen, Tenorio, Bonaduce, Colombini, Birolo, Galano, Amoresano, Doudna, Bond, Palleschi, Lorenzetti, Legnaioli, Plicht and Gunneweg 2012: 2957, Fig. 2). It is made of bronze. It has a slightly rounded form. The hole is concave around so that the ink does not spill out. The hole in the middle is quite small in diameter. The wall thickness is too much. Circular-wide rim, transition to body is given with thick-deep groove. The body narrows towards the base. It has a high ring base and opposing handles made from above. There is no cover. It is undecorated (Fig. 4).



Fig. 4: Inkwell, IInd and Ist century BC. Rasmussen, Tenorio, Bonaduce, Colombini, Birolo, Galano, Amoresano, Doudna, Bond, Palleschi, Lorenzetti, Legnaioli, Plicht, Gunneweg 2012: 2957, Fig. 2.

Inkwells from the Ist century BC to the IInd century AD appear in different forms. In this period, it is generally cylindrical in form, flat-footed; single handle inkwells are widely used. There are also rare examples of conical form made of terracotta. The inkwell found in the Amanishakhete Palace is one of them (Vrtal 2021: 131, Pl. 1). It has a slightly rounded form. The hole is concave around so that the ink does not spill out. There is a small diameter hole in the middle. It has a circular-wide rim, a conical body that narrows towards the base, and a high base. It has opposing handles made from above. There is no cover. The top and bottom of the body are punctuated (Fig. 5). The inkpot detected in Shiloh is one of them (Streckert and Seveers 2019: 53). Inkwells identified in Fletcher are conical in shape (Thompson 2007: 5, No. 37). They have simple workmanship. It is conical in shape. The upper parts are circular. It is thought that it is surrounded by a deep groove so that the ink does not spill out. The hole in the middle is small in diameter. The wall thickness is too much. The inkwells do not have a handle or any holes made for carrying/hanging. They are undecorated (Fig. 6). Inkwells made of metal were found in the Ist century BC-IInd century AD. Inkwells are generally cylindrical in shape, with a raised base; It has a small handle on the body. As seen in the terracotta sample, there is a deep

groove around the narrow hole so that the ink does not spill out. The hole in the middle is small in diameter. The inkpot found in the OH Cemetery, Nijmegen (Netherlands), has a hexagonal shape (Isings 1957: 93; Streckert and Seevens 2019: 53, Fig. 3). A lead inkwell was found at Charron (Remazeilles and Conforto 2009: 111, Figure 1). It is cylindrical in form. It is made of lead. Silver decoration is seen on the upper part. The inkwell found in a tomb at Palazzina Capodaglio is made of bronze (Sibilia, Stani, Gigli, Pollastri, Migliori, d'Amico, Schmid, Licen, Crosera, Adami, Barbieri, Plasier, Aquilanti, Vaccari, Buson and Gonzato 2021: 2). It has a cylindrical form and a thick flat base. The small cap is made to fit inside the cylindrical top. Hokka is signed by "CARTILIUS". The same signature has also been detected in fibulas produced in Northern Italy. The fact that the inkwell was found in the tomb suggests that the owner of the tomb belonged to a very high social class. An inkwell was found in a house in Bucklersbury (Fig. 7) (Tomlin 2016: 277, Fig. 139). It belongs to the 1st century AD. It is made of lead. It is cylindrical in form. The transition from the mouth to the body has a concave profile. The inkwell does not have a handle or any holes made for carrying/hanging. The body is decorated with thick grooves.



Fig. 5: 1st century BC and 1st century AD. Vrtal 2021: 135, Pl. 7.



Fig. 6: Inkwell, 1st and 2nd century AD. Streckert and Seevers 2019: 51, Fig. 1.

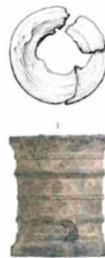


Fig. 7: Inkwell, 1st century AD. Tomlin 2016: 277, Fig. 139.

Glass inkwells generally began to appear in the middle of the Ist century AD and the beginning of the IInd century AD. It is suggested that this type of inkwells may have been used for valuable scents (unguent) as well (Eckardt 2017: 3). It is also possible that other handled vessels defined as oil lamps were inkwells. However, apart from the inkwell and oil lamp, it is also known as a mortar (Uzel 2000: LXXV, No. 48; Belli 2004: 160, Fig. 108), jar or pyksis (Lightfoot 2013: 431, Fig.1-2; Ünal Özcihan and Toy). 2021: 284, Cat. No. 16). The absence of examples from the large glass collection in Italy and the Western provinces indicates that examples on this subject were located in the eastern part of the Roman Empire (Whitehouse 1997: 209). Many of the inkwells produced in both monochrome and polychrome are seen as creations of the Ist century AD (Oliver 1980: 54). Glass inkwells of the Ist and IInd centuries AD are generally conical in shape. They have simple workmanship. The upper parts are circular. It is thought that it is surrounded by a deep groove so that the ink does not spill out. The hole in the middle is small in diameter. Some examples of inkwells have a hole made for carrying/hanging. They are undecorated (Fig. 8). Glass inkwells of the IInd and IVth centuries AD are generally oval in shape. The inkwell found at Colchester has a wide-round rim and the shoulder is folded upright (Cool and Price 1995: 117, No. 864). There are three handles. The handles are ring-shaped (Fig. 9).



Fig. 8: Inkwell, Ist and IInd centuries AD. Lightfoot 2013: 431, Fig.4.



Fig. 9: IInd and IVth centuries AD. Cool and Price 1995: 117, Fig. 7.11, No. 864.

Inkwells are among the forms that we encounter in Byzantine manuscripts. From the VIth century AD, Bible miniatures were depicted as saints writing their Bibles at desks. In general, writing tools are handled in detail in the pictures. In addition, glass bottles are called “inkwells” (Coşkun 2019: 163). In Byzantine miniatures, there is a rectangular table in front of the writers and usually a Bible chair above it. On their desks are the materials necessary for writing such as stylus, scissors, inkwells or bottles.

The shapes of the glass inkwells encountered in the pictures differ in the historical process. The representation of the inks contained in the inkwells is almost the same. The fact that half or more than half of the bottles are empty in miniatures suggests that the writing material in question is difficult to obtain and expensive. There is information that it is not easy to obtain quality ink in some of the Byzantine sources, and it is stored in glass bottles to protect them from deterioration (Coşkun 2019: 167).

Metal inkwells of the IXth and Xth centuries are cylindrical in shape. There is one metal inkwell preserved in the Diocesan Museum of Padua (Fig. 10) (Chatterjee 2014: 210, Fig. 1). It is made of silver. It is covered. The inkwell does not have a handle or any holes made for carrying/hanging. Gorgon image on the cover; There is an inscription on the abdomen that completely surrounds the vessel. There are figures sitting and standing on the abdomen, musical instruments and animal figure depictions. The Gorgon depiction on the cover is used in an “apotropaic” sense. It can be thought that this was done in order to prevent the clerk from writing wrong and not to damage the ink in the inkwell.



Fig. 10: Inkwell, IXth and Xth centuries AD. Chatterjee 2014-2015: 210, Fig. 1.

The earliest examples of evangelical miniatures date from the VIth century AD, and the earliest instance depicting glass inkwells, or ink bottles, is a mid-Xth century AD manuscript containing a full-page portrait of St. Matthew found at the Stavronikita Monastery in Athos, Greece. The inkwell is long cylindrical in size, with a spherical body and striking bottom. It first narrows and elongates from the body to the neck, and then ends with a funnel-shaped, smooth and thick-lipped rim. Inkwells have a spherical or oval body, a cylindrical neck and a striking bottom. The rims of the rims are mostly everted, flat in some specimens, or trefoil-shaped. They are produced in the free blowing technique. Mouth edges and bottom parts are shaped with the help of tools. In the first examples of the Xth century AD, inkwells are depicted larger than in later periods. It has a spherical or oval body, a long

cylindrical neck and a striking bottom. In the XIth century AD, it has a spherical body, everted rim and a cylindrical neck, and is beginning to be portrayed smaller. It has a spherical body, slightly everted rim and a cylindrical neck in the XIIth century AD. It is much thinner and longer than previous periods. Glass inkwells belonging to the XIIIth century AD have a single handle, oval body, ring base and clover-shaped mouths (Coşkun 2019: 167, 176-177).

The inkwells of the XIIth century AD are cylindrical and hexagonal in shape. Two of the three inkwells found in Ghazni are cylindrical (Laviola and Studiorum 2017: 112). One of them has a hexagonal body and a flat bottom; small apical. There are three handles on the body. They are made with or without decoration. Human figures are generally used in the depictions of decorated inkwells (Fig. 11). Glass inkwells of the XIIIth century AD have a single handle, oval body, ring base and clover-shaped rims (Coşkun 2019: 176-177).



Fig. 11: Inkwell, XIIth century AD. Laviola and Studiorum 2017: 126, Fig. 13.

Metal inkwells from the XIIIth century AD have a cylindrical body, a flat base, and a small lid. The inkwell found in Khurasan was made of silver and copper (Taragan 2005: 38, Fig.14). Brass inlay was used for decoration. There are two handles made opposite each other on the abdomen. It is thought that the handles were made for carrying/hanging. In the decorations of the inkwells of this period, it is seen that they are generally filled with decoration elements (human, animal, plant...) in such a way that there is no empty space on both the body and the lid (Fig. 12).



Fig. 12: Inkwell, XIIth and XIIIth century AD. Taragan 2005, 38, Fig. 14.

Between the XVth and XVIth centuries AD, glass inkwells had a spherical body, a long cylindrical neck, a striking bottom, and an everted rim. Some examples of inkwells have a single handle. A single row of glass thread decoration in the same color as the vessel is seen on the neck; some

do not have handles or decorations (Fig. 13) (Coşkun 2019: 176-177). Metal inkwells from the XVIth century AD have an oval body, a flat bottom and a lid (Fig. 14) (Memiş 2017: Photo 9). It is seen that there is no significant difference in form between the divit used after the establishment of the Ottoman Empire and the examples of the XVIIIth and XIXth centuries AD. The divites known today as the “Priest Divit” show that the divites that have been used since the Byzantine Period have undergone a significant change in shape. Divites used in the Ottoman Period have a rectangular body for reed pens and a bottle-shaped inkwell attached to this body (Kayaoğlu 1998: 136). We see that metal inkwells of the XIXth century AD were produced in different forms. An inkwell was found in a tomb in Trieste (Giunlia-Mair 2021: 503-512, Fig. 3). It has a cylindrical form and a cover. It is made of bronze. There are no holes made for carrying/hanging in the inkwell. Ivy branches and horizontal bands were used for decoration (Fig. 15). In the XXth century, inkwells are square and devoid of handles. Generally, they are made of metal. In their decorations, grooves and plant motifs were incorporated. In Erzurum Yakutiye Madrasa, there is a square inkwell and a divit box. It is constructed of metal and ornamented with plants (Fig. 16). In the XXth century A.D. wooden writing sets with plant carvings were used in conjunction with an inkwell and a divit. In the Erzurum Yakutiye Madrasa exhibition, there is a writing set consisting of an inkwell and a divit (Fig. 17). Generally, inkwells, which are designed not to spill ink when they are knocked over, are used today in small forms with a leak-proof lid, firmly on the ground, easy to sink the pen when the lid is opened, and durable (Küçükerman 2008: 204-205). The fact that the production cost of plastic (covered-transparent) inkwells is less than other materials (tile, terracotta, glass, metal) has increased the production and use of this (plastic) material. Today, with the invention of fountain and ballpoint pens, it is seen that the use of plastic inkwells is gradually decreasing. The convenience provided by the pens in carrying and the practical action offered in their use have been effective in the formation of this situation. We see that the technological developments and the formation and development of new writing instruments have been very effective in the gradual decrease in the use of inkwells.



Fig. 13: Inkwell, XVth and XVIth century AD. Coşkun 2019: 176, Res. 25.



Fig. 14: Inkwell, XVIth century AD. Memiş 2017: Foto 9.



Fig. 15: Inkwell, XIXth century AD. Giunlia-Mair 2021: Fig.3.



Fig. 16: Inkwell and divit, XXth century AD. Erzurum Yakutiye Madrasa, from the archive of S. Soslu.



Fig. 17: Writing set, XXth century AD. Erzurum Yakutiye Madrasa, from the archive of S. Soslu.

	Terracotta	Faience	Metal	Glass	Form
Ptolemaic-Roman Period.					-Ovoid -Undecorated -Handle

IInd and Ist century BC.					-Rounded -Undecorated -Handle
Ist Century BC and Ist century AD.					- Conical, Cylindrical, Rounded -Handle/Handleless -Decorated (Point) -Undecorated
Ist and IInd century AD.					-Conical -Handle/Handleless -Undecorated
Ist century AD.					-Cylindrical -Handleless -Decorated (Groove)
Ist and IInd centuries AD.					-Conical -Handle/Handleless Undecorated
IInd and IVth centuries AD.					-Ovoid -Handle/Handleless Undecorated
IXth and Xth centuries AD.					-Cylindrical -Handleless -Decorated (Human/Animal Figure)
XIIth century AD.					-Cylindrical, Hexagon -Handle -Decorated (Figure) -Undecorated

XIIth and XIIIth century AD.					-Cylindrical -Handle -Decorated (Human, Animal, Herb)
XVth and XVIth century AD.					-Ovoid -Handle -Decorated (Groove)
XVIth century AD.					-Spherical -Handleless -Undecorated
XIXth century AD.					-Cylindrical -Handleless -Decorated (Horizontal Band, Herb)
XXth century AD.					-Square -Handleless -Decorated (Herb, Groove)

Fig. 16: Inkwell, Form Development Table.

### 3. CONCLUSION

Writing has a very important place in the history of civilization. The formation of this importance ensures that the acquired knowledge is transmitted, preserved over time and spread over a wide area. With the invention of writing, meeting the needed materials could be achieved by using different tools and materials. One of the materials created to meet these needs is ink. Auxiliary materials have been created for the easy use of ink, which is a liquid product, and to protect it from damage. The first of these is the inkwell. It is seen that shells and pallets of different sea creatures were used to carry the ink before the inkwell was used. It has been determined that different materials such as tiles, metal, terracotta and glass are widely used in the construction of the inkwells.

Inkwells of the VIth and Ist centuries BC are oval in shape. They show simple craftsmanship. Tile products are more common. Generally, it is seen that the upper part is surrounded by a groove so that the ink does not spill out. There is a hole made for hanging/carrying the inkwell. They are undecorated. Inkwells of the IInd century BC and Ist century AD have a

rounded form. Metal material is common. The small diameter hole is concave so that the ink does not spill out. They are thick-walled. There is a handle made to hold the inkwell. They are undecorated. Inkwells of the I<sup>st</sup> and II<sup>nd</sup> centuries BC are cylindrical, hexagonal and slightly rounded. The use of terracotta and metal materials is common. Bronze and lead materials are preferred. The hole has a concave profile around the hole so that the ink does not overflow/spill. Inkwells with/without handle are known. Stamps are seen on the soles of some samples. They are undecorated. Inkwells of the I<sup>st</sup> and II<sup>nd</sup> centuries AD have a conical form. The use of glassware is high. They show simple craftsmanship. It is concave so that the liquid in the upper section does not overflow. Some examples have holes made for hanging/carrying. They are undecorated. Inkwells of the II<sup>nd</sup> and IV<sup>th</sup> centuries AD are oval in shape. Glass inkwell is used a lot. There are examples with handles. Inkwells of the IX<sup>th</sup> and X<sup>th</sup> centuries AD have a cylindrical form. Metal usage is high. There are inkwells made of silver. There are no handles or holes for hanging/carrying. They should be decorated. Generally, human and animal figures were used. Inkwells of the X<sup>th</sup> century AD are spherical or oval in shape. They are shorter than the IX<sup>th</sup> century inkwells. Glass material is used more. Inkwells of the XI<sup>th</sup> century AD are spherical in shape. Glass is used a lot. Inkwells of the XII<sup>th</sup> century AD are cylindrical and hexagonal in shape. There is a handle. They are decorated/undecorated. Inkwells of the XIII<sup>th</sup> century AD have a cylindrical form. Metal samples are more. Generally, they are made of silver and copper. There is a handle. They should be decorated. It is seen that human, animal and plant elements are used in the decoration. Inkwells of the XV<sup>th</sup> and XVI<sup>th</sup> centuries AD are spherical or oval in shape. Metal and glass materials are used too much. They are with/without handles. They are decorated/undecorated. Inkwells of the XIX<sup>th</sup> century AD are cylindrical in shape. The use of metal is observed. Bronze inkwells are common. There is no handle. They should be decorated. Horizontal bands and ivy branches were used for decoration. In the XX<sup>th</sup> century, inkwells are square and devoid of handles. Generally, they are made of metal. In their decorations, grooves and plant motifs were incorporated. In the XX<sup>th</sup> century A.D., wooden writing sets with plant carvings were used in conjunction with an inkwell and a divite.

It is known that the inkwells produced in different forms by using different materials, and the production of ink inkwells continues today with the use of the same materials and new materials in accordance with the technological developments.

The most common material preferred for inkwells is metal; The least common material is faience. It is seen that there was a significant increase in the use of metal inkwells, especially in the Roman Period. The widespread use of metal inkwells is thought to be effective because the material is durable and better protects the ink. It can be shown that cylindrical forms are more preferred, the container occupies less space and it is easier to use. It has been determined that undecorated inkwells are more preferred than decorated ones. It is seen that decorated inkwells were widely used in the IXth and Xth centuries AD. In addition, the fact that inkwells are usually found in a burial area suggests that the owner of the tomb belonged to a high social class.

#### **4. SUMMARY**

Writing is the most important usage expression that contributes to the development of civilization. It is very effective in transferring and maintaining the knowledge that a person has and has gained. The invention of writing began with engraving on different materials. The first materials used to transfer the writing were clay/wax, stone and bark; later it became parchment, papyrus and paper. With the use of paper, which is an important material of the writing instrument, the production of auxiliary materials has become mandatory. The most important of these materials is ink. Some writing tools were deemed necessary to facilitate the use of ink, which is a liquid material. The most important of these tools is the inkwell, which constitutes our research topic. The shells of the first sea creatures were used as an auxiliary material for the protection of the ink. Over time, important materials such as tiles, terracotta, metal and glass became the sought-after materials in the construction of the inkwell. We see that the use of the above-mentioned materials has been produced in different forms from the IVth and Ist centuries BC to the present day. Inkwells are produced in cylindrical, hexagonal, oval, conical and spherical forms. The most widely used of these is the cylindrical form. They often show simple craftsmanship. The use of tiles as a production material is very low. Inkwells made of metal (bronze, lead, silver) are more common. Especially in the Roman Period, the use of metal ink inkwells was quite common. It is seen that the upper parts of the inkwells are surrounded by grooves to prevent the ink from spilling out. Some inkwells have a hole made to hang/carry the inkwell. They are capped/uncapped. Stamps are seen on the soles of some samples. They are decorated/undecorated. Decorated examples began to appear in the IXth and Xth centuries AD. Human and animal figures and plant elements were used in the decoration. Inkwells are usually found in a house or burial grounds.

Ink inkwells have been produced from different materials and in different forms until today. Today, the materials used in the production of inkwells vary in accordance with technology. We know that the invention of ballpoint and fountain pens, which are among these innovations, was effective in reducing the use of inkwells and making the use of new products more common.

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**Çatışma beyanı:** Makalenin yazarı bu çalışma ile ilgili taraf olabilecek herhangi bir kişi ya da finansal ilişkileri bulunmadığını dolayısıyla herhangi bir çıkar çatışmasının olmadığını beyan eder.

**Destek ve teşekkür:** Çalışmada herhangi bir kurum ya da kuruluştan destek alınmamıştır.

