

OTTOMAN OKKA WEIGHTS

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Introduction

The Ottoman okka is a little known and often misidentified object. In this paper I would like to bring to general attention the historical significance and artistic beauty of these weights. Public negligence of these okkas, and of Ottoman metalwork in general, has caused a tragic loss to Turkey's artistic heritage. Very few okkas remain today; the vast majority have been sold by weight to be melted down and remade into new items of copper and brass. If I can prevent a further loss of these lovely pieces, then my research work will have served its purpose.

The Ottomans inherited their weights system from the Seljuks of Rum. The Seljuk forerunners, called dirhems (after the official currency of Iconium), were weights in copper or bronze which have surfaced in Konya, Kayseri and other Seljuk commercial centers in Eastern Anatolia. They were cast, circular and with a hole in the center. Their decorative motifs, predominantly bifurcated and trilobed leaves in floral arabesques, were very clear and distinguished compared to contemporary metalwork in Mesopotamia and Persia. (Illus. I) There appears to have been some system of control, but to date I have been unable to translate such inspection stamps. These control stamps may prove to be early Ottoman rather than Seljuk. (Illus. II) Identical inscriptions have been found on Seljuk weights in the collections of Messrs. Kocabaş and Kayabek, but they also defy decipherment. (Illus. III) I have definitely identified only three dated weights (dated 587 H., 610 H., and 812 H.), but these examples are so close in style, casting techniques and decorative motifs to all the other examples that I think it is safe to attribute this whole group of dirhem weights to the 13th, 14th and 15th centuries. On the reverse side of many of these Seljuk weights I have found stamps of early Ottoman *tuğras*. I assume this indicates that the same weights system was retained and that the earlier dirhems were simply revalidated by the Ottoman inspectors.

What I have termed Anatolian Seljuk weights differ from the weights of the Great Seljuks both in shape and basic unit of measure. They are shaped like a flat ring whereas Persian weights are barrel or cylindrical in shape. And I believe they are based on the dirhem rather than the mithqal. But I am still collecting data on this point and will return to the subject in a later paper.

I have been unable to find a reference to a commercial weights system under the Mongols. I can only assume there was a hiatus in production while they governed Anatolia. This would tie in with a marked paucity of metalwork objects from this period. I presume the Ottomans resumed an organized weights system shortly after founding their Empire. But again, no early documents have surfaced to bear out this hypothesis. The earliest Ottoman okka that I have come across bears the date 929 H. (1523), placing it under the reign of Sultan Süleyman I. Taking this specific weight as my starting point, I will undertake to trace the development of Ottoman okkas through the history of the Empire until 1922. The need for brevity dictates that I can only offer a cursory evaluation of the weights' use in a larger commercial context, a physical description and an explanation of the various *damgas* found on such weights.

Commercial Context

The tradition of regulated market weights was inherited from the ancient Near Eastern states. Provisions for regular inspections were spelled out in the *şeriat* (the sacred law of Islam), under the name of *hisba* or *ih̄tisab*. Inspections were carried out variously by the *ih̄tisab ağasi*, the Chief Cadi, the Agha of the Janissaries or the Grand Vizier himself in Istanbul. All markets were constantly patrolled, and the inspector was accompanied on his rounds by an officer with measuring scales and by an executioner. Any shopkeeper found guilty of using light weights was normally flogged on the spot. A light weight could not receive an inspection stamp until an extra weight (usually of lead) was sauted onto the surface. A variation on this method was to drill a hole through the weight and then attach an iron peg. Only once or twice have I observed weights which were too heavy. In both instances, a slight wedge was cut into the brass to reduce the okka to its proper weight.

Prior to 1285 H. (1869), there was no national system of stamping weights at the time of inspection. The matter was handled regionally, and this would explain the geographical variations in the actual weight of an okka and the great variety in the style of stamps. The first piece of legislation to nationalize the validation of weights was written in 1869, and that law was in force until Law 1782, dated 26 March 1931, was passed which further organized a centralized control of weights and designated 15 regional offices and 91 sub-bureaus to administer the regular inspections. This system is still in force today and comes under the direction of the Department of Measurements in the Ministry of Commerce.

Physical Description

An okka is an Ottoman unit of measure which was subdivided into 400 dirhems. It is slightly heavier than the present day kilogram; it weighs 1,282.944 gr. The usual Ottoman okka ring weights were cast in a series of seven pieces comprised of the following:

1. weight of 1 okka = 400 dirhems = 1282.944 gr.
2. weight of 1/2 okka = 200 dirhems = 641.472 gr.
3. weight of 1/4 okka = 100 dirhems = 320.736 gr.
4. weight of 1/8 okka = 50 dirhems = 160.368 gr.
5. weight of 1/16 okka = 25 dirhems = 80.184 gr.
6. weight of 1/32 okka = 12.5 dirhems = 40.092 gr.
7. weight of 1/32 okka = 12.5 dirhems = 40.092 gr.

Thus, a total series equalled 2 okkas. The weights were usually cast in the shape of flat rings or very shallow cylindrical cups pierced by a central hole and able to be stacked one inside the other.

Ottoman okkas were originally made of bronze. During the reigns of Selim III and Mahmud II, 1203-1255 H. (1789 - 1839), there was a gradual change-over to the use of brass. The few copper weights I have seen come from this transition period. After 1255 H. (1839), the weights are almost exclusively made of brass. The original choice of bronze is most probably an Islamic cultural inheritance. Of all the metals, only bronze had a consistent formal and ornamental development in the Islamic cultural sphere. Bronze was always the chosen medium for astrological, mantic and symbolic objects and it was given a privileged role for domestic and commercial utensils.

Bronze is an alloy of copper and tin, and we know that two of the major Ottoman copper mining centers were in Diyarbakir and Kastamonu. There was no workable tin in Anatolia, but apparently sufficient quantities were imported from England. But brass offered three advantages over bronze: it was cheaper, it was stronger and it was much easier to cast. The question arises, where did the Ottomans get the zinc required to mix with copper to produce brass? Zinc was not recognized as a metal itself until the 18th century. Any brass before that date is most probably copper with a high natural zinc content. Beginning in 1730 in England, then 1807 in Belgium and by the 1830's in Germany and Russia as well, zinc mines were in operation. The mining of zinc requires a very advanced technological process; one which 19th century Turkey was not equipped to carry out. Turkey only began mining zinc in the 20th century, so I presume all of its needs before this century were imported from Europe. We can conclude that shortly after zinc came on the world market in the late 1700's, Turkish metalworkers realized its potential superiority and gradually changed over from bronze to brass for the casting of weights.

The material notwithstanding, all okka weights were made by the process of casting. Any decorative motifs were then hammered or chased on. Later inspection *damgas* were superimposed on the original annulet. The actual working of the metal varies little by region. Slight modifications in the basic circular shape can be assigned to given geographical areas, but the vast majority are indistinguishable. Specifically, I have found only those weights cast in Sivas, Tunceli and Van as having distinguishing shapes. Those from Sivas have a markedly rounded underside; a series from Tunceli all have a broad flat rim; and Van okkas are smaller, thicker and have a serrated rim. Seljuk dirhems consistently had a serrated rim. This decorative detail carried over into Ottoman okkas until the reign of Selim III, whereupon it gradually disappeared, the exception being the above mentioned Van weights which date to later in the 19th century.

The finely worked floral and abstract designs found on Seljuk dirhems apparently have no counterpart under the Ottomans. In contrast, the okkas are impressively handsome in their very simplicity. In the same vein, other forms of Ottoman metalwork showed a respect in all decorative designs and in the shapes of objects for a simpli-

fication of line combined with a harmonious quality. Through the 17th century the weights are thick, flat and have a raised, serrated edge. The occasional date, workshop stamp or *tuğra*¹ are the sole decorations on an otherwise smooth surface. I have never seen an inspection stamp from these centuries and must surmise this indicates there was no serious control put upon the weights. Beginning with Osman III, 1168 - 1171 H. (1754 - 1757)², the weights get thinner and take on a characteristic shape which still existed well into this century, and which was later adopted for the Turkish kilogram. The smooth surface of earlier times gives way to a series of grooved rings, their number and depth varying by region. And now a regular system of inspection stamps is added to the surface of each weight. Combined with *tuğras*, workshop stamps and dates, this pattern of *damgas* produces a striking artistic effect as well as offers us a wealth of historical data. (Illus. IV)

Ottoman Damgas

The most beautiful *damga* we find is the *tuğra* of each Ottoman sultan. This calligraphic design or cipher was inherited from the Seljuks, but unfortunately no example dating back to the Seljuk period has survived. It was originally a nomadic brand mark and became the emblem of the Ghuzz. Accordingly to Tamara Talbot Rice, "It retained to the last its original name of *tuğra*. Malik Shah of Persia was probably the first to use it as his crest, having had it designed for him by the poet and calligrapher Mul'aiyid al Din Fakhr al Kuttab. . . . the badge was so beautiful that the idea of using it as a crest caught on among Islamic sovereigns, and the Mamluks of Egypt were the first to follow the example set by the Seljuks"³. The basic shape of the *tuğra* is unusual but consistent. It is often likened to a bird and linguists support this interpretation, associating

¹ The finest example of this is a weight with the *tuğra* of Kanuni Sultan Süleyman which formerly belonged to Avukat Saffettin Pınar of Istanbul and is now in the Topkapı Saray Collection. Unfortunately, I have not been given permission to illustrate this okka.

² I have seen few weights which I could with certainty place in the 17th century. This significantly long blank I assume indicates that most weights from that period were melted down, most probably for cannons and other military needs.

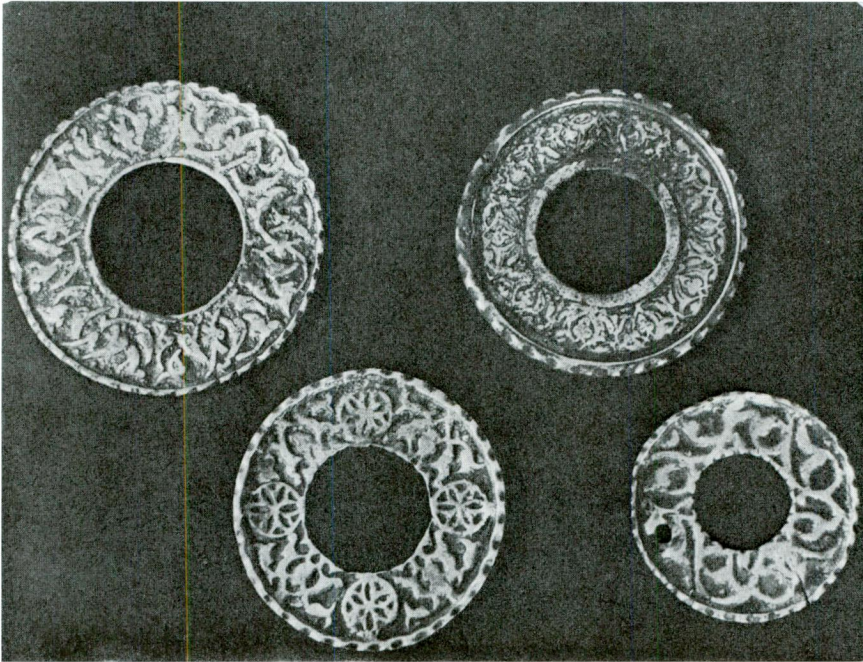
³ T. Talbot Rice, *The Seljuks*, (London, 1961), p. 128.

the word *tuğra* with the name of the fabulous bird pictured on the standards of the early Turkish Khakans. A second explanation, and one attested to by a reference of Ibn Bibi, describes the design as variations of a bow with multiple arrows. Claude Cahen traces this stamp back to the *tamgha* which was a mark affixed to the livestock and writings of the chieftain of Turkish and Mongolian tribes⁴.

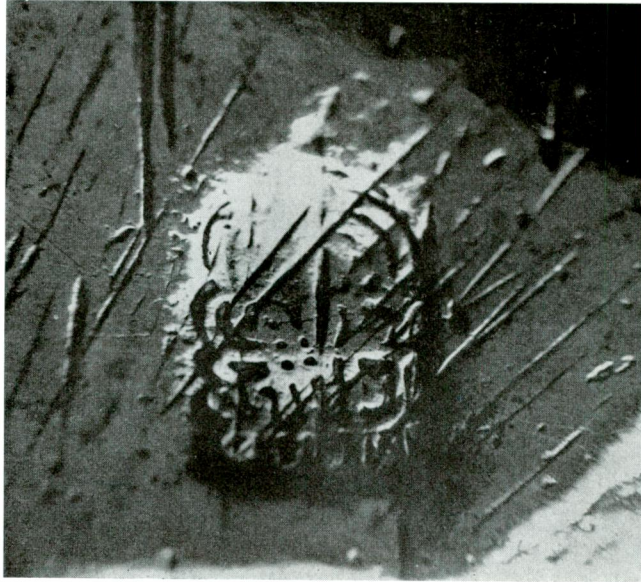
The *tuğra* of each Ottoman sultan is easily read and these have been very helpful to me in assigning dates to okkas. At the time of casting, weights were usually stamped with the *tuğra* of the reigning sultan. Up to and including Mahmud II, the last three numbers of the year of accession were drawn into the *tuğra* in a very inconspicuous position. I have never seen this done on other *tuğras*, as for example on coins or documents. But with Abdülmecid, 1255-1277 H. (1839-1861), this practice of incorporating the date disappears. One does find weights without *tuğras*, but these are the exception and generally belong to the reigns of the last few sultans. It is interesting to note that the Sultans Abdülhamid I, Selim III and Mahmud II all had two *tuğras*. The first in each case was used for only a very brief period, then the second was inaugurated with slight modifications. I have seen okkas with these earlier monograms and thereby been able to assign them a date close to the year of accession. Perhaps other sultans had two *tuğras*, but so far these are the only three examples I know. On okkas used in Egypt while that area was under Ottoman rule, there is both a *tuğra* of the Sultan and a *damga* of the Egyptian Khedive.

Like other metalwork objects, Ottoman weights sometimes bear the name of their artist or of the workshop where they were cast. A problem arises with such an inscription as "work of Mustafa", which I have found on several okkas from the reign of Abdülhamid II. Does this signature mean that Mustafa was the maker of the mould, and as such was either a stonemason or a potter, or that he was the metalworker who had ordered the mould for casting his weights? In either case, this was a continuation of the Seljuk tradition of inscribing an object with the craftsman's name. In addition to "Mustafa", I have also come across the names of "Atif" and "Tekneci Hatip", the latter I can only guess might indicate that the artist was

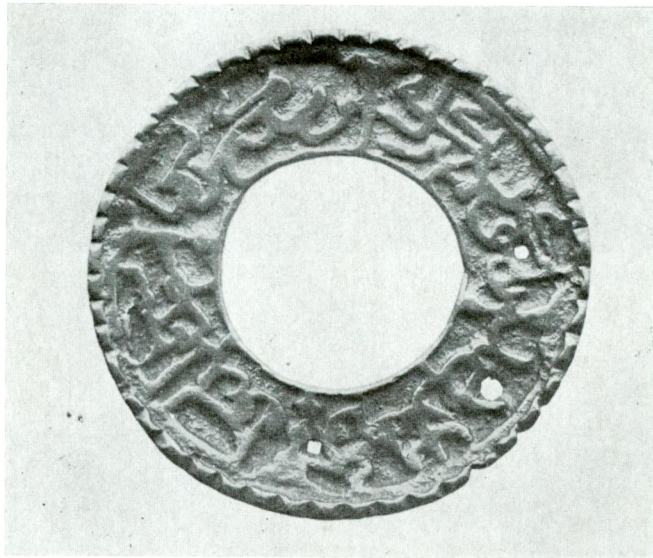
⁴ C. Cahen, *Pre-Ottoman Turkey*, (New York, 1968), pp. 36, 227.



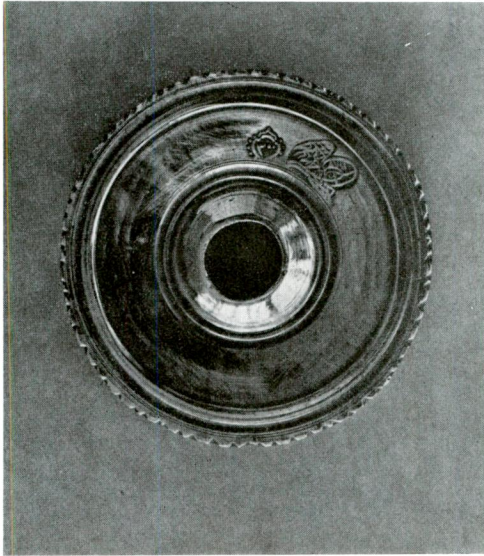
Ill. 1 — Four Seljuk dirhems decorated with floral arabesques



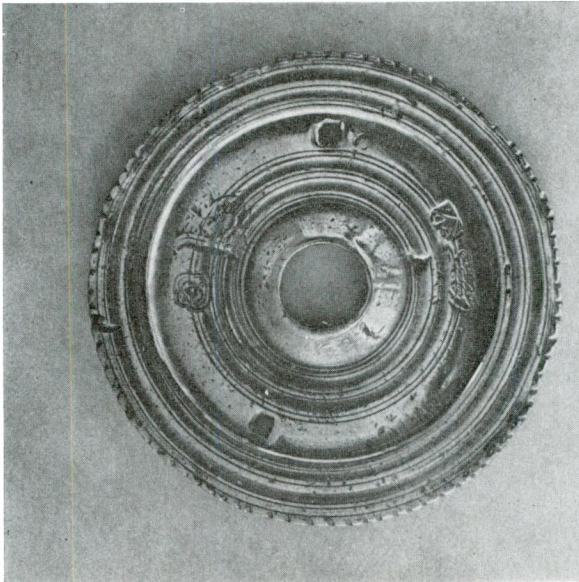
Ill. 2 — Inspection stamp from the underside of a Seljuk dirhem



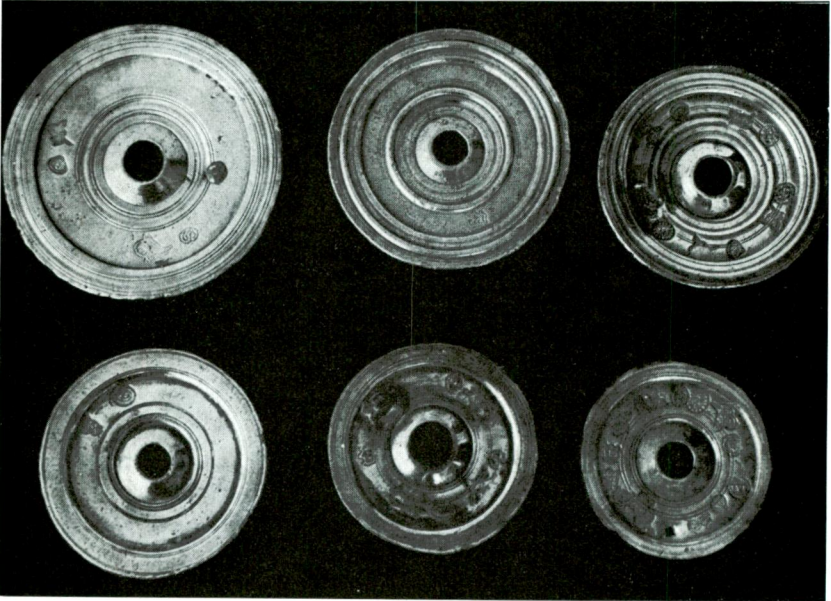
Ill. 3 — Inscription on surface of a bronze Seljuk dirhem in the Collection of H. Kocabaş, Istanbul



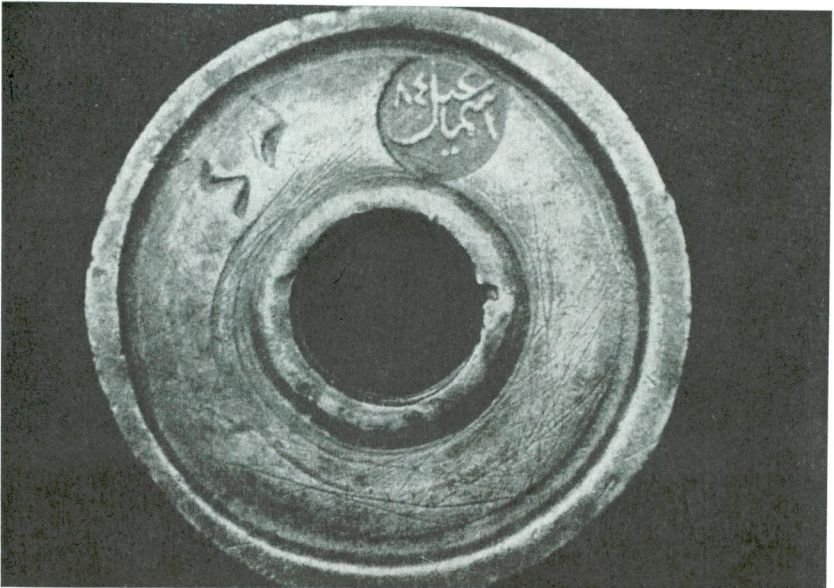
Ill. 4a — Bronze $\frac{1}{8}$ Ottoman okka weight;
Dia. = 10 cm.; Dated tuğra of Sultan
Abdülhamid I, 1187 (1774);
Inspection stamp of 1200 (1785)



Ill. 4b — Brass $\frac{1}{4}$ Ottoman okka weight;
Dia. = 11.5 cm.; Dated tuğras of Sultan
Abdülhamid I, 1187 (1774) and Sultan
Selim III, 1203 (1789); Inspection stamps of
1198 (1784) and 1206 (1792)

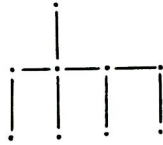


Ill. 4c — Brass Ottoman okka weights of assorted dimensions from the reign of Sultan Mahmud II, 1223 - 1255 (1809 - 1839)



Ill. 5 — Egyptian Ottoman okka weight in the Ethnographical Museum, Cairo; Cat. 2314; Inscribed with the name of "Ismail", the Khedive who reigned from 1863 - 1879; The weight is stamped for inspection in the year (12) 84 which corresponds to 1868

a *hoca* who made *tekne* or boats by day and was a Friday preacher. I am mystified over such a man's association with weights. I have a group of other damgas which I think must indicate workshops, but as yet no one has been able to decipher them. And one final stamp which has me puzzled, looks like this:



It is on a weight which I can definitely assign to the 16th century. Various people have suggested that it might be Armenian and the mark of one of their workshops. I am uncertain and would welcome other explanations.

Infrequently, a weight bears the name of a town. There is no apparent pattern of dates or geography to explain the examples I have found. To date, I have seen okkas inscribed with the following place names: *Ankara*, *Aqşehir*, *Goşaman* (?), *Keşan*, *Tunceli* and *Van*.

When a weight passes inspection, it is stamped either with a word or with the date of inspection. The words vary, but all have a similar meaning: *ayar* (accuracy or regulate), *belediye* (municipality), *belediye nakdi* (municipal checking tax), *kayıt* (listed or registered) or *muayene* (an Arabic word meaning inspection). The dated inspection stamps are an unappreciated Ottoman artistic legacy. These stamps change every year and usually contain the last two or three numbers of the date. The numbers are set in small decorative designs. My current project is to catalogue all of these stamps. The work is far from complete; there are large gaps in what I have seen so far. Two interesting tentative conclusions may be drawn from the cataloguing. I have never seen a yearly inspection stamp prior to the reign of Abdülhamid I. It would seem probable that this Sultan, famous for his excellent administrative capabilities, inaugurated a well organized inspection system. A second point to note is the gap in stamps from 1291 - 1303. This period marks the end of the reign of Abdülaziz, the short-lived reign of Murad V and the early years under Abdülhamid II when Turkey

went to war with Russia and the home front suffered disorder. As opposed to yearly inspections in Anatolia, the Egyptian administration only called for a weights' check once every ten years. The date stamps are different from, but closely resemble, their Ottoman equivalents. (Illus. V)

This paper serves as an introduction to Ottoman okka weights. I am continuing my research and my efforts to generate interest in them. These weights represent a minor art, but one which belongs to the full range of Ottoman metalwork and one which offers a reflection of the commercial and administrative history of the period.

Ottoman weights are a very poorly documented subject. Most of the information contained in this paper was gleaned from conversations with dealers in old copper in Anatolian towns. For a background bibliography, I consulted the books and officials listed below.

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Interviews

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