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## «LIZ = 17» A Nilometer depiction on a coin of Hadrian from Alexandria

Adolfo Eidelstein

*In memory of Silvia Hurter*

The portraiture on the coinage of Roman Alexandria during the reign of the emperor Hadrian is often of a quality comparable with that of the mint of Rome. This is true even of the smallest denominations – diameter 9 to 12 mm, weight 0.50 to 2.30 g – which, unlike Roman minor coins, bear Imperial portraits. The denomination of these coins is somewhat controversial. A coin called *chalkous* by one author may be called *dichalkous* and even *hemichalkous* by another. In this paper they will all be referred to as minims.

The flans of the Alexandrian minims are beveled (fig.1–2); the obverse, with the emperor's portrait – under Hadrian, always laureate – usually (though not invariably) on the smaller side<sup>1</sup>.



Fig. 1–3: Minims of Hadrian with beveled flans. On the obverse of fig. 2 a column can be seen in the right field (scale 2:1).

The smallest denominations have no obverse inscription; a vertical stroke «I» (fig. 2 and 11) is seen occasionally in the right field. To my knowledge, this mark has not up to now been satisfactorily explained. The date is invariably found on the reverse, usually expressed in regnal years, indicated by one or two Greek letters preceded by an «L». In a small minority of cases, the date is shown otherwise: for example, ΕΤΟΥC Β for year 2, or ΔΕ(κατου) for year 10 (fig.3). The axis is usually 0 – but 3, 6 and 9 occur exceptionally. The die rotation is invariably a multiple of 90 degrees. This is true of all the coins I have examined, but does not necessarily apply to ancient copies of Alexandrian minims.

The minim shown below is a bold departure from the usual Alexandrian style. To the best of my knowledge, it is hitherto unpublished.

<sup>1</sup> Coin fig. 1: 11 mm, 0.7 g, 0°; coin fig. 2: 12 mm, 1.45 g, 0°; coin fig. 3: 11 mm, 0.9 g, 0°.

Hadrian (117–138), minim, Alexandria



Fig. 4 (scale 2:1).

Obverse: Imperial bust r., wearing modius, with beard and heavy moustache. In the l. field, IZ with bar above. In the r. field, an object which appears to be a column standing on a broad base; the whole within a circle of large beads. The flan is big enough to take almost the full impression of the die.

Reverse: Cornucopia and date: LIB, within a circle of larger beads than those on the obverse; slightly off center, but complete die impression.

Bronze, 12 mm, 0.95 g, 0°. Condition, practically EF.

The *modius* headdress is an attribute of Serapis which was originally a basket, used to measure grain (fig. 5). The horn of abundance shown on the reverse is full of ears of corn. Both these elements of the design hint at fertility, suggesting a year of prosperity for the economy of Egypt. This was based on cereal production, and depended on the flooding of the Nile during and after the rainy season at its sources, which would leave a deposit of rich organic sediment over the fields, rendering them fertile once the waters receded during the dry season.

If, due to low rainfall, the overflow reached only a small proportion of the arable lands along the river, the result would be a shortage of food – in extreme cases, famine. A good flood level (Pliny: *iustum incrementum*) was 16 cubits: the highest acceptable flood level (which was not often attained) in Roman times, was of the order of 17 – IZ – cubits, a higher level than this would mean excessive flooding, no less disastrous than drought (fig. 6)<sup>2</sup>. The level was measured by means of nilometers<sup>3</sup>, which were set up at various locations along the river throughout the Pharaonic period, and also into Roman and Arab times. Nilometers were constructed in one of several different formats – a slab or pillar, a well, or a flight of steps (fig. 7). All were calibrated using the same unit of measurement, the cubit (1 cubit = app. 45 cm).

There is some ambiguity between ancient authorities concerning what was the most desirable Nile flood level in ancient times. The famous sculpture in the Vatican museum represents the river god, surrounded by 16 *putti*, each one cubit tall – a beautiful way of stating what the most desirable level was at the time: 16.

Fig. 8 is a detail of the «Nile Festival House» mosaic floor at Sepphoris, Israel. It shows a fertility scene around a nilometer, graduated in Greek numbers and showing 17 as the highest figure. Another mosaic floor on the same subject is found in the House of Leontis in Beit Shean, Israel, in which a Nilometer is shown as a column with parallel horizontal bands inscribed with Greek numbers running from I = 10 to IZ = 17 at the top, as part of a happy agricultural scene.

<sup>2</sup> Lionel Holland offers the following observation: Pliny (Nat. Hist. Book V, 9) states that a flood of 16 cubits was *iustum incrementum*, which he describes as *delicias*. Most modern researchers are content to accept Pliny's statement without qualification, and to regard the famous statue of the river-god as sufficient confirmation thereof. Strabo (Geography 17.1.3), on the other hand, says (giving historical examples, but without technical explanations, of which several are possible) that the flood-height of greatest fertility varied widely from one period to another over the years (both these sources are available on-line, both in Latin, and in English translation, at the Gutenberg project).

<sup>3</sup> Z. FRIEDMAN, The Nilometer, in: O. RIMON (Cur.), Measuring and Weighing in Ancient Times, Exhibition Catalog, Hecht Museum, University of Haifa (Haifa 2001), pp. 59–60.

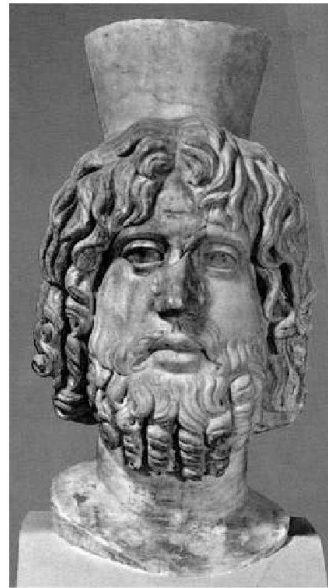


Fig. 5: Marble head of Serapis, Museum of Corinth.

An Internet website describes the Nile flood at some time after the Arab conquest of Egypt<sup>4</sup>:

[...] the medieval celebration of Fath al-Khalij, the festival of the Opening of the Canal. The Khalij Canal originated opposite Roda Island and was blocked with an earth dam. It would be opened when the water level in the Nile River reached 16 cubits. At this level, the summer flood from the river was used to fill the canal. During the celebrations, decorated boats would crowd the river. Those who witnessed it referred to it as Cairo's most spectacular festival. Near the Nilometer was a mosque for prayers. The grand celebration was not a guaranteed annual event. Years when the Nile flood water failed to reach 16 cubits, the celebrations were canceled, and prayers and fasting were held instead.

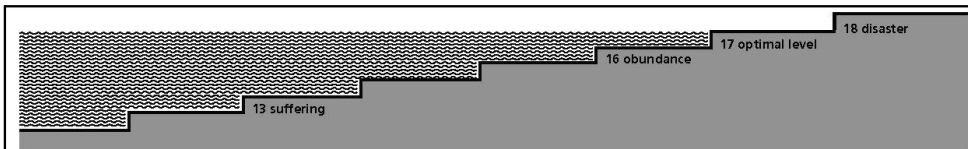


Fig. 6: The river level and its impact to the community.

This description applies to an event which occurred occasionally, several hundred years after the issue of the coin discussed here; but it is still relevant. Since the area of land made fertile by the flood of the Nile – at any period in history – was in direct proportion to the level of the water, it is reasonable to conclude that a 17 cubit flood – while perilously close to the danger limit – might bring even more abundance than a 16 cubit flood.

This would be certain only after the waters started receding, and there was no longer danger of excessive flooding. In the latter case (says Strabo), the soil would be too wet to allow sowing at the proper time – and by the time it dried out, the optimum sowing season would be past, and a plentiful crop unattainable.

<sup>4</sup> «The Nilometer in Cairo» [www.waterhistory.org](http://www.waterhistory.org)

I suggest that the object shown in the obverse r. field of the coin under discussion is a nilometer, and that IZ in the l. field stands for 17 cubits, the level of the Nile which was reached in the 12<sup>th</sup> year of the emperor Hadrian (127/128 CE). The emperor appears in a syncretistic portrait equating him with Serapis, the principal god of Roman Egypt.

The «I» in the obverse r. field of some coins, mentioned above, could possibly be related to the nilometer on the unpublished minim shown here, and be a mark

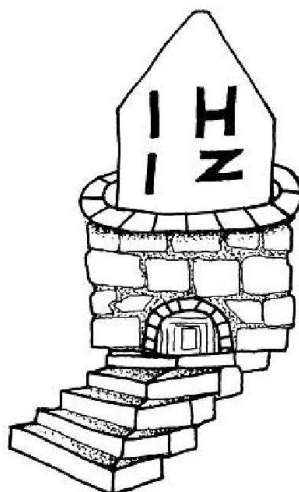


Fig. 7: Nilometer, «well and column» type.

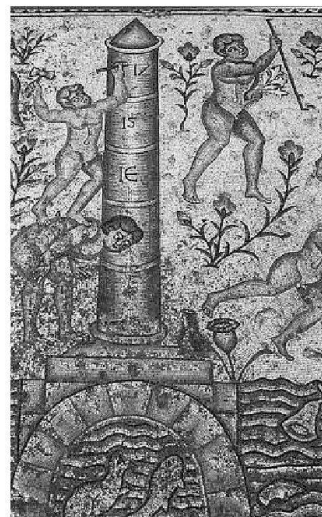


Fig. 8: A Nilometer depicted on a mosaic from the «Nile Festival House» at Sephoris, Israel.

of a propitious Nile level for the year. The coins fig. 9–11 would support this hypothesis. The three pieces are of the same denomination, were issued in the 11<sup>th</sup> year of Hadrian and have a common reverse: the caps of the Dioscuri.

The difference between them is that only coin fig. 11 has a «I» in the obverse r. field.

A plausible explanation: the flooding season occurred between June and September, and only near its end was it possible to determine the level reached by the waters during that year. The regnal years of Hadrian were reckoned from August 11<sup>th</sup>. If it was desired to record on the coins a good flood, this could only be done on the last coin issues of the year, of which coin no. 6 surely was one. Coins marked with «I» are scarce; Geissen's extensive collection<sup>5</sup> has only two – one similar to coin 6, and one of uncertain date. Hamburger<sup>6</sup> has only one. Out of a total of about 60 minims of Hadrian, which I have either collected myself, or have seen in other collections, there are only three marked with an «I». The reason for such coins being uncommon is, perhaps, that ideal Nile floods were also uncommon, in the same proportion. If there was no time for cutting new dies to carry the «I», it could simply be added to a current die. This is what probably happened in the case of coins fig. 9–11<sup>7</sup>. The very unusual event of an *especially* abundant flood – the full 17 cubits, just below the danger limit – would be a rea-

5 A. GEISSEN, *Katalog Alexandrinischer Kaisermünzen der Sammlung des Instituts für Altertumskunde der Universität zu Köln*, 5 vol. (Opladen 1974–1983).

6 H. HAMBURGER, *Minute Coins from Caesarea*, Atiqot, *Journal of the Israel Department of Antiquities*, hebrew series 1, 1954, pp. 115–138.

7 Coin fig. 9: 11 mm, 1.05 g, 0°; coin fig. 10: 11 mm, 1.09 g, 0°; coin fig. 11: 12 mm, 1.03 g, 0°.

son important enough for the cutting of a new pair of dies with an exceptional design. This, I believe, is the explanation for the unique minim described here: it commemorates an important, exceptional event, shows the Emperor in the guise of a beneficent god, and spells out the benefits of his rule, in terms understandable to all his Egyptian subjects.



Fig. 9–11: Three pieces issued in the 11<sup>th</sup> year of Hadrian with a common reverse: the caps of the Dioscuri, coin fig. 11 has a «I» in the obverse r. field (scale 2:1).

Here we have numismatic evidence of a historical occurrence, recorded on a coin only slightly larger than a lentil! But then, that is what medals are for. Why a remarkable event, such as an ideal Nile flood – with the consequent bountiful crops which it was sure to bring – should be commemorated *solely* on one of the smallest denominations of the Alexandrian coinage, is an intriguing question. A possible answer: the smallest coins in circulation were the most likely to be seen by the majority of the local people. Even though this seems reasonable, the fact remains, nonetheless, that the number of minims in published collections is far smaller than that of any of the other denominations.

In her paper «The Nilometer», Dr. Friedman shows an illustration of a Nilometer of the «well and column» type (fig. 7), in which the topmost level figure is IH = 18, an ominous number in this context. Rather than a building, it seems to be a cult object, showing the frightening proximity between abundance and disaster, where the level of the Nile is concerned. Dr. Friedman copied the figure from an ancient Coptic textile<sup>8</sup>.

Photographic credits:

Fig. 1–6; 9–11: Author

Fig. 7–8: Friedman (n. 3)

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<sup>8</sup> Personal communication to the author.