The Ingots Currency in Egypt Prior to Ptolemaic Coins
“A Study Based on Two Unpublished Pieces From The Egyptian Museum in Cairo”

Abstract:

Most of the Egyptian scholars are accustomed to study coin collections dating from Alexander the Great, passing by the Ptolemaic series then the coins of Egypt under Roman and Byzantine rule. Though the period antedated the Macedonian conquest had not witnessed any official monetary system that obliged the Egyptians to deal with coins, yet there were several forms of money which circulated within the Egyptian society at the time. Metals in the form of “ingots”, whether complete or fragmented, are considered to be one significant form of this money. On that account, this research aims to publish two pieces of ingots preserved in the Egyptian museum in Cairo. The nature and function of these ingots, which prevailed not only in Egypt but in most of the ancient civilizations, will be, discussed as well depending upon descriptive, historical and comparative methods.

Key words: barter system - metallic currency - ingots – Egyptian coin hoards.
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Consistent with the initial stages which preceded the endorsement of minting coins in Egypt, this research aims at shedding light on the period which antedated the Greek establishment of fiscal monetary accounting in Egypt. An accurate inquisition for the miscellaneous collections of coins listed in the sixth section of the Egyptian Museum in Cairo discloses that these pieces do not only divulge the development of coins from the Ptolemaic until the Islamic era, but they also represent the preliminary phases for the emergence of coin usage in Egypt. Part of these priceless collections demonstrates how the Egyptians dealt with both metals and Greek coins antecedent to the developing of the first Egyptian official monetary system in the reign of Ptolemy I Soter (Πτολεμαῖος Α’ Σωτήρ, c.367- 282 BCE.)¹. Consequently, the main focal point of the current research, would be studying the nature of currency, directly antecedent to Ptolemy I, via two unpublished pieces of gold and silver ingots that are retained in the Egyptian museum in Cairo (pl. i, no.1-2). The first piece is a rectangular fragment of gold, while the second is a quasi-round silver cake ingot. In spite of the

¹ - It is preferable to put into consideration that in the last quarter of the fourth century BCE Ptolemy I took the first step toward establishing and developing a very unique system of coinage for Egypt. The advent of this king was indubitably a turning point in the monetary history of Egypt. Veraciously, the Egyptian economy before the Macedonian conquest had functioned in kind by means of grain, metals and Greek coins that were used as bullion, in such a way as will be displayed through the rest of this paper. However, after the proclamation of Ptolemy I as king in 306 BCE, there was a recognizably Ptolemaic coinage with an entirely complete series of denominations. At the time of Ptolemy’s death (282 BCE) Egypt had a currency of tri-metallic system which formed the first stage of what was called latter by the numismatists “the Ptolemaic series”.


fact, that the museum preserves just one gold and around fifteen silver pieces, the researcher was not allowed to study except one silver specimen only. Nevertheless, it is believed that the two pieces under study are adequate to discuss what is termed generally as “Metallic Currency”\(^1\), and specifically as “Ingots Currency”\(^2\), prior to the evolution of the official coins in Egypt.

It cannot be justified to ignore the barter system, which prevailed amid all the prehistoric communities, on discussing such a form of currency in ancient Egypt. We will attempt to delve deep into discussing the progression of bartering system, outside and inside Egypt, until it came to the point of utilizing metals to facilitate the exchange process.

**Primitive Barter**

It is widely well-known that bartering was the primary method of transactions for the daily life interactions among the members in ancient societies. Accordingly, personal movable property, numerous goods and amenities were incessantly exchanged in a simple manner. This uncomplicated barter system, which is generally known as “Silent Trade” or “Primitive Market”\(^3\), was the initial stage of trading accomplished in the absence of any medium of exchange, or in other words, without any common denominator\(^4\). In the course of the fifth century BCE., Herodotus of Halicarnassus (Ἡρόδοτος) named both Carthage and Libya as two countries connected by silent trade. That piece of information is clarified in the following passage:

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“λέγουσι δὲ καὶ τάδε Καρχηδόνιοι. εἶναι τῆς Λιβύης χώραν τε καὶ ἀνθρώπους ἔξω Πρακλέων στηλέων κατοικημένους: ἐς τοὺς ἐπεάν ἀπίκωνται καὶ ἐξέλονται τὰ φορτία, ἑντεῖς αὐτὰ ἐπεξῆς παρὰ τὴν κυματωγήν, ἐσβάντες ἐς τὰ πλοῖα τύφειν καπνόν. τοὺς δὲ ἐπικυρίως ἰδομένους τὸν καπνὸν ἱέναι ἐπὶ τὴν δάλασσαν καὶ ἐπεκτιάντας ἀντὶ τῶν φορτίων χρυσὸν τιθέναι καὶ ἐξαναχωρέειν πρὸς ἄπο τῶν φορτίων. τοὺς δὲ Καρχηδονίους ἐκβάντας σκέπτεσθαι, καὶ ἢν μὲν φαίνηται σφι ἄξιος ὁ χρυσὸς τῶν φορτίων, ἀναλόμονοι ἀπαλλάσσονται, ἢν δὲ μὴ ἄξιος, ἐσβάντες ὠπίσω ἐς τὰ πλοῖα κατέαται: οἱ δὲ προσελθόντες ἄλλον πρὸς ὄν ἐξηκαν χρυσὸν, ἐς οὗ ἄν πείσωσι. ἄδικεσίν δὲ οὗ δετέρους. οὔτε γὰρ αὐτοὺς τὸ χρυσὸν ἀπήσθαι πρὶν ἄν σφι ἀπισωβῆ τῇ ἄξιῇ τῶν φορτίων, οὔτε ἐκεῖνους τῶν φορτίων ἀπήσθαι πρῶτον ἢ αὐτοὶ τὸ χρυσὸν λάβωσι.” 1

“The Carthaginians tell us that they trade with a race of men who live in a part of Libya beyond the Pillars of Herakles. On reaching this country, they unload their goods, arrange them tidily along the beach, and then, returning to their boats, raise a smoke. Seeing the smoke, the natives come down to the beach, place on the ground a certain quantity of gold in exchange for the goods, and go off again to a distance. The Carthaginians then come ashore and take a look at the gold; and if they think it presents a fair price for their wares, they collect it and go away; if, on the other hand, it seems too little, they go back aboard and wait, and the natives come and add to the gold until they are satisfied. There is perfect honesty on both sides; the Carthaginians never touch the gold until it equals in value what they have offered for sale, and

1 - Hdt. iv, 196.
the natives never touch the goods until the gold has been taken away.”

It is interesting to note that many ethnographers and travelers also report similar practices occurring in a variety of places in modern times.

Commodity Money

Over time, impediments grew worse as the complexity of trade increased leading to a number of flaws. Eventually, the public started generating solutions to satisfy the growing need for an easy practice of exchange. This chaos led to the subsequent stage of bartering known as “Commodity Money” or “Primitive Money”. Before going into detailed description for the role of this type of money, it is essential to pinpoint the difference between coins and money. A vast number of non-specialists using the two terms interchangeably as they regard both of them as one yet; whatever was widely acceptable on paying for possessions was referred to as money at the time. It was the standard unit for exchange against which prices and debts were verified. On the other hand the term coins denoted stamped pieces of metal with specific weights and designs which were authorized to be circulated as money for a permanent value. Hence, coins made of metal were categorized as a form of money.

Back to “Commodity money”, they were the opted goods recognized as a medium of exchange. They played roles in defining and comparing values aiming at specifying the worth of

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other merchandise. In this manner, commodity money assessed in creating price lists which facilitated exchanging commodities of equal values against each other. Assuredly, the items for purchase varied from one country to the other and its worth was affected by how essential it was for the people in that place. For example, cowrie shells acted as "Small Money" in both India and Africa, while oxen in Greece served this purpose as well. They were all used as commodities habitually functioning and aiding people in their everyday life. The evidence of using oxen in Greece is sufficiently elaborated in Homeric epics. At one instance, Odysseus’s father, Laertes (Λαέρτης), is said to have bought a maid servant named Eurykleia (Εὐρύκλεια), for the worth of 20 oxen. (ἐκικοσάβοια). At another, Homer (Ὅμηρος) referred to the value of armor, gifts and females in units of cattle. However; it is much more interesting when Achilles (Ἀχιλλεύς) contemplated whether valuing life could also be equated to certain amounts of valuable objects, probably oxen regarded as one of such precious items.

Regrettably, over the ages, time proved again that “Commodity Money” had not satisfied the majority of the people as it was not practical and inconvenient. Thus, people were in

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4 - Bernholz, P. & Vaubel, R., (Eds.), op. cit., p.156.
8 - Geva, B., op. cit., p.128; Note the comparison between commodity money and metals, hence the preference of metals, p.7.
desperate need for a system that comprises small values which could be effortlessly accepted to facilitate their deals instead of the widespread bewilderment.

**Metallic Money and the Evolution of Coins**

On that account, it was realized that metals could play an indispensable role in facilitating transactions. Using measurable metals disclosed another phase that different societies have witnessed on the passage of trying to overcome the passive practices of commodity money. Compared to oxen, weighed valuable metals were more favorable among the population. Metals were definitely easily stored, more durable, lighter and portable. Chiefly, gold and silver, not any base metal, were molded in the form of rings and spirals as people were fond of keeping these most valued possessions on their arms and legs aiming at protecting their assets and using them in exchange when needed. The divisibility of metal into any desired size was required. Definitely, they wouldn’t accept to convert their ox to beef to satisfy their need for small possessions. Opposed to this, people could easily chop off pieces from any metal to obtain the desirable amount wanted for their transactions. Metal, on the other hand, could be carved and given a uniformed size which could be equivalent to specific values. That is how the usage of metal spread universally.

Unfortunately, metal money, which is termed “Quasi-coins” by some recent numismatists, was easily counterfeited. Inevitably, the worth of such money decreased as it was made of

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1 - Geva, B., op. cit., p.128.
3 - Geva, B., op. cit., pp.128-129.
base metal which made people hesitant to utilize safely. This paved the way to true coinage which overcame the drawbacks of metal money. The blemish of such kind of metallic currency led to the invention of coins in Sardis (Σάρδεις), located on the west coast of present-day Turkey, the capital of Lydia (Λυδία)\(^1\), during the seventh century\(^2\). The Lydians stamped small irregular pieces of Electrum (Ἠλεκτρόν) with rough punch mark assuring the accuracy of weight, fineness, or both of them\(^3\). The usage of Electrum was preferable to the Lydians as it was the most plenteous valuable metal in the region. It was obtained in excessive quantities from the Pactolus (Πακτωλός) and other Lydian rivers of Mount Tmolus (Τμώλος) watershed\(^4\). According to Herodotus, this alloy of gold and silver was commonly known as white gold (λευκὸς χρυσός), because of its pale yellow color. The historian also stated that:

"Ὑώματα δὲ γῆς Λυδίης ἐς συγγραφὴν οὐ μάλα ἔχει, οὐλά τε καὶ ἄλλη χώρη, πάρεξ τοῦ ἐκ τοῦ Τμώλου καταφερόμενον ψήγματος." \(^5\)

"There are not in Lydia many marvelous things for me to tell of, if it be compared with other countries, except the gold dust that comes down from Tmolus."\(^6\)

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\(^1\) - It is worth to note that there are some ancient writers referred to a mythological origin to the invention of coins. For instance, Pollux (Ἰούλιος Πολυδεύκης) attributed to Erichthonius (Ἐριχθόνιος) an early Athenian king, the origin of coinage emergence; Poll., Onom., 9.83.

\(^2\) - Presenting an accurate date for the invention of coins is a troublesome. It is not still confirmed whether electrum coinage began in the first or second half of the seventh century. However the arguments for the later dating are stronger, cf: Cook, R.M., “Ionia and Greece in the Eighth and Seventh Centuries B. C.”, The Journal of Hellenic Studies, Vol. 66 (1946), p. 91.


\(^4\) - There is a myth relating that the river attained its electrum, when King Midas of the neighboring Phrygia washed in it to get rid of his golden touch, which had twisted even his food into gold, Ov. Met. xi. 90.

\(^5\) - Hdt. 1.93.

It is worth mentioning that the first electrum coins had no regular shape. The circular shape was never used at the time but rather strange shapes like flat nuggets or dense kidney beans. Nevertheless, these pieces enabled transferring pieces of coins freely, which led to speeding up trade. The idea of striking coins rapidly spread to the Greeks of the islands and the mainland. Soon, at the closure of the sixth century, using coins became common practice in most of the countries which were ruled by the Greeks.

**Barter Phases in Egypt**

Moving on to Egypt, obviously, the Egyptians resembled the other civilizations in passing through different phases of barter. Yet, they did not use coins as widely as other civilizations. Initially, they were more comfortable in depending on the primitive barter system. However, after discovering the drawbacks of this system, they preferred using commodity money. Doubtlessly, grain being one of the principle sources of wealth, that is why the Egyptians used grain as the top most standard commodity for exchange, but without disregarding the primitive barter system totally as it was still used among individuals through Ptolemaic era.

Following the steps of the other nations, the Egyptian society started adopting metals as early as old kingdom, in specifying the prices of services and all kinds of chattels. As a matter of fact, gold, silver and copper had a dual function: first, they were used in sundry commercial relations. Second, they

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1 - Geva, B., op. cit., p.130; Although both Aristotle (Nicomachean Ethics, 1133a 17-20) and Herodotus (1.94) admitted that coins were first minted to assist the progress and retail trade, yet some modern scholars have different view. Laum, as an example, believed in the religion origin of coinage: Laum, B., Heiliges Geld. Eine historische Untersuchung über den sakralen Ursprung des Geldes, Tübingen: Mohr, 1924. For further discussion and point of views, see: Bernholz, P. & Vaubel, R., (Eds.), Explaining Monetary and Financial Innovation.


were operated locally as a measure of value rather than an actual payment. *Deben, kite* and *Shaty* were the terms applied for expressing various Egyptian prices\(^1\). Shaping gold and silver in the form of rings was more convenient for interchanging precious metals. These rings were often opened and linked in the shape of chains. Tal El-Amarna hoard is considered to be an obvious attestation for the usage of silver rings during the 14\(^{th}\) century BCE. The hoard comprises two gold ingots in addition to bars, clusters, coils and rings of silver that were used as a pre-monetary medium of exchange (pl.ii, fig.1)\(^2\). The walls of some tombs are adorned with pictorial records of such ring form. The Theban tomb of Rekhmire, Vizier of Thutmosis III (15\(^{th}\) century BCE)\(^3\), as an example, displays the weighing of gold and silver rings which operated as ingots for the pharaohs (pl.ii, fig.2)\(^4\). Nonetheless, for ages, silver appeared to be the most preferable metal for payments in Egypt. Subsequently, any reader would wonder and ask: from where the Egyptians got all this amount of silver in spite of the fact that there were no indigenous silver mines in the Egyptian land\(^5\)? Beyond doubt, Greece was the nearest place where there was an abundance of silver that could be easily transferred to Egypt. Greek Silver was exchanged for the Egyptian grain which was the pivotal Egyptian item of trade

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\(^5\) - Einzig, P., op. cit, p.197; Schaps, D., The Invention of Coinage and the Monetization of Ancient Greece, USA, University of Michigan, p. 50.

at that period. Tracking the reciprocal commercialized interactions between Greece and Egypt, throughout the ages, reveals its incessant binding ties as the following lines will elucidate.

Theban tombs, Rekhmire, show depictions of Cretan ambassadors carrying metal vases to the royal court indicating the transfer of silver from the Minoan kingdom to Egypt (pl.iii, fig.3). As a divergent, upon the collapse of Crete, there was dread of the lack of security in communication which was a hazard to trade. Though Egyptian articles were transported to Greece during the Mycenaean age (c. 1600-1100 BCE), yet there is no crucial evidence for direct overseas trade between the two civilizations. The Elimination of Mycenaean Greece was a turning point event that took place around 1100 BCE by the Dorian incursion (Κάθοδος των Δωριέων). As a result, many Mycenaean refugees migrated to the western Asiatic coast where they found their own communities. Thus, they renewed trading with Egypt on account of their need to corn.

A transitional point occurred upon setting-up the Greek colony of Naucratis (Ναύκρατις) in the seventh century as commanded by Amasis around 565 BCE. Thus, a new significant trading port flourished. Indeed, Naucratis was a vibrant bridge that permitted the infusion of a considerable amount of electrum,

3 - Milne, J.G., “Trade between Greece and Egypt before Alexander the Great”, p.179.
5 - Milne, J.G., “Trade between Greece and Egypt before Alexander the Great”, p.179.
but, a sufficient amount of silver\textsuperscript{1}. It is worth mentioning that the Asiatic cities participated in founding Naucratis provided Egypt, at the outset, with electrum in exchange for corn. Actually, the Egyptian museum keeps ingots of electrum in addition to some electrum coins which present an indication for such business relations. Knowing that silver would be favored by the Egyptians, the Asian tribes, mainly Chians and Ionians, managed to bring enough amounts of silver from Thrace-Macedonian (Μακεδονία και Θράκη) region to fulfill their deals with Egypt\textsuperscript{2}.

A paramount mutation emerged when Athens monopolized silver trade in Egypt starting from about the end of the sixth to the middle of the fourth century. As a result, Egyptian hoards after c. 480 BCE denoted massive quantities of Athenian tetradrachms (τετράδραχμον), Athenian Owls, that were constantly circulated in Egypt, owing to their consistency in weight and metal finesse\textsuperscript{3}. The growing need for this denomination motivated the authorities in Egypt to strike their own imitative type\textsuperscript{4}, possibly dating from the end of the late fifth century\textsuperscript{5}. Indeed, Egypt practiced such mintage for two main causes: first, the Athenian production declined remarkably by the end of the Peloponnesian War (Πελοποννησιακός Πόλεμος)\textsuperscript{6}, second, paying

\textsuperscript{1} Milne, J.G., “Trade between Greece and Egypt before Alexander the Great”, p.179.
\textsuperscript{3} Mavrogordato, J., “Was There A Pre-Macedonian Mint in Egypt?”, The Numismatic Chronicle and Journal of the Royal Numismatic Society, Fourth Series, Vol. 8, 1908, p.202
\textsuperscript{5} Both authentic and imitative issues were circulating side by side till the fourth century, whereas the imitations were more preponderant; cf. Muhs, B., op. cit., p.191; van Allen, P.G., “Herodotus' "Aryandic" Silver and Bullion Use in Persian-Period Egypt”, American Journal of Numismatics, Vol. 16/17, 2004-05, p.13.
the wages of Greek mercenaries was an urgent requirement to banish the Persian occupation. On account of the same former purpose, the Egyptian kings of the 29th and 30th dynasties started to produce coins locally. The first step was under taken in the middle of the fourth century by the Egyptian king Teos (362-360 BCE), known also as Tachos (Τέως - Τάχως).

Unpublished Ingots

Indisputably, the previous economic changes had left its impact on the excavated silver in the Egyptian soil. Enormous quantities of different forms had been discovered on a large scale from Delta to Aswan. Before elaborating, we should first tackle the Egyptian coin hoards, both archaic and classical, since they shed light on pertinent information about the two ingots under study. As a matter of fact, the overall hoards are categorized into two main groups:

A) Hoards without coins:

Three archaeological sites, Mit Rahineh (ancient Memphis), Samanoud and Tel-Athrib (both located in Delta), demonstrate that the three hoards excavated there, are composed entirely of unminted silver pieces without any single piece of coin. It is presumed that these hoards were buried before the last quarter of the sixth century which marks the surplus of the Greek coins in Egypt. Lumps, ingots, whether in the form of complete round cake or dumps, amulets, rings and Hacksilber are the only silver components of these hoards. It is to be noted that the German numismatists created this term “Hacksilber” (means

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2 - He was the first Egyptian king whose name was abbreviated in Greek letters on the reverse of a gold stater: For a brief overview of Egyptian coin types, cf. Curtis, J. W., “Coinage of Pharaonic Egypt”, The Journal of Egyptian Archaeology, Vol. 43 (Dec., 1957), pp. 71-76.
irregularly cut silver) referring to the fragmented, twisted and bent silver items which constitute an entire or part of a hoard\(^1\).

B) Mixed Hoards:

Several excavations and donations reveal that they are fifteen hoards, dated from the late archaic period (c.500 BCE), unearthed from both Delta (such as: Demanhur, Sakha, Benha el-Asl Naucratis and Zagazig) as well as the middle Egypt (Asyut-Beni-Hassan). As indicated from their appellation they comprised both coins from several Greek city-states along with ingots and \textit{Hacksilber}\(^2\).

Focusing on the two ingots under study, it is unfortunately that there is no recorded data in the museum to determine whether the they were buried separately or with many other pieces as a hoard. Moreover, we have no definite information about their find spot. The gold piece is a fragmentary rectangular slab (42 gm - 30×26 mm, diameter is measured at the widest point), preserved under special register number 817. It could be deduced that this gold ingot, which is the solitary piece acquired by the museum, is not only rare but it is also exceptional if compared to what was found previously in different hoards for the subsequent two reasons: (I) A deliberate review to each hoard, whether without coins or mixed, will clarify that silver rather than gold is the prevailing metal for ingots. Tell El-Mashkuta (c. 400-330 BCE, near Abu-Seir) is the only mixed

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hoard that contains gold ingots\textsuperscript{1}. However, there is no precise recording for the actual number of such ingots\textsuperscript{2}.

(2) The square and rectangular ingots were utterly a western Greek phenomenon\textsuperscript{3}, whilst round cake ingots are the predominat form of the Egyptian hoards. Contemporary rectangular specimens are found through “A Greek Archaic Silver Hoard from Selinus” which contained three rectangular fragments; one has graffiti on one of its sides, while the other two are stamped on one side only\textsuperscript{4}. Accordingly, we could infer that such rectangular gold ingots were exceptionally imported to Egypt through trade in small numbers for minor, every-day, transactions. Furthermore, it is apparent that these ingots were melted as soon as the exchange process was successfully accomplished to be used in manufacturing different items. We might say that the piece under study is a strong evidence for this case.

As for the silver piece (64 gm - 37mm), it is a complete quasi-round cake ingot, with some scratches from both sides, preserved in the museum under special register number 808. It is noticeable that the size of this piece is quiet larger if compared with many other pieces from different Egyptian hoards. To cite an instance, almost all round ingots from Benha El-Asl and the Delta hoards are nearly the same size as the Greek silver \textit{tetradrachm} (c.25mm)\textsuperscript{5}. In contrast, our silver ingot resembles in

\textsuperscript{1} - This is a very big hoard of about 6,000 pieces of tetrads, see some pieces via this article: Robinson, E. S. G., “The Tell El-Maskuta Hoard of Athenian Tetradrachms”,The Numismatic Chronicle and Journal of the Royal Numismatic Society, Sixth Series, Vol. 7, No. 3/4 (1947), pp. 115-121. For the reference to the gold ingots within the hoard, cf. Gilter, H., op. cit., p.7.

\textsuperscript{2} - Thompson, M., Mørkholm, O., and Kraay, C.M., op.cit, no.1649.


\textsuperscript{5} - Kroll, J., “A Small Find of Silver Bullion From Egypt”, pp.8-9.
shape most pieces in other hoards. The plano-convex and round cake is the predominant ingot shape not only in Egypt but also in the Levant too.

**Debate about the function of ingots**

Scholars are not in broad agreement about the principle function of Egyptian hoards in general and ingots in particular. The first scholars regarded these hoards as remains of either an unknown mint, or a jeweler’s workshop. Hence, these scholars categorized them as "Silversmiths”. To clarify this point, when Petrie discovered a hoard of 15 silver coins at Naukratis, he assumed his findings to be part of a silversmith’s stock in trade.

As opposed to this view, Dressel and Regling affirmed the presence of a monetary convention system. They believed that the frequent occurrence of bars and ingots, side by side, with coins proves the monetary nature of these findings. Many researchers were in agreement with Dressel and Regling’s opinion, hence, termed them as “Bullion Hoards”. It was mainly through the papyri documents, along with the hoards, that these researchers identified a clear monetary purpose.

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Beginning with papyri, it is easy to perceive that in the second half of the seventh century, Egypt began to receive an unparalleled inflow of foreigners from the Aegean and the Levant, who came as vendors and mercenaries. Henceforth, constituted their, distinctive, cultural groups. Most of these immigrants, for instance the Jewish garrison settled in the island of Elephantine (Ἐλεφαντίνη), came from territories where weighed silver had long been used as currency. Appropriately, these communities heightened the prevalence of dealing with silver in the monetary context in Egypt. The well-known corpus of Elephantine papyri, written in Aramaic Language, show that lots of matters, as contracts of marriage, receipts of payment and the like, were depending mainly upon weights of silver. It is obvious that the community utilized silver as a currency system.

On pointing to the evidences from hoards, the clipped pieces of coins are a logical and visual sign that they were treated mainly as bullion. The coins were deliberately clipped into lumpy fractions, halves, quarters or even tenths, of their original shapes in order to form segments ready to be weighed upon monetary dealings. Here, it is worth mentioning that the Egyptian museum comprises clipped pieces in which some of them were published by Abdel Mohsen El-Khachab (pl. iii, fig.4).

“Aryandic Silver” is another evidence, related to the hoards, that could be deduced from the fourth book of Herodotus which manifests the employment of ingots as a monetary medium of exchange. Herodotus related the following story:

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3 - El-Khachab, M.A.M., Coins and Gems, Reprinted from: Introduction to Egyptian Archaeology: with Special Reference to the Egyptian Museum, Cairo, General Organization for Government Printing Offices, 1988, pl. L, Fig.3 (a,a,b).
ὁ δὲ Ἀρυάνδης ὅς οὗτος τῆς Ἀιγύπτου ὑπαρχός ὑπὸ Καμβύσεως κατεστεώς, ὃς ὑστερψισθήνες τούτων παριστόμενος Δαρείῳ διεφθάρῃ. πυθόμενος γὰρ καὶ ἰδὼν Δαρεῖον ἑπιμέλεστα μυημόσυνον ἔως τοῦ λιτόθαλμος τὸ μὴ ἄλλῳ εἰς Ἡ βασιλείας κατεργασμένον, ἐμμέετο τοῦτον, ὡς ὁ ἔλαβε τὸν μισθὸν. 

Δαρεῖος μὲν γὰρ χρυσίνχαραφάτων ἀπεψήφη ἐς τὸ δυνατότατον νόμισμα ἀνέκοψε, Ἀρυάνδης δὲ ἐαρχὼν Ἀιγύπτου ἀργύριον τῶν τοῦτο ἐποίησε, καὶ νῦν ἐστὶ ἄργυριον καθαρώτατον τὸ Ἀρυανδικόν. μαθὼν δὲ μιν Δαρεῖος ταύτα ποιεῖντα, αἰτήσῃ ὁ οὖ ἐπενείκας ὡς οἰεπανίστατο, ἀπέκτεινε. ”

“This Aryandes had been appointed viceroy of Egypt by Cambyses; at a later day, he was put to death for making himself equal to Darius. For, learning and seeing that Darius desired to leave a memorial of himself such as no king ever had, Aryandes imitated him, until he got his reward; for Darius had coined money out of gold refined to an extreme purity, and Aryandes, then ruling Egypt, made a similar silver coinage; and now there is no silver money so pure as is the Aryandic. But when Darius heard that Aryandes was doing so, he put him to death, not on this charge but as a rebel.”

As mentioned above, Herodotus stated that after Darius had purified gold to struck coins, Aryandes attempted to immortalize himself too, by purifying silver when he became satrap in Egypt. Aryandes lost his life because of this act. He was put to death as Darius accused him of conspiring against him. Several specialists with different perspectives commented on Herodotus’ passage. However, no one was capable of having a clear judgment whether the “Aryandic Silver” was an actual coin...

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1 - Hdt. iv. 166
2 - Perseus Under Philologic, (Hdt., 4.166.1-2).
http://perseus.uchicago.edu/perseuscgi/citequery3.pl?dbname=GreekTexts&getid=1&query=Hdt.%204.165.2
or not. Thus, what Herodotus has mentioned in that passage is still a matter of conjecture. Nevertheless, Milne was one of the scholars who attempted to rationalize the reality about this piece. He alleged in 1938 that The Aryandic Silver was simply the ordinary Persian coin denomination known as “Sigloi”\(^1\), contrary to Van Alfen in 2005 who argued that Aryandic Silver is not coinage but exceptionally pure silver bullion\(^2\).

To sum up, the above mentioned evidences, in the light of papyri and hoards, prove that ingots had been used constantly in monetary dealings. Though, we shouldn’t ignore totally that ingots and coins were also melted occasionally to be used in manufacturing some items by the silversmiths. Thus, the researcher suggests both functions for ingots; however the monetary usage was more predominant. In addition, studying different Egyptian hoards proved that the gold piece, under study, is a very rare one that was not excavated before through any previous hoard, at least according to the comparable published gold ingots.

Greek and Latin sources

Aristotle (Arist.)  Ethica Nicomachea
Herodotus (Hdt.)  Historiae
Homerus (Hom.)  - Iliad
                 - Odyssey
Ovid (Ov.)  Metamorphoses
Pollux (Poll.)  Onomasticon

It should be noted that quotations are based on the two following academic sites:
http://www.perseus.tufts.edu/hopper/
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Bernholz, P. & Vaubel, R., (Eds.), Explaining Monetary and Financial Innovation: A Historical Analysis (Financial and Monetary Policy Studies), 2014,


Schaps, D., The Invention of Coinage and the Monetization of Ancient Greece, USA, University of Michigan, p. 50.


Plate I*

No (1)
Fragmentary gold rectangular slab (42 gm-30×26 mm)
Egyptian museum in Cairo (Sr. No. 817)
The diameter is measured at the widest point

No (2)
Quasi-round silver cake ingot (64 gm-37mm)
Egyptian museum in Cairo (Sr. No. 808)
The diameter is measured at the widest point

* I am deeply grateful to all curators in the sixth section in the Egyptian museum for their extraordinary help and support. It should be noted that the pieces were photographed by the researcher.
Plate II

Fig. 1
Part of Tal El-Amarna hoard, Egypt, circa 1850-1800 BCE (18th dynasty)
https://commons.wikimedia.org/wiki/File:British_Museum_el-Amarna_Hoard.jpg

Fig. 2
Ancient Egyptian gold and silver rings being weighed.
Rekhmire's tomb at Luxor.
https://paulsmit.smugmug.com/Features/Africa/Egypt-Luxor-tombs/i-vt9L8qj
Plate III

Fig. 3
Cretans Bringing Gifts, from Tomb of Rekhmire (Facsimile)
New Kingdom (circa 1479 –1425 B.C.)

Fig. 4
Clipped Athenian tetradrachm from the Egyptian museum in Cairo (6th section)
El-Khachab, M.A.M., op.cit., pl. I.
(Photographed by the researcher from the Egyptian museum)