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# Breaking down the bullion. The compliance of bullion-currencies with official weight-systems in a case-study from the ancient Near East

Nicola Ialongo [a, *], Agnese Vacca [b], Luca Peyronel [c]

[a] Georg August Universität Göttingen, Seminar für Ur- und Frühgeschichte, Nikolausberger Weg 15, D-37073 Göttingen, Germany
[b] Università di Roma "La Sapienza", Dipartimento di Scienze dell'Antichità, Via dei Volsci 122, 00185 Roma, Italy
[c] Libera Università di Lingue e Comunicazione, Dipartimento di Studi Umanistici, Via Carlo Bo 1, 20143 Milano, Italy

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ABSTRACT

In this paper we provide an analytical insight on a specific form of bullion-currency. Through the comparison of the statistical properties of different samples of hacksilver and balance weights from various contexts of the Near Eastern Bronze Age, the study attempts to assess whether the weight values of bullion-currencies can be expected to comply with existing weight-standards. The results of the statistical analyses on a silver hoard from Ebla (Syria) strongly suggest that hacksilver in the Bronze Age Near East was shaped and/or fragmented in order to comply with the weight-systems that were in use in the trade networks where it circulated. The results also show the possibility to quantify the level of affinity between different weight-systems. The study is intended to provide a starting point for future research, aimed at the identification of different forms of bullion-currencies in pre- and protohistoric economies.



## 1. Introduction

The main question of this study concerns the means through which a bullion-currency can be effectively identified, and distinguished from other kinds of non-currency goods. In particular, we seek to verify whether a quantifiable relationship exists between bullion-currencies and standard weight-systems. The hypothesis is that the weight values of bullion – both complete and fragmented – should comply with standard weight-systems. Therefore, statistical tests on sets of bullion and sets of balance weights, from the same economic network, are expected to give comparable results.

The research focuses on a Middle Bronze Age hacksilver hoard from the city of Ebla, in Inner Syria (Fig. 1). Several hoards of silver bullion, dated to the Bronze Age, have been found in Near Eastern sites. Unfortunately, the weight values of silver pieces are generally absent, and the graphic documentation is often lacking. Silver hoards occur in public and private contexts, with varying interpretations as deposits of value or ritual depositions (Peyronel, 2010: 928, and fns 12–13). Through the analysis of the silver hoard of Ebla we aim at reaching a deeper understanding of the modes through which scrap silver and silver objects effectively circulated, before being hoarded.

The Ebla hoard contains 171 silver items, mainly fragmented pieces and ingots. The items included in the hoard, with the only possible exception of a silver bead, are neither utilitarian objects nor ornaments of any kind. Considering that texts often mention payments being made in weighed silver (Paoletti, 2008; Pomponio, 2003; Milano, 2003; Arkhipov, 2012: 12), it can be assumed that – whatever the purpose of the deposition – the state in which the objects were recovered was likely the same state in which they actually circulated: ingots and scraps, passing from hand to hand as a means of payment, eventually collected and buried underground. Cuneiform texts from Mari mention different metal items circulating in the form of disks (*kakkar(t)um*), sheets (*lê'um*), or lumps (*kubdum*), and specific terms might also refer to silver and gold scraps (*šibirtum*), as well as to portions (*sankuttum*) of metals (Arkhipov, 2012: 17–21). All these terms find close correspondences with the items included in the Ebla hoard. In this perspective, the Ebla hoard represents a sample of circulating hacksilver, a form of bullion-currency whose exchange value had to be assessed through weighing, and formally acknowledged against standard frames of reference.

* Corresponding author.
*E-mail addresses:* nicola.ialongo@uni-goettingen.de (N. Ialongo), agnese.vacca@gmail.com (A. Vacca), luca.peyronel@iulm.it (L. Peyronel).

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**Fig. 1.** Tell Mardikh-Ebla. Small jar with silver hoard from Burial D 27.

A comparative analytical framework is defined, to test the statistical properties of hacksilver against those of balance weights (see supplementary material). The Ebla hoard will be compared to five groups of balance weights, all dating to the Middle Bronze Age (hereafter MBA or MB; c. 2000–1600 BC), from different sites: the Assyrian *kārum* ("trade post") of Kültepe, in Anatolia; the city of Ebla, in Northern Syria; and the cities of Nippur, Larsa and Ur, in Southern Mesopotamia (Fig. 2). The study aims to be a contribution towards the definition of a general model for the identification of bullion- and commodity-currencies, that can be further developed to include different pre- and protohistoric economic systems.

## 2. Research questions

How far do official standards concur in determining the weight of bullion-currencies, and ultimately in producing the materiality we observe in the archaeological record?

Is there any regular pattern in bullion-currency samples that we can use to infer normatively-induced behaviour?

In practice, is the distribution of the weight values of bullion-currencies similar to those of balance weights in any significant way?

The answers to these questions are key to understand the process leading to the formation of the archaeological record related to any kind of bullion-currency. The results will help clarify the way

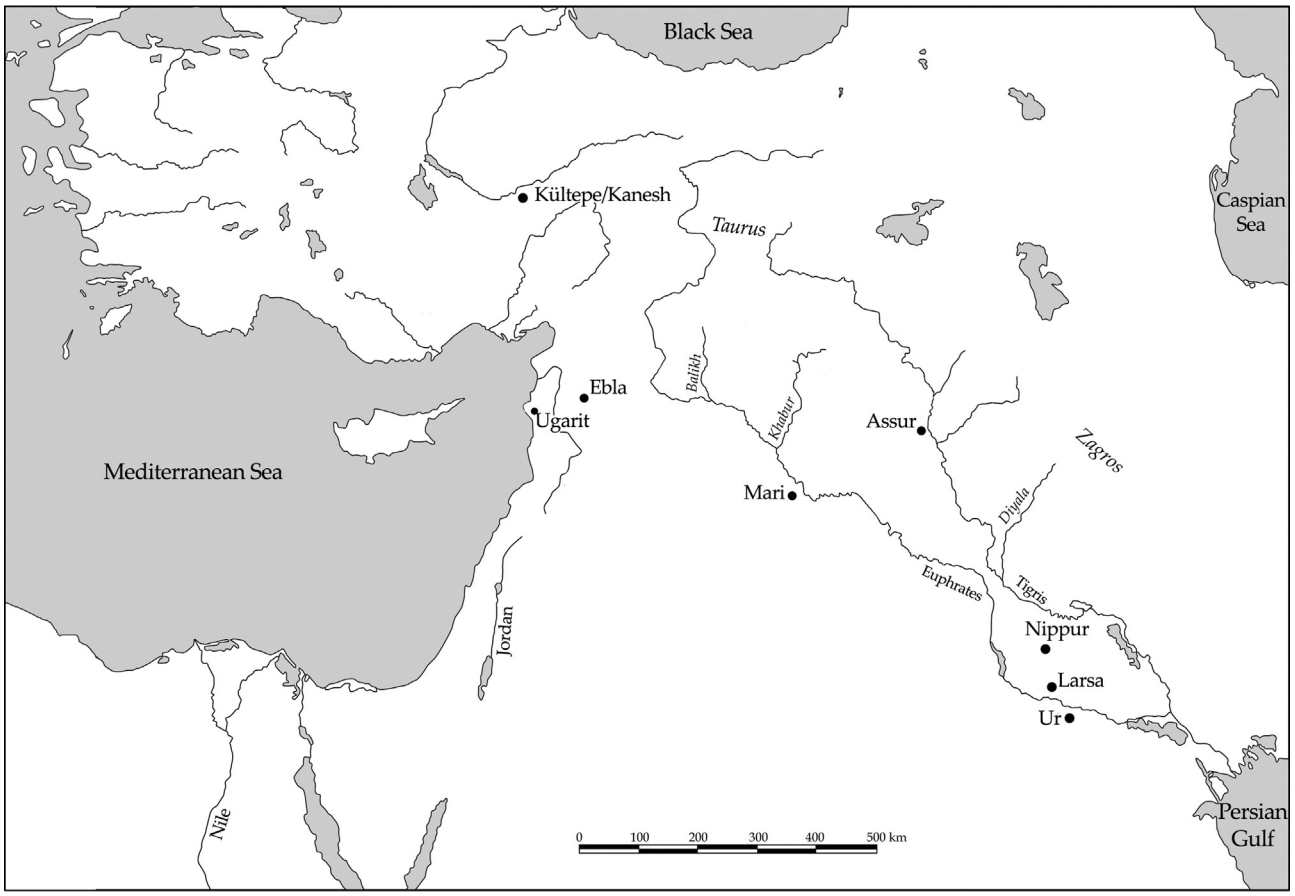


**Fig. 2.** Map of the Ancient Near East with sites quoted in the text.