The Enigmatic *mmšt* in the *lmlk* Stamps

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Abstract

The late 8th century BCE *lmlk* stamp seal impressions on jar handles are among the most distinctive epigraphic findings in Judah. Currently, they comprise more than two thousand provenanced items from throughout the Judahite territory. While three of the four words engraved below the word *lmlk*, "(belonging) to the king," refer to well-known Judahite cities—Hebron, Ziph, and Socoh—the fourth—*mmšt*—remains incomprehensible since it was first sighted in 1868. In this study, I argue that *mmšt* is not the name of a city but the expression "from (the?) *maś'ēt*" —masoretized מִמְּשֵׂאת—spelled without the *aleph*. The *maś'ēt* was a huge and unique *ad hoc* collection of agricultural products initiated by King Hezekiah as part of his preparations for the anticipated invasion of the Assyrian army following his rebellion. These products were subsequently distributed in jars, whose handles were stamped with the inscription "(belonging) to the king – from (the?) *maś'ēt*."

1. Introduction

The *lmlk* stamps need no introduction. They comprise an unparalleled corpus of more than two thousand stamped jar handles dated to the last part of the 8th century BCE, constituting one of the most impressive phenomena in the archaeology and epigraphy of the Kingdom of Judah. Most researchers ascribe it to King Hezekiah's preparation for his rebellion against Assyria (Vaughn 1999; Lemaire 2021), although acknowledging that some were impressed before Sargon's death in 705 BCE (see Lipschits 2021: 98–103 and references therein). Notably, this view was recently challenged by Lipschts, Sergi, and

Koch,[1] who set off a chain of responses and counter-responses (for recent reviews, see Lemaire 2021; Van der Veen 2020: 125–129).[2] Most stamps feature the word למלך, "(belonging) to the king," at the top of the oval seal above a two- or four-winged figure, and the word חברן (i.e., Hebron), זף or זיף (i.e., Ziph), שוכה (i.e., Socoh), or ממשת at the bottom. Exceptions include a small subgroup that bears only the word למלך and another that bears only חברן, זף, or ממשת (Lemaire 1981; Grena 2004: 63–70).

Of these five words, only ממשת—*mmšt*—remains incomprehensible after more than one and a half centuries since its first discovery in 1868 by C. Warren in Jerusalem (Warren 1870; Grena 2004: 110). As Hebron, Ziph, and Socoh are well-known Judahite cities, the research efforts directed at elucidating the meaning of ממשת focused on the search for the name of a supposed fourth city by that name, which, for some reason, and unlike the other three, goes unmentioned in the Bible and is not preserved anywhere else for that matter. About a dozen proposals were made in this vein, indicating various archaeological sites in Judah, none of which is etymologically justified (see Grena 2004: 52–54). One notable exception to this trend is Ginsberg's (1948) proposal that ממשת did not denote a place but was an abbreviation of ממשלת, "government," and referred to the capital city Jerusalem (Ginsberg 1948). This proposal, however, is unconvincing given its unparalleled and illogical form of abbreviation and the peculiar use of *nomen rectum* instead of the regular form ממשלה.

2. The Problematics of *mmšt* as the Name of a Town from a Linguistic Perspective

Although hardly discussed, regarding *mmšt* as a place name generates considerable linguistic incongruities that make it impossible or highly unlikely. To the best of my knowledge, these obstacles have not been considered in the vast discussion of the issue during the past century and a half. Below, I review these difficulties and discuss various possibilities for understanding the grammatical form in which *mmšt* is built.

1　Lipschits, Sergi, and Koch (2010) and Lipschits (2021: 17–20, 35–48, 98–114) argued that the *lmlk* stamp-impression system began to be used before the rebellion of Hezekiah and continued to be used after it. In this vein, it was "part of the economic and administrative system introduced in Judah under Assyrian rule … in order to meet the annual tax quotas imposed by the empire upon its vassal kingdom" (Lipschits 2021: 102).

2　In the following pages —up to page 142—Van der Veen discusses in further detail the different positions, as well as his own. The main works that defend the link between the *lmlk* impressions and the preparations of Hezekiah before the Assyrian onslaught are those of A.G. Vaughn (1999), based on his Ph.D. dissertation, and A. Lemaire (2021).

2.1. The impossible root *mmš*

Except for the Ethiopian languages branch (Lowenstamm 2010: 7, 10–19), Semitic languages, including Hebrew, the known Canaanite dialects, and all the Northwest Semitic languages, do not have triradical roots in which the first and second radicals are the same (Greenberg 1950: 162–167; Vernet 2011: 1–3).[3] This peculiarity in Biblical Hebrew was already observed by Rabbi Abraham ben Meir de Balmes (1440–1523).[4] This characteristic is so deeply ingrained that it is still present today in the subconscious of native speakers of Hebrew and Arabic.[5] Hence, the root of ממשת cannot be *mmš* because such a root cannot exist in the languages of the area. The only alleged exception to this rule is the Hebrew root *ddy* (Greenberg 1950: 167), which is unparalleled in any other Semitic language. It occurs once in the Hebrew Bible in Isa 38:15, where the spelling is אֶדַּדֶּה in the Masoretic text. In a text from Qumran (1QIsaa), the word is spelled אדודה, pointing to the root *ndd*, which also fits the context well and is most possibly the original root behind the word (Blenkinsopp 2000: 481; Kaddari 2007: 178). In Ps 42:5, the word אֶדַּדֵּם occurs, possibly also deriving from the root *ndd* (Dahood 1966: 257). Notably, in some manuscripts, the latter is spelled אֶדְּרֵם, deriving from the root *'dr* (Vainstub 2023: 99, n. 18).

2.2. Could indeed there be a word *mmšt*?

The only possibility of forming a word beginning with a double *mem* is when the first *mem* is a morpheme that is not part of the root (Vernet 2011: 7). There are two possibilities for the first *mem* of such a word to be a morpheme, and ממשת does not fit either: (1) When the first *mem* is the formative of the participle of one of the stems that build their participles with an affixed *mem*, as in מַמְלִיךְ (Ezek 17:16); and (2) when the first *mem* is the formative of a nominal pattern like *miqtāl*, *maqtōl*, *maqtēl*, *maqtēlā*, etc., as in words like מִמְּגוּרָה, מַמְלָכָה, and מֶמְשָׁלָה. To interpret *mmšt* in this vein implicates that its root is *mšt* . Such a root is not only unknown in any Semitic language in the region, but if it existed, it would be very exceptional in view of the rarity of a second radical *š* with a

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3 A few short words are composed of a single duplicated consonant, such as גּ, דַּד, or וָו. However, none of these words, which possibly belong to an archaic stratum of the language, makes up a root.

4 On the 31st page of his book, *Miqneh Abraham,* in the paragraph beginning with "ודע שכל זה שאמרנו הוא בתחילת השרש...". The pages of the book are unnumbered.

5 Modern Hebrew has only two exceptions, the roots *mmn* and *mmš*, developed from the words מָמוֹן and מַמָּשׁ that were incorporated into the language in the Roman period.

third radical *t*; the only Hebrew root with this combination is the rare *nšt* (Koskinen 1964: 22, 27).[6]

The final and remote, hypothetical possibilities for seeing ממשת as a word are the following: (1) To consider it as being built on a formative *mem*, the root *mšy*, "to draw out from the water," and the feminine mark *t*.[7] Such a proposal would face intractable difficulties: the verb *mšy* exists only in the *Qal* stem in which the participles are not built with *mem*, not to mention the mismatch of the meaning of the root being used as the name of a town. (2) To consider it as being built on a formative *mem*, the root *mšš*, "to touch or handle," and the feminine mark *t*. Apart from the discrepancy of the meaning, such a hypothetical form would be odd, as a construction of this kind would be expected to preserve the two *shin*s.

2.3. Geographic and personal names

The linguistic incompatibilities described above have had a notable impact on the formation of names in antiquity. Consequently, there are virtually no people and place names with identical first and second letters from before the Persian period.

2.3.1. *Place names*

The Hebrew Bible contains more than 800 toponyms encompassing cities, towns, and geographic landforms like mountains, rivers, and valleys. Most pertain to locations in the Land of Israel and a few to places in neighboring or even distant countries. Many of the Hebrew toponyms used by the Israelites in both the Northern Kingdom and Judah derived from preexisting Canaanite names, only five of which have the same first and second letters. Four designate distant locations: בָּבֶל (Babylon), דְּדָן (Dedan), שׁוּשָׁן (Shushan), and שֵׁשַׁךְ (Sheshak). The fifth toponym, מַמְרֵא, is local; it derives from a person's name and seems to be cast on the well-known root *mr'* with a formative *mem*.

To this corpus, should be added the data contained in external sources, especially the Egyptian ones. The Egyptian sources include more than 300 names of cities, towns, and *shasu* tribes in Canaan from the third millennium BCE onward and especially from the second millennium BCE until the 10th

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6   The root *nšt* occurs only in Jer 51:30 and Isa 19:5, 41:17. In Arabic, the incompatibility between a second radical *s* or *š* and a third radical *t* is absolute (Greenberg 1950: 166, Table 3). In the Hebrew words רֶשֶׁת and קֶשֶׁת, the *tav* is the feminine mark suffix and not part of the root. The root of רֶשֶׁת (Ugaritic *rṯt*) is *yrš* (BDB; HALOT) and the root of קֶשֶׁת is *qwš* (Kaddari 2007: 972).

7   Greene (1881) offered this possibility in the early days of research when *lmlk* was interpreted as possibly connected to the cult of Molech.

century BCE (Aḥituv 1984). Some of these names overlap with names recorded in the Hebrew Bible. None of them has identical first and second letters.[8]

2.3.2. *Personal names*

A similar picture arises from the data on personal names. The Hebrew Bible contains about 1,700 names of persons, including personifications of lands, cities, and peoples. The few names in this impressive database that have identical first and second letters, albeit sometimes featuring a *vav* or a *yod* between them, which can be suspected of being a *mater lectionis,* belong to one of the following four categories:[9] (1) Three personifications of places far from the region: דְּדָן, בָּבֶל, דֹּדָנִים; (2) five Persian or Judean persons bearing Persian or Babylonian names in the Persian period: תַּתְּנַי, שֵׁשְׁבַּצַּר,[10] שָׁשַׁי, מְמוּכָן, בֵּבַי; (3) an Egyptian king name: שִׁישַׁק; and (4) six names of local persons added in books of the Persian period—זִיזָא, זֵזָא, זִיזָה, סִסְמַי, שָׁשָׁן, שָׁשַׁק (see Kalimi 2005b: 74–77). Five additional names—הוֹהָם, זוּזִים, סוּסִי, סִיסְרָא, and שִׁישָׁא—have obscure etymologies and their *vav* or *yod* between the first two letters seem integral to the root, consisting of *w* or *y*.[11] A unique exception to these rules is שֵׁשַׁי, one of the mythological Anakites of Hebron (Num 13:22; Josh 15:14; Judg 1:10) and, in fact, not exactly an exception as it is probably built on a short two-consonantal base.

To this corpus, we should add the data contained in the epigraphic sources. The number of personal names included in provenanced inscriptions written in Hebrew and other Semitic languages of the surrounding peoples in the Iron Age amounts to more than 500 (Golub 2023). The only three among them that were written with the same first and second letters are transcriptions of foreign names:[12] (1) פפי, one of the persons listed in Arad Ostracon 72 (Aharoni 1981: 96), is an Egyptian name, *Pp.y*; (2) a seal found at Tell Jemmeh in Philistia in 1927 and published only in a facsimile drawing preserves the name of its Philistine owner, which reads שמידד or שמידרׄ due to the first letter's partial preservation

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8   Notwithstanding, the name *Nun* might be a contender (Aḥituv 1984: 148). However, the Egyptian spelling is obscure concerning the middle sign, which may be the consonant *w* or the vowel *u* (S. Aḥituv, personal communication). If the sign stands for the vowel *u*, the name should be attributed to the short, two-consonant words mentioned above (note 3).

9   The name of נון, Joshua's father, is not included here, as it belongs to the category of short two-letter words.

10 Most probably, this Babylonian name of the "prince of Judah" (Ezra 1:8,11) in the Persian period is the result of a disruption of שנבצר or שנאבצר (Liver 1982).

11 שֵׁשַׁי has multiple names in the Hebrew versions and the Septuagint. Most probably the names שִׁיא, שׁוָא, שׁוָשָׁא, and שִׁישָׁא represent his original non-Semitic name that was later Hebraized into שְׁרָיָה (Aḥituv 1976). The spellings שׁוָא and שׁוָשָׁא suggest that there was a consonantal sound between the two *shins*.

12 The name גגׄ[יהו] was tentatively reconstructed in a very damaged bulla from Lachish (Mendel-Geberovich et al. 2016: *119), but the preceding letters are missing, and the remaining letters should very probably be read פגׄ rather than גגׄ. Beit-Arieh (1998: 36) reported the finding of a seal bearing the enigmatic name חחע in Tel Malḥata in the Negev, though there is no accompanying photograph or drawing.

(CWSS 1068); (3) one of the persons included in a Philistine ostracon found at Tell Jemmeh is named פפש (Aḥituv 2008: 346–349 with references therein), a very common Anatolian and Mycenaean name (Kempinski 1987: 22).

2.4. Conclusion

In view of the above, it is apparent that Bronze and Iron Age Semitic language speakers were reluctant to form names with the same letter in the first and second place. Of course, rules sometimes have exceptions; however, given the bulk of textual evidence, the linguistic incompatibilities, and the absence of a record of *mmšt* in any other source, it is highly improbable that the term designates a place name and, most probably, the first *mem* is not part of the word but the preposition *m*, "from."

3. The Epigraphic Evidence

This section presents epigraphic evidence that the wording behind ממשת in the *lmlk* impressions is, in fact, (masoretized) מִמַּשְׂאֵת or even מִן מַשְׂאֵת, "from (the?) *maśʼēt*." In the framework of the preparation of this study, only a few of the relevant impressions were examined. Among the approximately two thousand provenanced *lmlk* impressions, around 10% are of the *mmšt* type. However, many are defective or carelessly impressed, and many others are weathered and worn, rendering them irrelevant for the purposes of this study. Finally, numerous impressions were published with poor-quality photographs or were not illustrated at all; locating and procuring photographs of these items proved extremely difficult. The items presented here were first identified in publications and later verified through as many new high-quality photographs as I was able to obtain. I have no doubt that a more comprehensive investigation would enrich and expand the data presented here.

The impressions presented here were made with two variant seal types: (1) seals in which the engraver rendered a more complete spelling than the standard and commonly used ממשת and engraved the full word מן instead of the preposition מ attached to the word[13] and (2) seals in which the engraver originally used the common formula ממשת, but the users of the seals, unhappy with the spelling, later squeezed in a defective *aleph* between the *shin* and the *tav*. As I assume that additional examples of such impressions will be located in the future, I use the following numbered sigla: MMN to indicate a fully spelled מן instead of מ and MAU to indicate a schematic *aleph* added by the seal's users.

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13 Compare 2 Kgs 18:17 מִן־לָכִישׁ "from Lachish" with the parallel text מִלָּכִישׁ in Isa 36:2.

3.1. מן instead of מ

So far, four stamps made with four different seals have been found. This is immensely significant, providing the ultimate proof that the first *mem* of ממשת stamps is not the beginning of a word but the preposition *m*, "from," and the actual word is *mšt*. Biblical Hebrew generally uses the shortened form מִ for "from" before anarthrous words, with the *nun* of the original form מן being assimilated to the first letter of the word. The full and separated form מן is generally used before words with the article ה, as in מִן־הַמַּיִם מְשִׁיתִהוּ versus מִמַּיִם רַבִּים (Gesenius §102b; Joüon 1996: §103d). This distinction is generally observed in the data known so far in Hebrew epigraphy, including the Siloam inscription, which is dated to the same period as the *lmlk* stamps (Gogel 1998: 212).

Nevertheless, the full form מן sometimes comes before anarthrous words in Biblical Hebrew, possibly as a dialectic that preserves unassimilated the original *nun*, such as וּמִן־אָשֵׁר וּמִן־כָּל־מְנַשֶּׁה (Judg 7:23). In the opinion of Rendsburg (2002: 132; 2003: 23), this use characterizes the dialects spoken in the northern Israelite Kingdom.

Alternatively, the intended expression might have been מִן (ה)מש(א)ת, and the article ה was not written because it was syncopated. This may occur in fast colloquial pronunciation, especially of common expressions (Blau 2010: §3.3.5.3.1), as can be seen in some Masoretic spellings amended by *Qere* forms (Gordis 1971: 96 [list 8]; 147 [list 77]; see Gesenius: §§19k, 23k), such as בֵּית־(הַ)מֶּלֶךְ (1 Kgs 1 5:18; 2 Kgs 11:20, 15:25), pronounced as a single word syncopating the *he*: *bētammelek*.[14] Very possibly, the same occurred in the inscription צפן בן (ה)נסס, "Ṣāfān son of (the) standard bearer," engraved on the rim of a holemouth jar found at Moẓa and dated to the 7th–6th centuries BCE (Vainstub 2009: 137–141).[15] The weakening and consequent syncope of an intervocalic *h* in Jerusalem by this time is possibly expressed in the spelling רעו instead of the expected רעהו in the Siloam inscription, as well as in Jer 6:21.[16] As the *maś'ēt* mentioned in the *lmlk* impressions was a specific one, this possibility is very real. The non-uniformity of spellings of "from *maś'ēt*" is in line with the two different spellings of Ziph (זף and זיף) in the *lmlk* stamps and the varied spellings of personal names in "private impressions" (see below Section 3.3).

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14 Additional examples in this vein include אֶל־(הַ)שָּׁלָל (1 Sam 14:32), עַל־(הָ)אֶחָד (1 kgs 4:7), לְעֶבֶר־(הַ) שֹׁבְכָה (1 kgs 7:20), כָּל־(הָ)עַמִּים (Ezek 18:20), and וְרֶשַׁעת־(הָ)רָשָׁע, לְכִסֵּא־(הַ)מְּלָכִים (Jer 52:32), כָּל־(הַ) (Lam 1:18).
15 See Blau 2010: § 3.3.5.4.3.
16 However, in the case of רע, it is also possible that the original suffix lacked the *he*. See also below 3.3. On the phenomenon of syncope of intervocalic *he* in the languages of the area, see Garr 1985: 54–58.

MMN1. Tell en-Naṣbeh (Fig. 1)[17]

Publication	Present Location
McCown 1947: 158–159, Pl. 56:4, Fig. 38:2 Welten 1969: 43 Van der Veen 2020: 154, Fig. 60a Lmlk.com: http://www.lmlk.com/research/lmlk_ten-m2339.htm	Badè Museum

Despite the fissure in the middle of the impression, all five letters in the lower row are intact and can be read reliably. The *nun* is engraved in the same style, size, and depth as the other letters. As the engraver was executing an impression of the MIIb type,[18] he was obliged to engrave the letters on the right side very tightly. It is highly probable that this seal's engraver also produced the seal that stamped MMN2 (below).

The "spare" *nun* was noticed by both McCown and Welten, who drew and transcribed it correctly as *mnmšt*. Welten (1969: 43) added the short comment "Verschreibung von *mmšt* zu *mnmšt*."

Fig. 1. MMN 1 from Tell en-Naṣbeh: (a) photograph reproduced from McCown (1947),
(b) line drawing in McCown (1947: 158, Fig. 38:2),
(c) line drawing in Welten (1969: 43, published with permission).

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17 I was unable to obtain a new high-quality photograph of this impression. High-quality photos of the impression are provided by Van der Veen (2020) and lmlk.com.

18 According to the classification of Lemaire (1981); M2D is according to the classification of Grena (2004: 67).

MMN2. Jerusalem, Jewish Quarter (Figs. 2, 3)

Publication	Present Location
Avigad 1983: 43, Fig. 19 Avigad and Barkay 2000: 252, no. 16; 260, no. 16 Lmlk.com: http://www.lmlk.com/research/lmlk_m2d.htm, no. 80	Wohl Archaeological Museum

Although the tails of the *nun* and the second *mem* are damaged, their remains are readily discernable. The *nun* was probably made as a simple headless stroke or a stroke with a tiny head like MMN1. It is highly probable that this seal's engraver also produced the seal that stamped MMN1.

Fig. 2. MMN2 and a close-up on the letters below
(courtesy of the Israel Antiquities Authority).

Fig. 3. MMN2, a line drawing of the letters; the *nun* is indicated in red
(illustration: Daniel Vainstub).

MMN3. Jerusalem, Jewish Quarter (Figs. 4, 5)

Publication	Present Location
Avigad and Barkay 2000: 252, no. 17; 260, no. 17 Lmlk.com: http://www.lmlk.com/research/lmlk_m2t.htm, no. 7	Wohl Archaeological Museum

The *nun* is clearly observed and well-preserved. Unfortunately, the first *mem* is severely damaged. Nevertheless, the edge of its head's left upper stroke and small parts of the main stroke are discernable.

Fig. 4. MMN3 (courtesy of the Israel Antiquities Authority).

Fig. 5. MMN3, line drawing of the letters; the *nun* is indicated in red (illustration: Daniel Vainstub).

MMN4. Private collection (Figs. 6, 7)

Publication	Present Location
Grena 2004: 87, Fig. 47, ID# 2 Lmlk.com: http://www.lmlk.com/research/lmlk_gg02.htm	Redondo Beach Collection

The head of the *nun* is fully preserved, while its main stroke is damaged and poorly preserved.

Fig. 6. MMN4 (after Lmlk.com, http://www.lmlk.com/research/lmlk_gg02.htm).
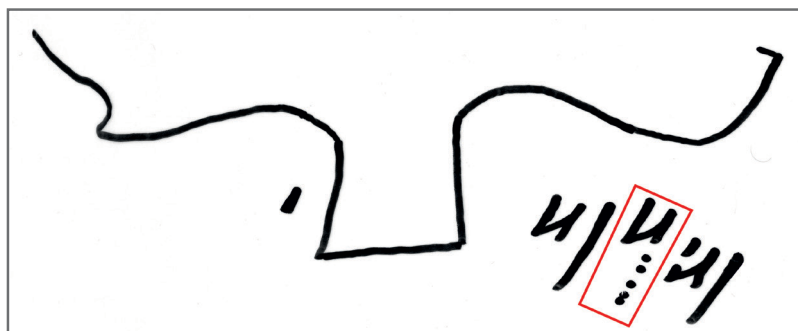

Fig. 7. MMN4, a line drawing of the letters; the red frame indicates the *nun* (illustration: Daniel Vainstub).

3.2. Adding the absent *aleph*

The absence of an *aleph* in the ממשת seals was annoying to at least some of the users of the seals, who decided to make small corrections to remedy it. As petrographic analyses have shown that all the *lmlk* jars were made in one place, or in several nearby places, in the Shephelah (Grena 2004: 81; http://www.lmlk.com/research/lmlk_chem.htm), the following scenario can be proposed, albeit merely as a hypothesis: All the *lmlk* seals were made in Jerusalem by official engravers and sent to the place (or places) in the Shephelah where the potters made the jars. In this workshop (or workshops), potters or local officials dissatisfied with the spelling used by the Jerusalemite engravers made corrections to the seals. It is possible that two of the following examples (MAU5 and MAU6), in fact, bear real *aleph*s made by the original engravers of the seals. Unfortunately, I was unable to obtain new high-resolution photographs to verify this.

3.2.1. *The elision of the* aleph: *From* משאת *to* משת

The weakening of the pronunciation of the glottal stop in certain grammatical situations, both in Hebrew (Gesenius: §§19k, 23b–f, 74h; Bergsträsser 1918: §15; Blau 2010: §3.3.4.2; Ariel 2020) and in other Semitic languages in the region (Garr 1985: 49–50), is a well-known and thoroughly studied topic. The weakening (sometimes up to the complete disappearance) of its pronunciation among certain groups of the population, especially in colloquial speech, led to the *aleph* not being written in such grammatical situations. This phenomenon of non-pronunciation gave birth to many defective spellings lacking the expected *aleph* in the Biblical text: הַיּוֹצֵ(א)ת (Deut 28:57), שְׁ(א)לְתֵךְ (1 Sam 1:17), וַתֹּ(א)פֵהוּ (1 Sam 28:24), etc. In many cases, in the Masoretic text the *aleph* was written, but according to the punctuation was not pronounced, for example, מֹצֵאת > מֹצֵת (2 Sam 18:2) and מִלֵּאת > מִלֵּת (Song 5:12) (Gesenius: §§19k, 23b–f, 74h; Bergsträsser 1918: §15; Joüon 1996: §24). One of the grammatical situations in which this happened is in words built in the same structure as מַשְׂאֵת, namely where the *aleph* starts a new and stressed syllable after a *shᵉwa*. In such a case the consonant that precedes the *aleph* receives its vowel (Bergsträsser 1918: §15g; Gesenius: §23c; Blau 2010: §3.3.4.2.5): תִּגְלַת פְּלֶסֶר > תִּגְלַת פִּלְאֶסֶר (2 Kgs 16:7), חֵמָה > חֶמְאָה (Job 29:6), etc. These defective spellings are sometimes amended by *Qere* full forms with aleph in the Masora (Gordis 1971: 96 [list 7], 96 [list 8], 127 [list 44]). So, in our case, מַשְׂאֵת (*maś'ēt*) becomes מַשֵׂת (*maśēt*). The possibility that the *aleph* of the word מַשְׂאֵת was, in fact, not pronounced in the First Temple period and that its rendering in the Bible is "historical spelling" was raised by Anderson (1987: 129) many years ago.

Hebrew epigraphical sources from the Iron Age have so far yielded the following cases of syncopated *aleph*s. (1) Possibly, but not certainly, the verb ואסם in the fifth row of the letter from Meṣad Ḥashavyahu (Aḥituv 2008: 156–163) could stand for וְאֶ(אֱ)סֹם (see Blau 2010: §3.3.4.2.1). (2) One of the cities recorded in a Judahite fiscal bulla is בתל. One possibility (among others) of interpreting it is בֵּית־אֵל (Barkay 2015: 35–36). It is important to stress that according to a convincing emendation of the Masoretic text proposed by Baruchi-Unna (2008), the *Vorlage* of בְּבֵית לְעַפְרָה in Mic 1:10 was בבית(א)ל עפרה. The original *aleph* of בית־אל was syncopated at an early stage, which caused the later confusion. (3) In another Judahite fiscal bulla, the name of the city is spelled פקה very probably referring to the city of אֲפֵקָה in the Judean mountains (Barkay 2015: 36). (4) In a seal found in Bet Shemesh (CWSS 52), the original engraver wrote לחאב instead of the expected לאחאב (see Section 3.2.2 below). (5) In the Siloam inscription from the period of King Hezekiah, the word לקראת is spelled לקרת. Interestingly, in all the 121 occurrences of לִקְרַאת in the Masoretic text, the *aleph* comes without a vowel, meaning that it should not be pronounced (Gesenius §19k).

The last example is of far-reaching importance for the present study due to the common background it shares with the *mmšt* seals: The text from which the Siloam inscription was copied was written by official court scribes of King Hezekiah. Moreover, I agree with the assertion that the text of the Siloam inscription was copied from the lost *Book of the Acts of the Kings of Judah* and that, in fact, its text is part of the "rest of the acts" of the king (2 Kgs 20:20) not included in the Bible's Book of Kings (Vainstub 2000: 273). This assertion was first proposed by Levi Della Vida (1968) and later strengthened by Talshir (1982), who showed that the text of the inscription is composed in a special literary format used by official scribes. The scribes in Hezekiah's court who composed the text transcribed in the Siloam inscription and the officials who engraved (or ordered the engraving of) the *lmlk* stamps belonged to the same contemporary milieu in Jerusalem. It is a highly reasonable assumption that they all spoke and wrote in the same manner. They did not pronounce all the *aleph*s that came in a new stressed syllable after a *shᵉwa*, and hence, they, or some of them, did not write them in לקר(א)ת or in משׂ(א)ת. These shortened spellings, however, did not become generally normative over time, and even at that time, they were not universally accepted.

What has been said about the engravers of the Siloam inscription could possibly also be said about the engravers of the seals with which the abovementioned fiscal bullae were stamped. Their use in the official tax system of the kingdom is obvious from the word למלך, "to the king," and they were

possibly all engraved in Jerusalem by royal official engravers.[19] Unfortunately, their dating is disputed. Apparently, all these bullae should be dated to the reign of a single king, but there is a disagreement among researchers about his identity. The kings proposed are Hezekiah, Manasseh, and Josiah (Barkay 2015: 39–42); Barkay and Deutch (2017: 118) and Wimmer (2023: 155) favor Manasseh, Hezekiah's son.

3.2.2. *Filling in the absent* aleph: *ממש*א*ת*

The following stamps were impressed with seals on which the original engraver incised the word ממשת, and others, most probably users of the seals, who were unhappy with this defective spelling, later added another tiny sign in the small space left by the original engraver between the *shin* and the *tav*. In the examples presented here, this two-step process is obvious since the added sign is smaller and shallower than the four original letters; it seems that the added signs were executed by less skilled hands unused to engraving letters in stone. Their shape is generally a right angle or a small *x*, reminiscent of a simplistic and defective *aleph*. In principle, it could be argued that these signs, especially the x-shaped ones, are, in fact, spears of unsuccessful *tav*s. However, such an assertion would conflict with the fact that, to the best of my knowledge, there are no added signs or repeated letters in the entire corpus of *lmlk* stamps except between the *shin* and the *tav* of the word ממשת. Moreover, it should be emphasized that in each of the examples exposed here, the original ממשת inscription was executed by a different hand. It seems unlikely that different engravers consistently made the same "mistake," the only one of its kind in the corpus of *lmlk* stamps.

Welten (1969: 42), in his meticulous study, was aware of this phenomenon and compiled many more examples than those presented here,[20] which only consist of impressions of which I was able to obtain sufficiently clear published illustrations or new photographs.

A similar addition of an absent, non-pronounced *aleph*, though using a different method, is seen on a seal found in Bet Shemesh and dated to approximately the end of the 8th century BCE (CWSS 52). The original engraver of the seal rendered the seal owner's name as it sounds when pronounced swiftly in a colloquial manner, לחאב בעדאל, instead of the expected standardized לאחאב בן עדאל. All the letters are executed in a simple style but are fully and clearly engraved. Later, in a second stage, another person lacking the professional

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19 Notwithstanding, as inferred by Barkay and Deutch (2017), they were used in different Judahite cities for sealing shipments to Jerusalem.

20 He attributes the phenomenon to mistakes of the engravers or incorrect stampings (see Welten 1969: 42, n. 22).

skills of the first engraver squeezed a very defective and flawed *aleph* into the narrow space between the *lamed* and the *het* to arrive at the full name אחאב. The defective *aleph* made by the inexpert hand is turned 90° to the right or 90° to the left if it is not mirrored, as is necessary for a seal.

MAU1. Gibeon (Fig. 8)

Publication	Present Location
Pritchard 1959: 24, Fig. 9:499 Lmlk.com: http://www.lmlk.com/research/lmlk_ej-499-s197.htm	Jordan Archaeological Museum

The squeezed *aleph* consists of short and shallowly engraved lines connected at a right angle and open to the right.

Fig. 8. MAU1; arrow indicates the added sign (after Pritchard 1959: Fig. 9).

MAU2. Tel Goded (Tell Judeideh; Fig. 9)

Publication	Present Location
Dussaud 1925: Pl. XLIII Lmlk.com: http://www.lmlk.com/research/lmlk_m2u.htm, no. 9	Rockefeller Museum (IAA #P.542)

The squeezed *aleph* consists of short, shallowly engraved lines connected at a right angle and open at the top.

Fig. 9. MAU2, two views of the stamp impression and a close-up view (bottom) indicating the added sign (courtesy of the Israel Antiquities Authority).

MAU3. Lachish (Fig. 10)

Publication	Present Location
Mitchell and Searight 2008: 245, no. 804 Diringer 1953, Vol. Plates: 46B: 15 Welten 1969: 42 Mitchell 2004: no. 26	British Museum 160317 (1980–12–14,4146)

A single line in the narrow space between the image's tail and the *tav* may constitute an added *aleph*. If it was indeed an added *aleph*, it was made in the wrong place.

Fig. 10. MAU3 and a close-up view (bottom) on the extra line
(© The Trustees of the British Museum shared under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International [CC BY-NC-SA 4.0] license).

A similar mark was possibly added on a handle found at Ramat Raḥel (Aharoni et al. 1964: Pl. 39:6; Welten 1969: 42), although it is difficult to determine if it was done intentionally or not (Fig. 11).

Fig. 11. A *lmlk mmšt* seal impression from Ramat Raḥel and a close-up view of an indent (courtesy of the Israel Antiquities Authority).

MAU4. Lachish (Figs. 12, 13)

Publication	Present Location
Mitchell and Searight 2008: 245, no. 804 https://www.britishmuseum.org/collection/object/W_1980-1214-4146	British Museum Number 160317 Registration number 1980,1214.4146

A big, shallowly engraved Y-shaped mark. Its engraver was forced to add it above the letters because of the lack of room between the *shin* and the *tav*.
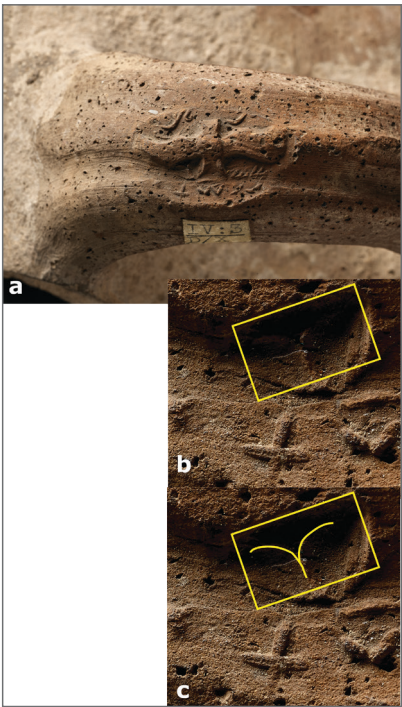

Fig. 12. MAU4: (a) a view of impression, (b) a close-up of the Y-shaped mark, probably a defective added *aleph*, and (c) the Y-shaped mark traced
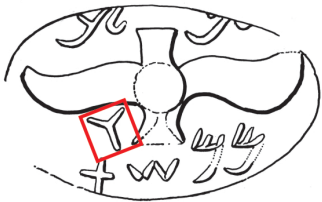(© The Trustees of the British Museum; shared under CC BY-NC-SA 4.0 license).

Fig. 13. A line drawing of MAU4
(after Mitchell and Searight 2008; © The Trustees of the British Museum).

MAU5. Lachish (Fig. 14)

Publication	Present Location
Diringer 1953, Vol. Text: 342; Vol. Plates: 46B:13–14 Lmlk.com: http://www.lmlk.com/research/lmlk_m2u.htm, no. 38	British Museum

This seal impression features an *x* sign that is not well aligned with the adjacent letters. It is possible that it was incised by the original engraver and that the intended letter was a full *aleph* with its two horizontal strokes overlapped or that the "*tav*" was, in fact, an *aleph* added at the end of the word because of the lack of room in the correct place, like the *he* in the seal of מנחם יהובנה (below Section 3.3.2). Unfortunately, I was not able to obtain a new photograph of the stamp from the British Museum to verify this possibility.
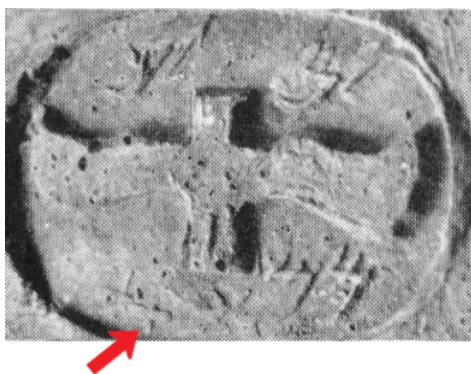

Fig. 14. MAU5; arrow indicates the poorly aligned *x*, possibly an added *aleph* (after Diringer 1953).

MAU6. Tell en-Naṣbeh (Fig. 15)

Publication	Present Location
McCown 1947: Pl. 56:5. Welten 1969: 42	Badè Museum

An *x* sign is positioned a little lower than the adjacent letters. It is possible that it was incised by the original engraver and that the intended letter was a full *aleph*. Another possibility is that, like in MAU5, the last letter is an added *aleph*. Unfortunately, I was not able to obtain a new photograph of the stamp from the Badè Museum to verify this possibility.

Fig. 15. MAU6 (after McCown 1947) and a line drawing of the letters at the base of the impression (illustration: Daniel Vainstub).

MAU5 and MAU6 are so similar that they appear to have been stamped by two seals made by the same engraver. Despite this similarity, they were not stamped by the same seal, as can be seen in the different upper parts of the figure and the difference in the height of the upper strokes of the head of the *mem*.

3.2.3. *Marking the absent* aleph?

In less than a dozen, mostly unprovenanced, four-winged *mmšt* impressions stamped with different seals made by different engravers, a peculiar phenomenon can be observed: Above the intersection between the *shin* and the *tav* is a very small fault in the surface of the seal that seems to have been caused intentionally by tiny blows of a sharp tool. These scars are amorphic and apparently made by different inexpert hands, most probably users of the seals rather than their

skilled engravers. The stamps are included in what Grena (2004) classifies as the M4L type.[21] In light of what has been stated in this study, we should consider the possibility that these scars were also made by users dissatisfied with the defective spelling, which lacked the expected *aleph*.

3.3. Similar ambiguities and corrections in similar epigraphic sources

The small corpus of "private impressions" stamped beside the *lmlk* ones on the same jar handles (Garfinkel 1985: 113–115; Lipschits 2021: 49–55)[22] constitutes an excellent opportunity to observe the same epigraphic phenomena as those presented in this study. Its contribution to our understanding of the topic is significant because the owners of these seals were high-ranking officials in King Hezekiah's administration, and their seals were produced by engravers belonging to the same milieu as the engravers of the *lmlk* seals. Moreover, it cannot be ruled out that in at least some cases, the same engravers produced both the *lmlk* and private seals of these officials (for a detailed bibliography and respective CWSS entries, see Garfinkel 1985: 113–115; Lipschits 2021: 49–55).

3.3.1. *Variability of spellings*

Like the variable spellings of Ziph and *maśʾēt* in *lmlk* seals, the seals of three of these officials display different spellings of their names, alternatively using the full name or an abbreviation, with a hypocoristic *aleph*, an elided theophoric element, or even alternating between the theophoric suffixes יהו and יה: (1) לנרא שבנא (CWSS 698, 699), (2) צפן עזריהו (CWSS 688), לנרי בן שבניה/ו //(CWSS 686, 687) שבניהו עזריה // (CWSS 703) שבניהו עזריהו (3) and ,(697 ,696 CWSS) צפן עזר// (CWSS 702).

3.3.2. *Corrections of seals reflecting dialectical and orthographic discrepancies*

The seals of another two officials are especially enlightening for our study:

(1) The name of one official was spelled in three ways in his seals: מנחם יבנה (CWSS 676), מנחם יובנה (CWSS 678), and מנחם / ויהבנה (CWSS 677). The second spelling contains the theophoric component יו, which is more characteristic of the dialects of the Northern Kingdom, while the third spelling stands for an intended מנחם יהובנה with the theophoric component יהו; more characteristic of Judah. However, the steps in the manufacture of CWSS 677 are most instructive for our study. It seems that the engraver

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21 For examples, see http://www.lmlk.com/research/lmlk_m4l.htm. One of the items was found in Gibeon (http://www.lmlk.com/research/lmlk_ej-335-s89.htm).

22 Lipschits counted 45 types of private impressions stamped on 183 handles.

first incised מנחם יבנה, and in a second stage, probably after a request by the dissatisfied owner for a full Judahite יהו component, the letters *vav* and *he* were added, though not in their correct places, which was impossible because of a lack of room. Instead, the *vav* was added at the beginning of the second row of the seal, and a miniature *he* was embedded between the *yod* and the *bet*.

(2)   The name of another official was rendered as יהוחל שחר in one seal (CWSS 673). In another seal (CWSS 672), his name was first engraved as יהוחל שחר as well, but in a second stage, a minuscule *yod* was added at the upper end of the narrow space between the *het* and the *lamed*, most probably at the request of the owner of the seal. Obviously, the requested correction was performed to convert the spelling חל, pronounced *ḥēl* due to the contracted diphthong *ay* > *ē* customary in the Northern Kingdom, into חיל, pronounced *ḥayil* featuring the uncontracted diphthong *ay* standard in Judah (Vainstub 2022: 124–127).[23]

    These corrections reflect the same phenomenon as in the abovementioned seal of אחאב and the addition of an *aleph* to ממשת seals described above (Section 3.2.2).

4. The *maś'ēt* of King Hezekiah

The term *maś'ēt*,   built on the root *nś'*,[24] is used in Biblical Hebrew with several different meanings.[25] One of them expresses an *ad hoc* tax, contribution, or offering, in contrast to the mandatory regular taxes and offerings to the kingdom and the Temple.[26] Thus, in Ezek 20:40, Zeph 3:18, and Ps 141:2, it expresses a voluntary extra offering to the Temple, whereas the prophet Amos (5:11)[27] denounces a merciless *maś'ēt* imposed on poor peasants, who were forced to deliver part of their crops to the government. Amos seems to refer to a *maś'ēt* imposed by King Jeroboam II in the Northern Kingdom, in whose time the prophet was active. This *maś'ēt* closely resembles the one imposed by Hezekiah, which implicated the lmlk seals, and, therefore, is worth examining more

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23 An awareness of this dialectical difference is expressed in the wordplay used by the prophet Amos (8:1–2), himself a Judahite active in the Northern Kingdom. Amos plays with the Judahite uncontracted diphthong *ay* in *qāyiṣ*, "figs," pronounced *qēṣ* as in "end" in the northern dialects.

24 Compare *biltu*, an Akkadian word for *gift* built on the cognate *wabālu*, to bring, carry (see Paul 1991: 173, especially n. 132).

25 One of them is *torch*, a fire, or a smoke signal (Judg 28:38,40; Jer 6:1), which also occurs in Lachish Ostracon 4. Another meaning is *portion of food*, as in Gen 43:34, Jer 40:5, and Esth 2:18. For the disputed meaning of מַשְׂאֵת הַמֶּלֶךְ in 2 Sam 11:8, see McCarter (1984: 280).

26 According to Levin (2016: 113), the term originated in the political sphere, from which it was extended to the sacrificial one.

27   On the originality of verse 11 and its attribution to the prophet Amos, see Paul (1991: 171–172).

closely. Jeroboam's *maś'ēt* is called מַשְׂאַת־בַּר, *maś'ēt* of grain, and the verb used for its introduction, בּוֹשַׁסְכֶם, is most probably related to the Akkadian *šabāšu*— to gather, collect a [grain] tax—from which was derived the noun *šibšu*, "a [grain] tax" (Paul 1991: 172).[28] The compulsory nature of this *maś'ēt* is also expressed by the use of the verb תִּקְחוּ cast on the root *lqḥ*, to take.[29]

The use of the term *maś'ēt* in 2 Chr 24 also makes an important contribution to our study. In this case, a voluntary *maś'ēt* "of Moses" was intended to finance a large and expensive *ad hoc* project that sought to repair and purify the Temple on the 23rd regnal year of King Joash (835–796 BCE). This prominent project is also reported in 2 Kgs 12 without using the term *maś'ēt* and with different details. This *maś'ēt* was related by the Chronicler to Moses' collection of the half shekel for the Tabernacle (Exod 30:11–16) and consisted of silver pieces given voluntarily by the inhabitants of "Jerusalem and Judah."

As the anticipated Assyrian invasion was the most relevant and prominent event in the period, it provides the most fitting historical and geopolitical background for the *maś'ēt* collected and later distributed in *lmlk* jars. The *maś'ēt* of Hezekiah was a huge and unique large-scale *ad hoc* collection of agricultural products, shoring up the cities of the Judahite kingdom for the expected Assyrian siege in response to the rebellion against Assyria. These products were later distributed in jars on whose handles a seal impression bearing the inscription ממש(א)ת—למלך, "(belonging) to the king—from (the?) *maś'ēt*," was stamped.

In my opinion, the memory of the *maś'ēt* of Hezekiah is most probably the foundation on which the story related in 2 Chr 31:4–20 was elaborated. The long debate on all aspects of the use of the *lmlk* impressions in the framework of Hezekiah's rebellion is inevitably linked with another difficult controversy, which is beyond the scope of this study: whether the Chronicler had sources of information about the First Temple period other than those he found in earlier biblical books. Or, in other words, to what extent (if at all) are the additional historical data provided by the Book of Chronicles credible, albeit rendered, elaborated, and adapted to a Persian-period Jerusalemite audience (see Vaughn 1999: 169–181; Kalimi 2005a: 19–39; Eph'al 2023: 58, n. 113 and references therein)?[30]

In favor of an at least partly positive response to these questions, as pointed out by several researchers (Kalimi 2014: 16–17, 20, 31; Eph'al 2023: 58–59, 147–148), is the fact that some important proven events from the time of Hezekiah are reported only in the Book of Chronicles and not in earlier biblical books.

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28 On the development of this exegesis, see Paul (1991: 172, nn.130, 131).

29 This use is paralleled to Akkadian, too; see Paul (1991: 173).

30 On the Me'unites reported by the Chronicler and confirmed by an Assyrian source, see Eph'al (2023: 146–148).

These include (1) a more comprehensive description of the hydraulic works in the Gihon Spring and the Siloam Tunnel (2 Chr 32:3–4, 30), as opposed to the laconic mention in 2 Kgs 20:20; (2) the construction of a new wall encircling the new neighborhoods in the western part of Jerusalem and the reinforcement of the old walls (2 Chr 32:5); and (3) the Simeonites' military and settlement activities in Gerar (1 Chr 4:39–41).

Hence, it is highly likely that 2 Chr 31:4–20 offers an accurate account of the historical events related to the collection of the *maśʾēt* of Hezekiah, though they are recounted after a theological elaboration and introduction (31:2–3) presenting it as a sort of rearrangement of the temple services (Japhet 1993: 959).[31] Notable occurrences and observations include:

(1) During Hezekiah's reign, "the Israelites gave abundantly the best of the grain, oil, and honey, and all produce of the field, and the tithe of all in abundance" (2 Chr 31:4–5, Alter).

(2) The tax was not only collected from Judahites but also from Israelites residing in Judahite cities (2 Chr 31:6), presumably northern refugees who fled to Judah after Samaria's destruction.

(3) An extraordinary amount of food was brought to the Temple complex in Jerusalem, where they formed many large piles, עֲרֵמוֹת עֲרֵמוֹת, heaps upon heaps (2 Chr 31:6). Possibly, the words כל תבואת השדה, all the produce of the field, were omitted from the verse because of *aberratio oculi* (BHS).

(4) This unparalleled project lasted four months, beginning in the third month (May–June) and ending in the seventh (September–October) (2 Chr 31:7). This period covers the time from the grain harvest to the beginning of the olive harvest (Curtis and Madsen [1910] 1952: 480; Japhet 1993: 965). The succession of these activities in the ancient agriculture of the land is well expressed in a statement coming in the Tosefta (*t. ʿEd.* 1:6) and the Jerusalem Talmud (*y. Yebam.* 15:2, 14d, Guggenheimer): "At the end of the barley harvest starts wheat harvest. At the end of the wheat harvest starts grape harvest. At the end of the grape harvest starts olive harvest."[32] A similar but not identical sequence comes in the Gezer Calendar dated to the 10th century BCE (see Aḥituv 2008: 252–257).[33] Obviously, what is told in 2 Chron 31 is not connected to the special Passover gathering

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31 Japhet (1993: 960–961) points out the fact that the story is peculiar to Chr and concludes that it reflects a Second Temple-period reality: "There seems to be no doubt that an actual document of the Second Temple period has been used and retrojected by the Chronicler to the context of Hezekiah" although the story "is cast as a narrative describing the one-time events of Hezekiah's reign."

32 In the Talmud the statement occurs in a *baraita*: יצא קציר שעורים ונכנס קציר חטים, יצא קציר ונכנס בציר, יצא בציר ונכנס מסיק. The Tosefta's version has minor differences.

33 The sequence continues from the fourth row קצר שערם ירח to the first row ירחו אסף.

described in Chapter 30 but describes an unprecedented and unparalleled *ad hoc* stockpiling of resources unrelated to a specific festival or religious event. Moreover, as Japhet (1993: 965, 970–971) pointed out, although the story as a whole is presented as a raising of offerings to the temple, there are inconsistencies between it and the offerings expected according to the Pentateuchal regulations.

(5) King Hezekiah and his ministers were personally involved in the project (2 Chr 31:8).

(6) New buildings (לְשָׁכוֹת) were set up in the Temple complex for storing and administering the goods collected (2 Chr 31:11).

(7) From verse 12 onward, the text describes a comprehensive administrative organization established for distributing the food "in all Judah." It is tempting to connect this account with the "private impressions" that occurred alongside the various *lmlk* stamps, manifesting a composite administrative network unparalleled in the history of Judah.[34]

Most researchers regard the text as an effort of the Chronicler to describe Hezekiah "as a kind of second Solomon" (Myers 1965: 183; Johnstone 1997: 207) who restored the old order of the Temple (e.g., Curtis and Madsen [1910] 1952: 478–485; Myers 1965: 183–184). Obviously, some parallelization and standardization were carried out, such as the assignment of the task to priests and Levites and the *ad hoc* appointment of twelve Levites by the king (2 Chr 31:12–13). Nevertheless, at the core of the story are two primary actions that have no parallel anywhere in the Bible, whether in the story of the Temple inauguration by Solomon or in the gathering after the purification of the Temple by Josiah: a huge four-month-long collection of agricultural products in Jerusalem from all over Judah and its distribution to the (fortified) cities of the kingdom. As these actions fit the implementation of the *maśʾēt* imposed by Hezekiah in view of the expected arrival of the Assyrian army, in my opinion, the origin of the core story preserved in the Book of Chronicles is, indeed, the collection of Hezekiah's *maśʾēt* and its distribution in *lmlk* jars.

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34 See Garfinkel (1984; 1985) and Vaughn (1999: 157–165) for different proposals for understanding the internal hierarchy of the officials mentioned in the "private impressions." The names of the officials in 2 Chr do not fit the currently known names of the officials in the "private impressions" stamped on the *lmlk* jars. The reason is most probably the Chronicler's well-known literary practice of adding names when the sources he had did not provide them (Kalimi 2005b: 74–77). Hence, it is possible that the Chronicler had knowledge of the establishment of a major bureaucratic network and elaborated it by adding names.

5. Conclusions

The various מן משת/ממש״ת/ממשת impressions in all their subtypes on the *lmlk* jar handles indicate that the contents of the jars were taken from the *maś'ēt* collected in Jerusalem by order of King Hezekiah in the framework of the preparation for the Assyrian siege on the Judahite cities in response to his rebellion. These stamps constitute a distinct category, unlike the other types of *lmlk* stamps that are related to three Judahite cities. Therefore, the chronological conclusions that arise from this study cannot confirm or deny the assumption that at least some of the שוכה, חברן, and זף impressions were made before the rebellion of Hezekiah.[35]

The *maś'ēt* was a huge and unique *ad hoc* collection of agricultural products stored in the area of the Temple in Jerusalem, possibly the largest in the history of the Kingdom of Judah and a prominent event whose memory was preserved over generations and found its way, albeit elaborated, to the Book of Chronicles. The collection of the *maś'ēt* lasted for four months, and its collection and distribution required a great deal of administrative work.

The collection of the *maś'ēt* could have been carried out between May and October of 704 or 703 BCE. Its distribution, along with other products marked by the impressions Hebron, Ziph, and Socoh, and hydraulic and fortification works could have been carried out until the arrival of the Assyrian army in 701 BCE.

The variant spellings in the *lmlk* seals and other official seals and inscriptions of the period reflect significant events and developments in the dialectology of Biblical Hebrew and in the different orthographic practices. These processes are probably related to the arrival in Judah of a large number of speakers of the northern Hebrew dialects after the destruction of the Northern Kingdom, but this topic deserves a separate study.[36]

Acknowledgments

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35 For recent chronological studies based on geomagnetic intensity variations, see Ben-Yosef et al. (2017) and Vaknin et al. (2022).

36 See in Edenburg and Müller (2015) a summary of diverse opinions on the possible arrival in Jerusalem of influential people from Samaria after its destruction by the Assyrians.

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