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ARTICLE

The *qameṣ* (*/aː/ > [ɔː]) shift in Palestinian Hebrew: data, dating, and diffusion

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Abstract

The dating of the *qameṣ* shift (*/aː/ > [ɔː]) in the Tiberian tradition of Biblical Hebrew has long been a scholarly puzzle. In this article I present possible evidence for this shift in the Greek transcriptions of Origen's *Hexapla*, datable to the first half of the third century CE in Palestine. While the evidence is limited both in attested tokens and in grammatical scope, it is suggested that lexical diffusion may account for the gradual spread of this shift, as recorded in different stages of the transmission of Biblical Hebrew.

Keywords: Hebrew; Qames; sound shift; transcription; Hexapla; lexical diffusion

1. The *qameṣ*

One of the peculiarities of the Tiberian tradition of Biblical Hebrew (henceforth: **T**) is the use of the one sign, <אָ> (*qameṣ*),[1] to denote the reflex of two distinct historical vowels. Although *qameṣ* supposedly designates a unitary vowel quality [ɔ],[2] it can reflect both a historically short */u/ in closed, unstressed syllables, and a historically secondarily lengthened */aː/,[3] principally in open or stressed syllables. Thus, in a word such as קָרְבָּן [qɔrˈbɔːn],[4] "sacrifice", the first *qameṣ* reflects a historical */u/, whereas the second one reflects a historical */aː/: */qurˈbaːn/ > [qɔrˈbɔːn].[5]

While the dating of the */u/ > [ɔ] shift in closed, unstressed syllables is considered late, given its absence in the closely related Babylonian tradition (**B**),[6] the dating of the former shift was a major subject for the past century. Several different approaches were used to tackle it in scholarship, including internal analyses of vowel qualities within **T** (Khan 1987:

[1] For the etymology and presumed pronunciation of the name of the vowel see Steiner 2005: 375–7.

[2] Khan 2020: 1.244–8. Some older books use the designation <å> for this quality, which Kautzsch (1976: §40) describes as "the obscure Swedish å". This could designate either [oː] or [ɔ], but the latter is more likely given the implicit distinction between it and <אֹ>, which is explicitly [o].

[3] "Secondarily", meaning after the cessation of the */aː/ > [oː] Canaanite shift. Kutscher (1969: 90–1) suggested that this secondary lengthening in Hebrew applied to both tonic and pretonic syllables.

[4] For this interpretation of the default realization of the rhotic consonant /r/ in **T** see Meloni 2021 and Howard 2022.

[5] Kautzsch (1976: 41, n. 2 [§8a]), suggested that the two types of *qameṣ* were probably not "identical" in their pronunciation. Still, they must have been close enough for the same sign to be used.

[6] The Babylonian tradition generally reads [qurˈbɔːn], suggesting that the */u/ > [ɔ] shift occurred in **T** after the stemmatic "split" between the traditions (but see Kantor 2023: 96–7, who raised the possibility that **B** /u/ is

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44–5; Blau 1998: 247–50), the shift's relation to similar shifts in light of historical linguistics (Kutscher 1969: 84–91, esp. 90–1; Suchard 2025: 233–4),[7] a comparison with other traditions of Hebrew (Morag 1963: 102–4),[8] and comparisons of **T** *qameṣ* to *scriptio plena* <ו> in the Dead Sea Scrolls.[9]

To the various studies cited above, I wish to offer a renewed analysis of data from a source hitherto almost unmentioned: the Greek transcriptions in Origen's Secunda. Origen, a church father and biblical scholar (*c.* 185, Alexandria–253, Caesarea), compiled a multi-columnar synoptic edition of the Bible known as the Hexapla (ἑξαπλᾶ, "sixfold"), whose second column (the Secunda) contained a transcription of Hebrew into Greek letters. Since Greek uses letters rather than diacritics to express vocalic quality, the Secunda exhibits one of the most important textual sources for appreciating the vocalic qualities of Biblical Hebrew, qualities which derive from a period that significantly pre-dates the evidence of **T** and of other Hebrew vocalization systems by several centuries.

I know of only one study that has attempted to cite evidence from the Secunda for the */a:/ > [ɔ:] shift. In his doctoral dissertation, Benjamin Kantor (2017: 274–9) noted the Greek transcription of Ps. 7: 8: ουαλεα (corresponding to **T**: וְעָלֶיהָ [vʊʕɔ:ˈlɛ:hɔ:], "and upon her"), in which <ε> represents an [ɛ] quality rather than [e]. Since in this environment [ɛ:] is the result of vowel harmony with a *qameṣ* following a guttural (*/e:/ > [ɛ:]/_Gɔ; see Blau 1996: 21–3; 2010: 181), the appearance of an [ɛ:] implicitly assumes that the final vowel, represented by <α>, had already shifted to [ɔ:], placing this shift sometime before Origen's time. While Kantor deals at length with the plausibility of [ɔ:] being represented by Greek <α>, he nevertheless acknowledges the indirectness of the proof and the need to base it on more detailed textual criticism of the relevant sources.

To Kantor's example of indirect evidence for the shift, I wish to suggest the possibility of direct evidence for the shift. If this possibility is deemed true, it may offer us hints about the development and chronology of the shift.

2. Correspondences with Secunda <ο> and <ω>

The text of the Secunda survives for the most part in a single major copy of Psalms, the Mercati palimpsest,[10] and a detailed linguistic study of it was published by Einar Brønno (1943). Listing parallels between **T** vowels and their Greek correspondences in the Secunda, Brønno (1943: 354) cited four lexemes in which *qameṣ* is equivalent to a Greek /o/-grade vowel (either <ο> or <ω>):[11]

secondary). Khan (1994: 134) also presented a relative chronology of the **T** vowel which places */a:/ > [ɔ:] sometime before vowel-length was conditioned by stress and syllable structure, and */o/ > [ɔ] (*/o/ being a reflex of historical */u/) sometime after this conditioning had taken place.

[7] Compare also Kahle 1959: 72–5. I wish to thank Dr Suchard for sharing with me the preprint of his study.

[8] With respect to **B**, see the implication of Blau's argument cited below, n. 31. For a typological comparison with the Greek and Latin transcriptions see Kantor 2023: 77–9, and the brief comment of Suchard 2025: 233.

[9] The evidence of <ו> in the Dead Sea Scrolls in parallel to **T** *qameṣ* could be construed as a realization [ɔ] (or [o]). See Meyer (1958: 40–5) for this, but also the response of Kutscher (1974: 473–4).

[10] Readings from the palimpsest are cited from Carrera Companioni 2022 (with references to other editions, as described on p. 394). Verse references follow the Masoretic Text. A second fragment containing small parts of the Secunda was found in the Cairo Genizah, and is currently shelved as MS Cambridge, Cambridge University Library, T–S 12.182. Kantor 2021 offered a new reconstruction of this fragment, but unfortunately it contains no relevant data for this article's purposes. Evidence from secondary sources was compiled and published by Frederick Field (1875), under the designation *Ἑβρ.*; although these are rather scant.

[11] This follows from the chapter's structure, where sections I–III (351–4) list correspondences with <α>, <ε> and "null". All remaining cases are considered "abweichende Formenbildung (Varianten)", i.e. grammatical forms differing from **T**. A fifth lexeme will be noted below, following newer readings.

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1. Ps. 18: 39: εμωσημ (**T**: אֲמְחָצֵם [ʔɛmħɔːˈsˤeːm], “I [shall] smite them”).
2. Ps. 18: 43: ουεσοκημ (**T**: וְאֲשְׁחָקֵם [vĕʔɛʃħɔːˈqeːm], “and I [shall] grind them”).
3. Ps. 89: 35: σφωθαι (**T**: שְׂפָתַי [săfɔːˈθaj], “my lips”).
4. Ps. 49: 2, 89: 48: ολδ (**T**: חֶלְדִּ [ˈħɔːlɛd], “world”).

Morphologically speaking, lexemes 1–2 are both prefix-form 1SG G-stem verbs, with a 3PL.M pronominal suffix. Lexeme 3 is a plural noun with a 1SG possessive suffix, and lexeme 4 (two identical tokens) is a pausal “segolate” nominal form.

Scholars seem to have interpreted these primarily as morphological variants. For the two verbal forms, Brønno (1943: 34), following Speiser (1933: 38), assumed that the /o/-grade vowels represented a different Hebrew pattern to **T**, *yiqtol* rather than *yiqtal*. The same opinion is taken up by Janssens (1982: 167), Yuditsky (2017: 119) and Maurizio (2023: 130–1), who all understand these forms to be *yiqtol*.[12] It is worth mentioning that as a morphological discrepancy, it would be discrepant not only from **T** but also from **B** (Yeivin 1985: 1.469).

As for σφωθαι, scholars agree that the vowel differs from **T**. But while Brønno (1943: 100) and Janssens (1982: 139) explained this as a different form,[13] Yuditsky (2017: 36, n. 24; 2008: 234–5) suggested that there was a phonetic change in the glide, where /śVp.wo:.taj/ had shifted to /śVp.ʔo:.taj/. This theory can also be supported by the form בשפאותיכה, with an <א>, /ʔ/, in the Dead Sea Scrolls.[14] While entertaining Yuditsky’s explanation, Kantor (2017: 231–2) adds the possibility that <ω> could be a scribal designation of [w]. Another possibility is that the historical */a:/ vowel was rounded in assimilation to the preceding labial <φ> (/pʰ/),[15] or a scribal error, where the circularity of the nearby <φ> and <θ> may have resulted in intermediate <ω>.[16]

And finally, ολδ is explained as a different segolate form.[17] Brønno (1943: 136–7) notes that if it were a *qatl* form, as in **T**, the expected transcription would be *ελδ, citing Arabic خُلْدٌ /ˈẖuldun/, “paradise”, as support for a *qutl* form. Yuditsky (2017: 188) concurs, noting the discrepancy with the other vocalized traditions, **T** and **B**,[18] and citing evidence for the same form in the Dead Sea Scrolls and the church fathers.

[12] The main difficulty arises with respect to the discrepancy where ουεσοκημ has <o> but εμωσημ has <ω>. Speiser had suggested that the <ω> represents pretonic lengthening, but his preferred explanation was a graphic error in the majuscule script, where a correct <O> was mistaken for <Ω>. The short vowel is explained as vowel-reduction (corresponding to a **T**-like form *וְאֲשְׁחֵקֵם [vă̆ʔɛʃˈħă̆qem]). Brønno notes the parallel formation of both lexemes, identifying them as *u*-imperfective (*yiqtol*) forms. Yuditsky (2017: 120), however, raises the possibility that εμωσημ has a long vowel following the guttural, as found for example in the forms ημεθ (Ps. 31:6; **T**: אֱמֶת, [ĕmɛθ], “truth”), ηλι (Ps. 89:27; **T**: אֵלִי [ʔɛˈliː], “my God”), ηλιμ (Ps. 29:1; **T**: אֵלִים [ʔɛˈliːm], “heavenly beings”). But see also his comment on p. 67, that the conditioning of long and short vowels in these words (and others) is “insufficiently clear”.

[13] An “actual” plural (*שְׂפוֹת > *שְׂפוֹתַי), rather than a dual form (שְׂפָתַיִם > שְׂפָתַי). Janssens (1982: 139) listed it as a “f. pl.” noun, but he did not specify whether he saw this as a semantic plural or a morphological (i.e. non-dual) plural.

[14] 1QIs[a] 37:29. **T** reads בִּשְׂפָתֶיךָ in the same verse.

[15] Kutscher (1974: 496–7), noted such cases with regressive assimilation (see also §4 below, with respect to the **T** forms קָו [qɔv], “line” and מָוֶת [ˈmɔːveθ], “death”). Progressive assimilation in Hebrew is a little more dubious, but it is seemingly attested in the Qumran Temple Scroll (11QT[a] XLVII, 7; XLIX 6, 10: מושקה < מַשְׁקֶה /maʃˈqɛ/, “drink”), and in the Secunda’s transcription of Ps. 18: 34: μοσαυε = מְשַׁוֶּה [măʃaˈvːɛ], “equates”. Kantor (2017: 203–4) opts for rounding by assimilation to the sibilant /ʃ/ in the latter case, which is applicable also to מושקה.

[16] I thank Isabella Maurizio for sharing with me this observation.

[17] Segolate forms are forms that originally had one vowel in a doubly-closed syllable (*qitl, qatl, qutl*). In **T** a second, epenthetic, vowel (represented as a *segol*, <ֶ> [ɛ]) caused them to become bisyllabic, and they are characterized by having penultimate stress. In addition, the initial vowel was neutralized between original *qitl* and *qatl* in the absolute, becoming *qétel*. In general, the original forms were preserved in the Secunda.

[18] *qatl* in **T** is evident from the *qameṣ* in the pausal form, such as in these two tokens; *qitl* in **B** is evident from the form with pronominal suffixes, which retains /i/ (Yeivin 1985: 2.825, a citation from Ps. 39: 6).

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Our case in point pertains to the forms εμωσημ and ουεσοκημ, which have been noted as prefix-form 1SG G-stem verbs with pronominal suffixes. The G-stem in Hebrew exhibits two different patterns in the prefix-form, distinguished by their "theme vowel": *yiqtol*, featuring historically in fientive (or dynamic) verbs, and *yiqtal*, featuring historically in stative verbs.[19] Since both "smite" and "grind" are fientive verbs, this concurs *prima facie* with the verbs having an /o/-grade realization before their third radical. However, as is often the case in other West Semitic languages as well, in roots whose second- or third-radical consonant is a guttural, the final vowel was lowered to [a], resulting in a secondary *yiqtal* form in fientive verbs as well.[20] Since both verbs listed here have a guttural consonant for the second radical, the expected form would be *yiqtal*, as is indeed the case in **T**.

The discrepancy between the different forms has enjoyed two explanations. The first one, seemingly implied by Brønno (1943: 34), suggests that vowel-lowering never took place in the tradition of the Secunda. This follows from the general characteristics of the gutturals in Hebrew, which have a greater effect on preceding vowels than on succeeding ones.[21] Thus, for verbs whose third radical is a guttural, we find a preceding [a] (or [ɔ]) vowel across the paradigm – whether by lowering the original vowel or adding a secondary [a] vowel[22] – but for verbs whose second radical is a guttural, the following vowel, which is in the same syntagmatic position, is generally retained. We find a lowered vowel [a] only in the prefix form of such verbs, but not in the closely related imperative or infinitive (Bergsträßer 1965: 2.116 [§22e]; Kautzsch 1976: 169 [§64b]; Joüon and Muraoka 2011: 169 [§69a]). The discrepancy between **T** *yiqtal* and Secunda *yiqtol* can be thus explained: since the effect of a second-radical guttural consonant on subsequent vowels is relatively weak, it could be that in Secunda Hebrew this process, which is partial in **T** to begin with, might never have taken place.

Another suggestion was raised by Yuditsky (2017: 121), whereby some *yiqtal* forms changed back into *yiqtol*. Since in the Secunda this occurs only in forms with a pronominal suffix, Yuditsky suggested this was done by means of analogy to the suffixed infinitive form *liqtol-*, a process which Qimron (2018: 197–8) first identified in Qumran Hebrew, using it to explain the existence of *yVqotl-* forms (that is, prefix-form verbs in the G stem with an /o/-grade vowel *before* the second radical rather than after it).[23] Since *yVqotl-* forms are unique to Qumran Hebrew, by connecting them with similar forms in the Secunda, Yuditsky

[19] Bergsträßer 1965: 1.75 (§14b). Historical Semitic **yaqtulu* and **yiqtalu* had converged in Hebrew to *yiqtul(u)* for various reasons (Blau 2010: 221), resulting in the one fientive form.

[20] For Classical Ethiopic (in the jussive, which corresponds morphologically to Hebrew prefix tense) see Tropper and Hasselbach-Andee 2021: 141 (§4.4.5.3.1), regarding the G-stem jussive (which corresponds morphologically to the Hebrew prefix tense; see idem, 113 [§4.4.1.4.1]); for Classical Arabic see Wright 1962: 1.57 (§91).

[21] In **B** the effect of gutturals on preceding vowels is even less salient than in **T**, and it is almost non-existent on succeeding vowels (Yeivin 1985: 1.286–7). It does, however, exhibit the *yiqtol* > *yiqtal* shift in verbs with a second guttural radical (1.468).

[22] Hence: שׁוֹלֵחַ /ʃo.ˈle·ăx/ in the participle (for */ʃo.ˈle:x/; with epenthetic [a]); יִשְׁלַח /jiʃ.ˈlax/ in (for */jiʃ.ˈlox/, lowered vowel); שְׁלַח /ʃălax/ in the imperative (for */ʃălox/) and שָׁלוֹחַ /ʃɔ.ˈloăx/ (for */ʃɔ.ˈlo:x/) in the infinitive absolute.

[23] Qimron notes that the form *yVqotl-* "only appears in combination with pronominal suffixes" (Qimron 2018: 196), without explaining why or offering clear motivation for the change. In an earlier version of his grammar (Qimron 1986: 51) the distinction between these surface forms is grounded in the underlying forms. According to Qimron, the distinction between forms with pronominal suffixes and those without is evident in the orthography, where forms with pronominal suffixes may be spelled with or without <ו> after the second radical, while forms without suffixes are spelled with <ו>. This in turn suggests that whereas the forms without pronominal suffixes had a long, stressed /o/ vowel after the second radical, corresponding to a **qtol*-based formation, the forms with pronominal suffixes had a short, unstressed vowel, corresponding to a **qotl*-based formation, thus betraying the effective allomorphy between the forms.

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was able to effectively support both sides of the equation, showing that these are not two sets of anomalies but a single process common to both traditions.

The difficulty with Brønno's suggestion is that it does not explain why *yiqtol* features specifically in forms with pronominal suffixes. Yuditsky's explanation, like Qimron's, fully accounts for that, wherein lies its strength. And yet methodical difficulties have recently been noted in it (Stadel 2024: 210–1),[24] in turn raising a new suggestion for the Qumran forms: namely, that the unstressed vowel was elided, and a subsequent epenthetic vowel was inserted in the resulting consonantal cluster: *yVqtoleni* > **yVqtleni* > *yVqotleni* (Stadel 2024: 214–6). Without attempting to pass a verdict on the matter, suffice it to say that if such a position is adopted, this reopens the question of the Secunda forms. My suggestion below is therefore contingent upon the postulate that *yVqotVl-* forms in Qumran may not be the result of an analogy to the infinitive (while not denying that they may well be so).

3. Vowel-rounding in open syllables

Any explanation of the Secunda's forms needs to account for the conditioning where apparent *yiqtol* occurs with pronominal suffixes but *yiqtal* occurs without it. Unlike Brønno, I believe these forms are better accounted for as genuine *yiqtal* forms; and unlike Yuditsky, I think a phonological explanation may be provided, which in turn would (albeit distantly) tie this feature to **B** and **T**, rather than to the Qumran forms. The addition of a pronominal suffix means that the final consonant of the root changed from being the coda of the second syllable to the onset of the third syllable, in turn positioning the /a/ theme-vowel of the *yiqtal* form in an open syllable. We know from both **T** and **B** that the *qameṣ* shift */a/ > [ɔ] occurred (among other cases) in open syllables. If such a process had occurred in the Hebrew of the Secunda as well, the rounding of the */a/ vowel may have resulted in a phone that was perceptually mapped to */o/, subsequently being rendered as <ο> (or <ω>) in Greek transcription.

If we look at all *yiqtal* prefix-forms of the G stem with a second-radical guttural, the process will adequately explain the forms.

- With pronominal suffix: εμ**ω**σημ (18:39) = אֶמְחָצֵם; ουεσ**ο**κημ (18:43) = וְאֶשְׁחָקֵם; θεσ**ο**δηνι (18:36)[25] = תִּסְעָדֵנִי.
- Without pronominal suffix: ὀυαθθεμ**α**ς[26] (89:39) = וַתִּמְאָס; θεβ**α**ρ (89:47) = תִּבְעַר; ελθαρ**α**κ (35:22) = אַל־תִּרְחַק.

Although these are only six tokens, they seem to hint at a conditioned distribution, where an */a/ theme vowel is rendered as <α> in closed syllables but as <ο> or <ω> in open ones. This corresponds to **T**, which displays the theme vowel as *pataḥ* ([a:]) in closed syllables but as *qameṣ* ([ɔ:]) in open ones. The one exception marring this distribution is ὀυαθθεμας which, following the correspondence with **T**, we would expect to see with an /o/-grade vowel in the tonic. However, the **T** *qameṣ* here represents a pausal form. It could be construed that the Secunda tradition did not read a pausal form here, or alternatively that the */a:/ > [ɔ:] shift, which occurs in here in the environment of closed, stressed syllables, had not yet begun to be operative (as it is in **T**). Since no other pausal forms of **yiqtal*

[24] Since these essentially pertain to questions of Qumran Hebrew, the point is irrelevant for this article's purposes.

[25] Mercati did not successfully read the theme-vowel, and so the word was omitted from Brønno's list. Yuditsky identified it as an <ο> and included it in his listings, as did Carrera Companioni (2022: 190). Sperber (1938: 159) read it as θεσ**α**δηνι.

[26] Following the reading of Carrera Companioni 2022: 348–9 (and others: see 404).

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are attested in the Secunda, neither explanation can be properly confirmed or refuted based on the extant evidence.[27]

A small "control group" of forms that have a third guttural radical all show that vowel-lowering was maintained before the guttural:

- Ps. 30: 9: εκρα (**T**: אֶקְרָא), 46: 2: νεμσα (**T**: נִמְצָא)[28] and 89: 27: ικραηνι (**T**: יִקְרָאֵנִי).

These are all inflections of the verbal roots with a third guttural radical, /ʔ/, classified as *yiqtal* forms (Yuditsky 2017: 118). But this classification is synchronic, resulting from the vowel-lowering that precedes the guttural (which survived quite late; Suchard 2020: 80–81).

While evidently not the only explanation, the suggestion that */a:/ > [ɔ:] occurred already in the Secunda in open syllables of (secondary) *yiqtal* forms of the G stem is supported from the three instances above with pronominal suffixes, against the three cases without pronominal suffixes. That these are indeed secondary *yiqtal* forms with vowel-lowering is confirmed from the three instances of the "control group" with a third radical /ʔ/.

4. Dating */a:/ > [ɔ:] in the Secunda and the Masoretic traditions

If early traces of the */a:/ > [ɔ:] shift are indeed recognizable in the Secunda, these need to be corroborated with the chronology of the shift in other Hebrew traditions, namely **T** and **B**.[29] The first immediate material evidence of rounding of a historical */a:/ vowel is in Hebrew citations in Aramaic incantation bowls, which can be dated to the late sixth and early seventh centuries, and are assumed to correspond to **B**.[30] Indirect evidence has also been drawn from relative chronology of phonological processes. With regard to **T**, Geoffrey Khan (1987: 44–5) has shown that the */a:/ > [ɔ:] shift had to precede the secondary lengthening of */a/ vowels (long *pataḥ*), a process which postdates the Secunda but is attested in the Karaite transcriptions of **T** into Arabic characters. As for **B**, Joshua Blau (2013: 30–31) has credited pausal forms like יָדְךָ [jɔ:ˈðaːxɔː] "your hand" to the result of an */ɛ/ > [a] shift particular to **B**, which must have postdated the */a:/ > [ɔ:] shift in open syllables, as evident from pausal forms like שָׁמָר [ʃɔːˈmɔːʁ] (< */ʃaːˈmaːʁ/).[31] In other words, both **T** and **B**,

[27] We can, however, draw support for the absence of this shift from the suffix-form of the G stem. In Ps. 31: 7, the Secunda reads βατα θι, corresponding to **T** בָּטַחְתִּי ([bɔˈtˀɔħtiː], "I trusted"). The *qameṣ* under the <ט> in **T** reflects an */a/ > [ɔ] shift in the tonic of pausal forms (Kautzsch 1976: 96 [§29k]), whereas the Secunda maintains an /a/ vowel (<α>) here, in the same exact environment as ὀυαθθεμας: a closed, stressed syllable in pause. Suchard (2020: 117–8) is also of the opinion that this shift was not generally operative in the Secunda.

[28] Yuditsky (2017: 118) classified this form as a 1PL prefix-form of the G stem (as already assumed by the Aramaic Targum), "we shall find". But the form is homonymous with the 3SG.M suffix-form and the SG.M participle of the N stem. The Septuagint seems to render it as (ταῖς) εὑρούσαις, with an aorist active participle, "that befall us" (New English Translation of the Septuagint – NETS), modifying (and agreeing with) "troubles" (בְּצָרוֹת). For the various renderings in the Mercati palimpsest itself see Carrera Companioni 2022: 143.

[29] Throughout this paper it is assumed that the **B** sign equivalent to *qameṣ* was realized as [ɔ:], as already argued and posited by Morag 1963: 102–4; Ben-Ḥayyim 1986: 74–5; 2000: 52–3; Blau 1996: 21, n. 1; and Khan 2013: 955, and possibly by Abudraham 2021: 31–2. A minority view of Kahle (1913: 158–9; 1959: 73), Kutscher (1966: 224) and Yalon (1971: 262–80) considers it to be [a:]. Yeivin (1985: 56–7) cites previous scholarship, pointedly noting that the evidence presented in his book does not provide (in his opinion) a clear verdict regarding the vowel quality of the sign in **B**.

[30] For a detailed catalogue of all biblical citations see Waller 2022. Forms which betray an /o/-grade realization for a historical */a:/ were listed by Abudraham 2021: 31–3. See also Molin (2023: 626–9), who credits such cases in pausal position to the context of liturgical readings in particular (rather than vernacular speech).

[31] Since the shifted vowel is long (otherwise the stress would have shifted to the final syllable, as in the context form יָדְךָ [jɔːðăˈxɔː]), the */ɛ:/ > [a:] shift must have occurred after */a:/ > [ɔ:], otherwise [a:] would have further shifted to [ɔ:].

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as evident from vocalized manuscripts of the late first millennium, exhibit the results of shifts particular to them, which postdate the */aː/ > [ɔː] shift. It also seems reasonable to consider */aː/ > [ɔː] to have occurred in the *common ancestor* to **B** and **T**, termed by Kantor (2023: 77) "Proto-Masoretic", rather than a parallel innovation. Of course, we do not know precisely at what point the two traditions diverged. Khan has suggested that their common origin can be traced to the Second Temple period, as late as the first century CE, but I believe that a significantly later date can also be justified.[32]

Another suggestion was raised by Kantor. Noting that **T** and **B** both feature an unusual *qameṣ* before <ו> in words such as מָוֶת "death" [ˈmɔːvɛθ] and קָו [qɔv] "line",[33] this shift would have had to occur when the consonant was still labio-velar ([w]) in Palestine rather than labio-dental ([v]). By examining the epigraphic evidence of Greek and Latin transcriptions, Khan and Kantor were able to date this consonantal shift "by the Byzantine period at the latest", i.e. third–fourth centuries in Palestine, which means that the */aː/ > [ɔː] shift would have pre-dated it.[34] But this evidence is problematic: while in words such as מָוֶת and קָו the [ɔ] is indeed assumed to be the result of rounding before a labial ([w], [m]),[35] the shift is particular to such an environment. It is thus unable to explain the broader shift attested in open syllables or in closed, stressed ones. Moreover, such rounding would have had to pre-date the more regular */aː/ > [ɔː] shift, since the assimilated vowels would have necessarily been unrounded, i.e. *pre*-shifted, for them to undergo assimilation.

Unlike assimilation to labials, nuclei of open syllables in the prefix-form of the G stem are not bound by the same environmental conditioning, being wholly determined by syllabic structure. But while the Secunda evidence does not indicate an environmental restriction on the */aː/ > [ɔː] shift, it does confine it to a given morphological category. We would thus need to explain how a very limited "shift" in the Secunda is reflected much more extensively in the later-attested traditions of **B** and **T**.

5. Lexical diffusion

According to the standard neogrammarian model, sound shifts are regular, applying uniformly across the language system, and are principally unconditioned (Murray 2015: 22). However, it has been shown that some sound shifts follow a different mechanism termed "lexical diffusion", in which a change begins at a certain area of the language, gradually

[32] Khan 2020: 65–66. Khan suggests this with the supposition of a "genetic connection *in a single location*" (emphasis mine), as well as an analogy to the unitary proto-Masoretic text of the Hebrew Bible during the first century (for which see Lange 2009). A later date can be argued for in light of recent studies of Rabbinic Hebrew, which have found evidence in Palestinian epigraphy of some forms previously assumed to be "Babylonian" isoglosses (such as the lexeme התארמלה, "became widowed" in the Damascus Covenant, 4Q271 fr. 3, 10–12 [Bar-Asher 2014: 241–2]; or the ablative stem המ־ rather than מן־ [Bar-Asher 2014: 256–7]; see also Breuer 2014), raising the suggestion that "Babylonian" forms in fact originated in Palestine but whose speakers (or: reciters) emigrated to Babylonia beginning in the third century. The same dating could be used for the biblical reading traditions, since these were essentially shared by the same communities.

[33] So **T; B** would read [qɔw], [ˈmɔwɛθ]. See Bauer and Leander 1965: 204–5 (§§17z–b′) for **T**; Yeivin 1985: 1.268–9 for **B**.

[34] Kantor and Khan 2022; Kantor 2023: 78–9 (whence the quotation is cited).

[35] See Suchard 2020: 226 (§6.a.i). Note however that קָו does not feature with /ɔ/ ubiquitously, as **B** attests a token with *pataḥ* (MS Petropolitanus for Isa. 44: 13; see Yeivin 1985: 2.796). Consider also the unusual verbal form וַיִּתָּו (1 Sam. 21: 14), whose [ɔ] vowel contradicts similar tokens such as וַיֵּצֵו (e.g. Deut. 31: 23) and וַיִּקָּו (Isa. 5: 2). Bauer and Leander 1965: 204 (§17z), suppose this to be rounding, but there is some contrary evidence: **B** has forms with both *pataḥ* and *qameṣ* (Yeivin 1985: 1.726); and an early grammarian (Judah Ḥayyūj, tenth century Spain) notes no distinction between ויצו, ויקו and ויתו in *Kitāb al-Nutaf*, his grammatical commentary on the books of the Prophets (Basal 2001: 231; Maman and Ben-Porat 2012: 160), implying they had the same vocalization. One of the manuscripts in Basal's edition even vocalizes ויקֻו, suggesting the scribe, who had an underlying **B** tradition, vocalized *pataḥ* rather than *qameṣ*, possibly hinting that such a reading existed.

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spreading across its breadth ("lexicon"). Diffusion of sound changes has been argued to be primarily a result of language (or dialect) acquisition by adults (Labov 2007), and the trajectory of such shifts has often been explained by token frequency (Phillips 2015). Still, for some sound shifts token frequency has been shown not to be a factor, or at least not a sole factor, in the gradient of the shift (Trapateau 2020).[36] In fact, although not formally named so, a form of lexical diffusion was used to explain the prehistoric shift of stress in Hebrew from penultimate to ultimate: at first, final short vowels were elided in some nominal and verbal forms, then other forms aligned stress-wise with the former ones by means of analogy (Blau 2010: 144–50). Stress shift in prehistoric Hebrew was thus a gradual process which diffused, albeit incompletely, across the "lexicon".

The fact that the supposed */aː/ > [ɔː] shift is attested in the Secunda in a specific morphological pattern, whereas the /ɔː/ vowel (as a reflex of secondarily lengthened /aː/) in **B** and **T** occurs much more extensively, could be accounted for by means of lexical diffusion. Whether or not token frequency could be accurately established for the kind of Hebrew recited in the synagogue, in turn associating the shift with frequency-based diffusion, is a matter for a separate study. The point is that since the readings of the Secunda have a *terminus ante quem* of the middle of the third century, though they probably pre-date it by some time,[37] and given that the shared stem of **B** and **T** may be later than that,[38] it could be the case that as far as this specific parameter is concerned, the Secunda in fact attests a feature whose kernel *precedes* the shared node of **B** and **T**, thus presenting an earlier stage of the shift, before its extensive diffusion.[39]

The difficulty still remains that while lexical diffusion can account for the geographical and linguistic gap between the Secunda (second or third century Palestine) and the incantation bowls (sixth or seventh century Babylonia), this point is moot so long as evidence has not been presented to show the trajectory of */aː/ > [ɔː] between a single verbal inflection and a systemwide shift. *Ex silentio*, this would be impossible to prove or to refute, but just because evidence had not been presented does not preclude it from existing. It may be worth revisiting the question of Jerome's Latin transcriptions of Hebrew from the fourth century, in which Carl Siegfried noted places where **T** "A-Laute" (in essence: /ɔ/) was rendered by a Latin <o>. Examples include בָּשׂוֹר = <bosor>, זָכָר = <sochor> and רָקָב = <recob> (Siegfried 1884: 75). The evidence was met with suspicion, not only because Jerome rendered [ɔ]-reflexes of historical */u/ with <a> (Blau 1998: 247), or

[36] This has been shown, for instance, in the case of RP English pre-nasal or pre-fricative "long a" ([aː] or [ɑː]), such as in the words *father, laugh* or *dance*. The phoneme itself originates in a number of different historical shifts (Beal 1999: 105), not unlike the case of **T** or **B** /ɔː/, which is both a reflex of */aː/ in open or in closed, stressed syllables as well as */aː/ in a prelabial position.

[37] Not least because the Hexapla was a monumental project which took time to prepare (in the case of the "Hebrew" columns of the work – probably by others; see de Lange 1976: 21–2; Kantor 2017: 40). Moreover, just like the other columns of the Hexapla were recensions of earlier works, so too was this probably the case with the Secunda (Norton 1998: 109–11; but see Clements 2000: 321–8).

[38] See note 32.

[39] This chronological sequencing might imply that the Hebrew of the Secunda is a direct antecedent to the shared "node" of **B** and **T**. But this position is unlikely, as a significant number of separative differences seem to point to the bifurcation of these traditions (Kantor 2023: 76, 79–95; */aː/ > [ɔː] is obviously excluded from the discussion). One could date the initial stages of the shift to the shared prototype of both branches, probably sometime in the Second Temple period, but this would mean that the shift features only very minimally (in one attested pattern) by the time of the Secunda transcriptions. Alternatively, I would suggest that the shift spread across traditions, by means of contact between them (a process somewhat analogous to dialect contact – see for example Trudgill 2004: 7–13 for colonial Englishes). The attestation of the Secunda, **B, T** and Jerome's transcriptions (see below) at different times would thus be more indicative of the chronology of the change rather than its trajectory. A similar idea about this shift transferring between northern Canaanite dialects (and manifesting somewhat differently in each) was already suggested by Kutscher 1969: 84–91.

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because Siegfried followed **T** to the extent that he sometimes silently emended Jerome's texts (Sperber 1938: 105), but mainly due to inconsistent and conflicting data. For vowels equivalent to **T** /ɔ/, we also find <basar> (alongside <bosor>! Siegfried 1884: 74) for בָּשָׂר and <soor> for צָחַר (Siegfried 1884: 75).[40] With the provision of pending textual criticism, I subscribe to James Barr's understanding of these inconsistencies as evidence of Jerome's difficulty in phonemizing the Hebrew that he heard and in aptly rendering the articulated phonemes in Latin script (Barr 1967: 30–1).[41] Still, if the alternation between <o> and <a> forms (as representations of historical secondarily-lengthened */a:/) in Jerome's writings indeed consists of a greater number of types and environments than <o> and <ω> (as equivalent representations of the same phoneme) in the Secunda, this could provide valuable evidence for tracing the diffusion of [ɔ:] across the Hebrew lexicon in between the evidence of the Secunda (third century CE or earlier) and that of the earliest **B**-like incantation bowls (sixth–seventh centuries).

6. Conclusion

Previous scholars explained the odd Secunda forms <εμωσημ>, <ουεσοκημ>, and <θεσοδηνι> as *yiqtol* forms, whether by allomorphy with **T** (and **B**) *yiqtal* (Brønno) or by analogy to *liqtol-* infinitives with pronominal suffixes (Yuditsky). My proposal is to interpret these forms as early examples of the */a:/ > [ɔ:] shift, whose results are more prominently seen in the incantation bowls, **T** and **B**. The benefit of this interpretation is that it does not rely on a specific explanation drawn from a number of eccentric Qumran forms, but follows a well-attested shift, whose gradual spread is explained by means of lexical diffusion. It is also suggested that in Jerome's transcriptions of Hebrew there could be evidence of an intermediate stage of this shift.

Bibliography

Abudraham, Ohad. 2021. "Features of the Hebrew language on Babylonian Jewish incantation bowls", *Lěšonénu* 83/1, 24–58.

Bar-Asher, Moshe. 2014. *Studies in Classical Hebrew* (tr. Aaron Koller). (Studia Judaica 71.) Berlin: De Gruyter.

Barr, James. 1967. "St Jerome and the sounds of Hebrew", *Journal of Semitic Studies* 12/1, 1–36.

Basal, Nasir. 2001. *Kitāb al-Nutaf by Judah Ḥayyūj: A Critical Edition*. (Texts and Studies in the Hebrew Language and Related Subjects 11.) Tel Aviv: Tel Aviv University.

Bauer, Hans and Pontus Leander. 1965. *Historische Grammatik der hebräischen Sprache des alten Testaments*. (Olms Paperbacks 19.) Hildesheim: Georg Olms.

Beal, Joan C. 1999. *English Pronunciation in the Eighteenth Century: Thomas Spence's* Grand Repository of the English Language. Oxford: Clarendon Press.

Ben-Ḥayyim, Ze'ev. 1986. "Reflections on the vowel system in Hebrew", *Sefarad* 46/1–2, 71–84.

Ben-Ḥayyim, Ze'ev. 2000. *A Grammar of Samaritan Hebrew: Based on the Recitation of the Law in Comparison with the Tiberian and Other Jewish Traditions*. Jerusalem: Magnes Press.

Bergsträßer, Gotthelf. 1965. *Hebräische Grammatik*, 2 vols. Hildesheim: Georg Olms.

Blau, Yehoshua. 1996. *Studies in Hebrew Linguistics*. Jerusalem: Magnes Press.

Blau, Joshua. 1998. *Topics in Hebrew and Semitic Linguistics*. Jerusalem: Magnes Press.

Blau, Joshua. 2010. *Phonology and Morphology of Biblical Hebrew: An Introduction*. (Linguistic Studies in Ancient West Semitic 2.) Winona Lake: Eisenbrauns.

Blau, Joshua. 2013. *Hebrew Linguistics*. (Assupot 8.) Jerusalem: Bialik Institute.

[40] In this last case, <o> marks not only a possible [ɔ:] < */a:/ in the first syllable, but also a definite [a] in the second one (**T**: [sʔɔˈħar]).

[41] A similar case can be said of Samaritan Hebrew /a/ ("low front" – [a]?) and /å/ ("low" – [ä]?), which even a trained ear sometimes has difficulty distinguishing (Ben-Ḥayyim 2000: 44 [§1.2.0]), all the more so a common ear, not used to these phonemic distinctions.

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Breuer, Yochanan. 2014. "The Babylonian branch of Mishnaic Hebrew and its relationship with the epigraphic material from Palestine", *Karmillim* 10, 132–40.
Brønno, Einar. 1943. *Studien über hebräisch Morphologie und Vocalismus: auf Grundlage der Mercatischen Fragmente der zweiten Kolumne der Hexapla des Origenes*. (Abhandlungen für die Kunde des Morgenlandes 28.) Leipzig: Deutsche Morgenländische Gesellschaft.
Carrera Companioni, Roberto Adrian. 2022. "The Mercati fragments: a new edition of Rahlfs 1908", Doctoral Dissertation. Louisville: Southern Baptist Theological Seminary.
Clements, Ruth. 2000. "Origen's Hexapla and Christian–Jewish encounter in the second and third centuries", in Terence L. Donaldson (ed.), *Religious Rivalries and the Struggle for Success in Caesarea Maritina*. (Studies in Christianity and Judaism 8.) Waterloo: Wilfrid Laurier University Press, 303–29.
Field, Fridericus. 1875. *Origenis Hexaplorum quae supersunt: sive Veterum interpretum Graecorum in totum Vetus Testamentum fragmenta*. 2 vols. Oxford: Oxford University Press.
Howard, Jonathan. 2022. "Phonetic variance of /d/ and /r/ in Hebrew in Late Antiquity", *Journal of Semitic Studies* 67/2, 395–415.
Janssens, Gerard. 1982. *Studies in Hebrew Historical Linguistics based on Origen's Secunda*. (Orientalia Gandensia 9.) Peeters: Leuven.
Joüon, Paul and Muraoka, Takamitsu. 2011. *A Grammar of Biblical Hebrew*. Rome: Gregorian & Biblical Press.
Kahle, Paul. 1913. *Masoreten des Ostens: Die ältesten punktierten Handschriften des Alten Testaments und der Targume*. Leipzig: Hinrichs.
Kahle, Paul E. 1959. *The Cairo Geniza*^{2}. Oxford: Clarendon.
Kantor, Banjamin Paul. 2017. "The second column (Secunda) of Origen's Hexapla in light of Greek pronunciation". Doctoral Dissertation. Austin: University of Texas.
Kantor, Benjamin. 2021. "Reconstructing the second column in the Cairo Genizah Hexapla Palimpsest: a proposed restoration of the second column (Secunda) of Origen's Hexapla as attested in the Hexapla fragment T-S 12.182 (Rahlfs 2005)", *Maarav* 25/1–2, 113–51.
Kantor, Benjamin Paul. 2023. *The Linguistic Classification of the Reading Traditions of Biblical Hebrew: A Phyla-and-Waves Model*. (Semitic Languages and Cultures 19.) Cambridge: Open Book.
Kantor, Benjamin and Geoffrey Khan. 2022. "*Waw* to *Vav*: Greek and Aramaic contact as an explanation for the development of the labio-dental [v] from the labio-velar [w] in Biblical Hebrew", *Zeitschrift der Deutschen Morgenländischen Gesellschaft* 172/1, 27–55.
Kautzsch, Emil. 1976. *Gesenius' Hebrew Grammar*, 2nd ed. (tr. Arthur Cowley). Oxford: Oxford University Press.
Khan, Geoffrey. 1987. "Vowel length and syllable structure in the Tiberian tradition of Biblical Hebrew", *Journal of Semitic Studies* 32/1, 23–82.
Khan, Geoffrey. 1994. "The historical background of the vowel *ṣere* in some Hebrew verbal and nominal forms", *Bulletin of the School of Oriental and African Studies* 57/1, 133–44.
Khan, Geoffrey. 2013. "Vocalization, Babylonian", *Encyclopedia of Hebrew Language and Linguistics*. Leiden: Brill, 3.953–63.
Khan, Geoffrey. 2020. *The Tiberian Pronunciation Tradition of Biblical Hebrew: Including a Critical Edition and English Translation of the Sections on Consonants and Vowels in the Masoretic Treatise Hidāyat al-Qāri' 'Guide for the Reader'*. (Semitic Languages and Cultures, 1.) Cambridge: Open Book.
Kutscher, Eduard Yehezkel. 1966. "Yemenite Hebrew and ancient pronunciation", *Journal of Semitic Studies* 11/2, 217–25.
Kutscher, Eduard Yehezkel. 1969. "Canaanite (=*C*) – Hebrew (=*H*) – Phoenician (=*Ph*) – Aramaic (=*A*) – Mishnaic Hebrew (=*MH*) – Punic (=*P*)", *Lěšonénu* 33/2–3, 83–110.
Kutscher, Eduard Yehezkel. 1974. *The Language and Linguistic Background of the Isaiah Scroll (1QIsa*^{a}*)*. (Studies on the Texts of the Desert of Judah 6.) Leiden: Brill.
Labov, William. 2007. "Transmission and diffusion", *Language* 83/2: 344–87.
Lange, Armin. 2009. "'They confirmed the reading' (*y. Ta'an.* 4.68a): the textual standardization of Jewish scriptures in the Second Temple period", in Armin Lange, Matthias Weigold and Józef Zsengellér (eds), *From Qumran to Aleppo: A Discussion with Emanuel Tov about the Textual History of Jewish Scriptures in Honor of his 65*th *Birthday*. (Forschungen zur Religion und Literatur des Alten und Neuen Testaments, 230.) Göttingen: Vandenhoeck & Ruprecht, 29–80.
de Lange, Nicholas R.M. 1976. *Origen and the Jews: Studies in Jewish-Christian Relations in Third-Century Palestine*. (University of Cambridge Oriental Publications 25.) Cambridge: Cambridge University Press.
Maman, Aharon and Ephraim Ben-Porat. 2012. Kitâb al-Nutaf: *R. Yehuda Ḥayyūj's Philological Commentary to the Books of Prophets in 'Ali ibn Suleymân's Compendium*. (Sources and Studies – A New Series 12.) Jerusalem: Academy of the Hebrew Language.

https://doi.org/10.1017/S0041977X25100992 Published online by Cambridge University Press

Maurizio, Isabella. 2023. "The vocalization of guttural consonants in the *Secunda* and other Hebrew traditions", *Israel Oriental Studies* 23, 118–34.
Meloni, Carlo. 2021. "The Resh riddle: Identifying the Biblical Hebrew rhotic". MA Thesis. Tel-Aviv: Tel-Aviv University.
Meyer, Rudolf. 1958. "Bemerkungen zu den hebräischen Aussprachetraditionen von Chirbet Qumrān", *Zeitschrift für die alttestamentliche Wissenschaft* 70/1, 39–48.
Molin, Dorota. 2023. "The Bible in the Aramaic bowls: between memorization, orality, and writtenness", *Journal of Biblical Literature* 142/4, 609–31.
Morag, Shelomo. 1963. *The Hebrew Language Tradition of the Yemenite Jews*. (Studies 4.) Jerusalem: Academy of the Hebrew Language.
Murray, Robert W. 2015. "The early history of historical phonology", in Patrick Honeybone and Joseph Salmons (eds), *The Oxford Handbook of Historical Phonology*. Oxford: Oxford University Press, 11–31.
Norton, Gerard J. 1998. "Observations on the first two columns of the Hexapla", in Alison Salvesen (ed.), *Origen's Hexapla and Fragments: Papers Presented at the Rich Seminar on the Hexapla, Oxford Centre for Hebrew and Jewish Studies, 25th [July]–3rd August 1994* (Texte und Studien zum Antiken Judentum 58.). Tübingen: Mohr Siebeck, 103–24.
Phillips, Betty. 2015. "Lexical diffusion in historical phonology", in Patrick Honeybone and Joseph Salmons (eds), *The Oxford Handbook of Historical Phonology*. Oxford: Oxford University Press, 359–73.
Qimron, Elisha. 1986. *The Hebrew of the Dead Sea Scrolls*. (Harvard Semitic Studies 29.) Cambridge, MA: Harvard University Press.
Qimron, Elisha. 2018. *A Grammar of the Hebrew of the Dead Sea Scrolls*. Jerusalem: Yad Yizhak Ben-Zvi.
Siegfried, Carl. 1884. "Die Aussprache des Hebräischen bei Hieronymus", *Zeitschrift für die alttestamentliche Wissenschaft* 4, 34–83.
Speiser, Ephraim Avigdor. 1933. "The pronunciation of Hebrew based chiefly on the transliterations in the Hexapla", *Jewish Quarterly Review* 24/1, 9–46.
Sperber, Alexander. 1938. "Hebrew based upon Greek and Latin transliterations", *Hebrew Union College Annual* 12–13, 103–274.
Stadel, Christian. 2024. "Qumran Hebrew *Qal* prefix conjugation forms with *Mater w* after the first radical", *Dead Sea Discoveries* 31/2, 201–22.
Steiner, Richard C. 2005. "*Pāṯaḥ* and *Qāmeṣ*: on the etymology and evolution of the names of the Hebrew vowels", *Orientalia* 74/4, 372–81.
Suchard, Benjamin D. 2020. *The Development of the Biblical Hebrew Vowels: Including a Concise Historical Morphology*. (Studies in Semitic Languages and Linguistics 99.) Leiden: Brill.
Suchard, Benjamin D. 2025. "Sound change in the Hebrew reading tradition", in Lucien van Beek (ed.), *Language Change in Epic Greek and Other Poetic Traditions*. (Leiden Studies in Indo-European 25.) Leiden: Brill, 229–40.
Trapateau, Nicolas. 2020. "Lexical diffusion in the making: the lengthening of Middle English /a/ during the eighteenth century and across the diasystem of English", *English Language and Linguistics* 24/3, 527–43.
Tropper, Josef and Rebecca Hasselbach-Andee. 2021. *Classical Ethiopic: A Grammar of Gəʿəz*. (Languages of the Ancient Near East 10.) University Park: Eisenbrauns.
Trudgill, Peter. 2004. *New-Dialect Formation: The Inevitability of Colonial Englishes*. Edinburgh: Edinburgh University Press.
Waller, Daniel James. 2022. *The Bible in the Bowls: A Catalogue of Biblical Quotations in Published Jewish Babylonian Aramaic Magic Bowls*. (Semitic Languages and Cultures, 16.) Cambridge: Open Book.
Wright, William. 1962. *A Grammar of the Arabic Language*, 3rd ed. Cambridge: Cambridge University Press.
Yalon, Henoch. 1971. *Studies in the Hebrew Language*. Jerusalem: Bialik Institute.
Yeivin, Israel. 1985. *The Hebrew Language as Reflected in the Babylonian Vocalization*. (Texts and Studies 12.) Jerusalem: Academy of the Hebrew Language.
Yuditsky, Alexey. 2008. "The weak consonants in the language of the Dead Sea Scrolls and in the Hexapla transliterations", in Jan Joosten and Jean-Sébastian Rey (eds), *Conservatism and Innovation in the Hebrew Language of the Hellenistic Period*. (Studies in the Texts of the Desert of Judah 73.) Leiden: Brill, 233–9.
Yuditsky, Alexey Eliyahu. 2017. *A Grammar of the Hebrew of Origen's Transcriptions*. (Sources and Studies – A New Series, 16.) Jerusalem: Academy of the Hebrew Language.

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