The Linguistic Classification of the Reading Traditions of Biblical Hebrew
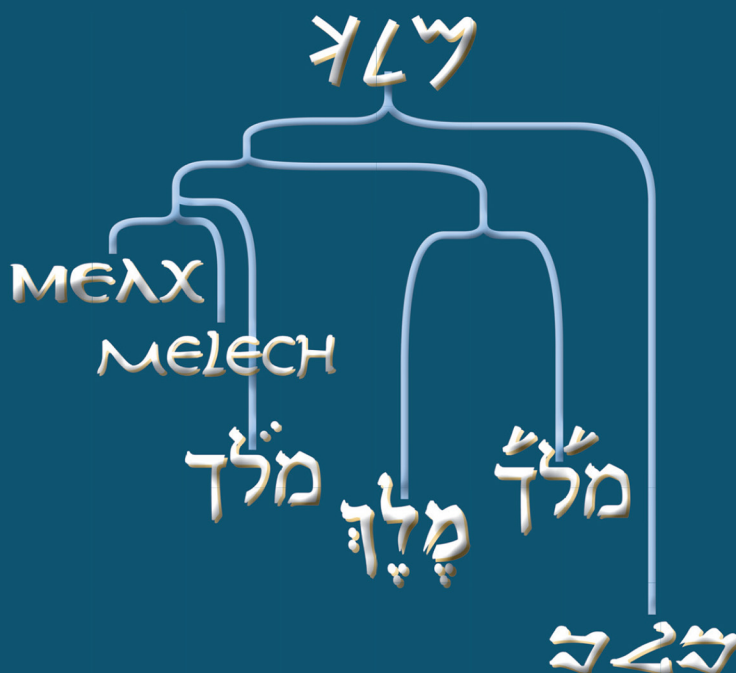## A Phyla-and-Waves Model

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4. PHYLA: 'SHARED INNOVATIONS' AMONG THE READING TRADITIONS

As we explained earlier, the main methodological criterion for determining genetic subgroupings of languages (or dialects) concerns shared innovations that are common to all members of the group. We will thus proceed by enumerating shared innovations among the various traditions of Biblical Hebrew, beginning with the largest subgrouping (Jewish vs Samaritan) and slowly working our way to the smaller subgroupings (e.g., Babylonian vs Tiberian; Secunda vs Jerome).

Because we must detail such a large number of linguistic features, none of them will be treated as extensively as they deserve. In many cases, we have to work from generalisations and cannot detail the nuance or internal diversity present in one particular tradition. Only the briefest explanations are included, with references to fuller discussions in the relevant literature. Moreover, the list below should not be regarded as comprehensive. In some cases, many more shared innovations could be cited. Due to the scope of the present work, however, only a select number of shared innovations sufficient for determining genetic subgroupings are included. Future research can undoubtedly add more.

It should also be noted that proper analysis of the Palestinian tradition in particular requires a bit of finesse. Because it is common for Palestinian-pointed manuscripts to exhibit a high degree of convergence with Tiberian (see chapter 5, §2.1), which

was regarded as the most prestigious of the Biblical Hebrew reading traditions, it can be difficult to access the 'authentic' Palestinian pronunciation tradition. What may seem like a wealth of shared features between Palestinian and Tiberian is probably the result of scribes using the Palestinian notation system to imitate Tiberian. Those instances where Palestinian-pointed manuscripts exhibit divergence from Tiberian are probably actually the only windows we have into the true and authentic Palestinian pronunciation tradition.[25] As such, in the following sections, we will not always cite Palestinian if it agrees with Tiberian due to the problem of convergence. Those cases where there is significant variation, however, will be cited and regarded as reflecting the authentic Palestinian pronunciation tradition. Non-biblical manuscripts with Palestinian pointing will also be considered for further insight into the tradition, since instances of divergence from Tiberian in biblical manuscripts often find more frequent parallels in non-biblical manuscripts.

1.0. Innovations of the Jewish || Samaritan Branches

Perhaps the most obvious (and uncontroversial) subgrouping is that of the Jewish and Samaritan branches. There are certain innovations shared only among the Jewish traditions, on the one hand, and certain innovations attested only in Samaritan, on the

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[25] For more on the relationship between the Palestinian pronunciation and notation system and Tiberian, see Phillips (2022, 64, 94–95).

other. Because the Samaritan tradition is only attested in its modern form, however, we have to be careful to differentiate between innovations that likely already obtained in late antiquity and those that developed at a much later period.

1.2. Jewish Innovations

1.2.1. Gemination in *Wayyiqṭol*

In the First Temple Period, there was no distinction between *yiqṭol* forms (in the strong verb) used for jussive/modal semantics and *yiqṭol* forms used for a past narrative after the CONJ *waw*. There was just a single polysemous form realised as something like *(w-)yiqṭol*. Differences in meaning would have been determined according to context. At some point in the late Second Temple Period, however, as *w-yiqṭol* for the past was fading out of the vernacular language—it would thus have been more naturally read as a non-past form by contemporary users of the language—various oral reading traditions began to introduce gemination into the prefix vowel to specifically mark past-narrative instances of *w-yiqṭol* (Kantor 2020). This is what produced the *wayyiqṭol* form we know so well from Tiberian. This innovation to mark past-narrative instances of *w-yiqṭol* with gemination, which is attested in all of the Jewish traditions, is absent in Samaritan:[26]

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[26] Examples from the Secunda and Jerome in this table and the rest of the book are from the cited verse in the relevant critical edition (Kantor forthcoming d; Kantor forthcoming a). Similarly, examples from Samaritan are from the relevant verse in Ben-Ḥayyim's (1977b) edition of

Table 7: Past-narrative *w* + *yiqṭol* forms in Jewish || Samaritan traditions

wayyiqṭol		w-yiqṭol	
Secunda	ουαθθεμας	Samaritan	וישכן
	[wattʰɛmˈʔas]		[wˈjiʃkɑn]
	'and you rejected'		'and dwelt'
	(Ps. 89.39)		(Exod. 24.16)
Jerome	*uaiomer*		
	[wajˈjoːmɛʀ]		
	'and said'		
	(Gen. 14.19)		
Palestinian	זיבטח		
	[vajjivˈtˤaħ]		
	'and trusted'		
	(Ps. 52.9)		
Babylonian	וֹיִּתֵן		
	[wajjitˈtʰeːn]		
	'and gave'		
	(Josh. 15.17)		
Tiberian	וַיִּכְתֹּב		
	[vaɟɟiχˈtʰoːov]		
	'and wrote'		
	(Exod. 24.4)		

Some might suggest that the gemination in *wayyiqṭol* is a much older feature that was lost in Samaritan, but this is unlikely for a

their oral reading tradition. Examples from Tiberian are from BHS. Given the consistent sourcing for the Secunda, Jerome, Samaritan, and Tiberian, specific references will only be mentioned for Palestinian, Babylonian, Dead Sea Scrolls, etc. In this case, the Palestinian example is from P310 (MS Cambridge Taylor-Schechter 12.195; Garr and Fassberg 2016, 113); the Babylonian example is from Yeivin (1985, 449).

number of reasons. While we cannot enumerate all the counter-arguments here,[27] the fact that Samaritan develops its own distinct method for marking past instances of *w-yiqṭol* makes it unlikely that it had lost such a distinction only to (essentially immediately) re-develop a new one. In certain classes of verbs, the Samaritan tradition simply revocalises what would have been a past *w-yiqṭol* form as a *w-qaṭal* form, even if this disrupts root integrity: e.g., [wˈjaːʃab] (≈ וְיָשָׁב) || וַיֵּשֶׁב 'and dwelt' (Gen. 4.16); וַתֵּשֶׁב [wˈtaːʃab] (≈ וְתָשָׁב) || וַתֵּשֶׁב 'and dwelt' (Gen. 21.16).[28] As such, the gemination in *wayyiqṭol* may be regarded as a shared innovation of the Jewish traditions.

1.2.2. Spirantisation of ג and כ

It is well known that in 'Biblical Hebrew' (i.e., Tiberian and the Jewish traditions),[29] the letters בג״ד כפ״ת each have two pronunciations, one plosive and one fricative: i.e., ב as [b] or [v]; ג as [g] or [ʁ]; ד as [d] or [ð]; כ as [kʰ] or [χ]; פ as [pʰ] or [f]; ת as [tʰ] or [θ]. In Tiberian, the plosive pronunciation is indicated with a *dagesh* and the fricative pronunciation with a *rafeh* or merely the absence of *dagesh*: e.g., כָּכָה [ˈkʰoːχɔː] 'thus' (Exod.

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[27] For a complete analysis, see Kantor (2020).

[28] For more on this phenomenon in Samaritan, see Ben-Ḥayyim (2000, 173).

[29] Note that the status of spirantisation in the transcriptions of the Secunda and Jerome is not without ambiguity. However, in light of the transcription conventions for representing בג״ד כפ״ת consonants with word-final devoicing, it is likely. For more on this claim, see the relevant consonant sections in Kantor (forthcoming b).

29.35); גָּג [ˈɡɔːɡʊ̯] 'housetop' (Prov. 21.9); דֹּד [ˈdoːoð] 'uncle' (Lev. 10.4). This is not the original situation in Hebrew. Rather, it appears that at some point in the Second Temple Period, likely due to contact with Aramaic, the consonants *b *g *d *k *p *t developed fricative allophones (Steiner 2005; Steiner 2007). This process is often referred to as spirantisation.

In the Samaritan tradition, however, these consonants are generally realised as plosives, even after vowels: e.g., [ˈdod] 'uncle' (Lev. 10.4). While this phenomenon is in large part due to much later developments in the Samaritan tradition, there appears to have been a different distribution of fricativisation in the Middle Ages and ancient times as well. Rather than enumerating fricative pronunciations for all of the בג״ד כפ״ת consonants, the medieval Samaritan grammarians speak of dual pronunciations of the consonants בפדו״ת. Transcriptions in and out of Arabic appear to confirm this as well (Ben-Ḥayyim 2000, 32–35). Unlike in the Jewish traditions, spirantisation in Samaritan Hebrew did not affect the velar consonants *g and *k. As such, spirantisation of ג and כ may be regarded as a shared innovation of the Jewish traditions.

1.3. Samaritan Innovations

1.3.1. The reflex of *ɬ (i.e., *sin* שׂ)

In the First Temple Period, a voiced lateral fricative /ɬ/ (like the *ll* in Welsh *Lloyd*), represented by the letter שׂ, was part of the consonantal inventory of Hebrew (Rendsburg 2013). Eventually, this sound merged with that of ס = /s/. The Tiberian Masoretes

marked this sound with a dot on the left (i.e., שׂ = /s/), as opposed to the /ʃ/ sound, which is marked with a dot on the right (i.e., שׁ = /ʃ/): e.g., שָׂם [ˈsɔːɔm] 'had put' (Gen. 28.18) vs שָׁם [ˈʃɔːɔm] 'there' (Gen. 2.8). Though not always marked the same way—Palestinian and Babylonian use a supralinear *samech*—the /ɬ/, /s/ → /s/ merger is common to the Jewish traditions. In the Samaritan tradition, however, the voiced lateral fricative */ɬ/ merged with שׁ = /ʃ/ rather than ס = /s/ (Ben-Ḥayyim 2000, 35–37):[30]

Table 8: Reflex of *ɬ in Jewish || Samaritan traditions

	/s/		/ʃ/
Secunda?	σεμα[31]	Samaritan	עשה
	[sɛmˈħɑː]		[ˈʕaːʃa]
	'joy'		'had made'
	(Ps. 30.12)		(Gen. 1.31)

[30] Palestinian is from P300 (MS Cambridge Taylor-Schechter 20.54; Garr and Fassberg 2016, 110). Babylonian is from Yeivin (1985, 939).

[31] Greek σ represented a retracted [s̠] sound, somewhere in between [s] and [ʃ] (Kantor 2023, §7.7.1). There was no [ʃ] sound in Greek. As such, the transcription convention itself is not clear evidence for */ɬ/ → /s/. At least theoretically, it could also represent */ɬ/ → /ʃ/. Nevertheless, the most likely interpretation of the evidence is that */ɬ/ → /s/ in the Secunda. Note, for example, that there may be vowel rounding brought about by שׁ but not by שׂ in the Secunda (Kantor forthcoming b, §§3.2.2.1, 3.2.9.4).

Jerome	*israhel*
	[(j)isʀɑːˈʔeːl]
	'Israel'
	Commentaries[32]
Palestinian	וְעֲשֵׂה
	[va-ʕaˈseː]
	'and do!'
	(Ps. 37.27)

[32] Although Jerome's Latin transcriptions of Hebrew are ambiguous—Latin only has *s*—his grammatical explanations in his commentaries indicate that */ɬ/ had merged with /s/ rather than /ʃ/. *Commentary on Titus*, 3.9: *Nam nos et Graeci unam tantum litteram 's' habemus, illi uero tres: SAMECH, SADE et SIN, quae diuersos sonos possident. 'Isaac' et 'Sion' per SADE scribuntur; 'Israhel' per SIN et tamen non sonat hoc quod scribitur, sed quod non scribitur. 'Seon', rex Amorrhaeorum, per SAMECH litteram et pronuntiatur et scribitur* 'For we and the Greeks have only one letter *s*, but they (i.e., the Hebrews) have three: SAMECH, SADE, and SIN, which have different sounds. *Isaac* and *Sion* are written with SADE; *Israhel* with SIN even though it does not sound like it is written, but like it is not written. *Seon*, king of the Amorites, is written with the letter SAMECH and pronounced as it is written' (Text from *Notitia Clavis Patrum Latinorum* 591). *Book on the Interpretation of Hebrew Names*, 10: *siquidem apud hebraeos tres s sunt litterae: una, quae dicitur samech, et simpliciter legitur quasi per s nostram litteram describatur: alia sin, in qua stridor quidam non nostri sermonis interstrepit: tertia sade, quam aures nostrae penitus reformidant* 'There are indeed three *s* letters among the Hebrews: one, which is called *samech*, and is simply pronounced as our letter *s* would be described: another called *sin*, in which a kind of hissing, not found in our speech, resounds: the third is called *sade*, which our ears thoroughly dread' (Text from *Notitia Clavis Patrum Latinorum* 581).

Babylonian	שֹׂבַֽע
	[sɔːˈvɔːʕ]
	'abundance'
	(Prov. 3.10)
Tiberian	שָׂרֶה
	[sɔːˈʀɔ̟ː]
	'Sarah'
	(Gen. 17.15)

Because no tradition preserves the historical realisation of **/ɬ/*, the various reflexes are thus innovations that apply to each of the subgroups. In the Jewish traditions, the shared innovation involves the merger of **/ɬ/* with /s/, whereas in the Samaritan tradition the innovation involves the merger of **/ɬ/* with /ʃ/.

1.3.2. Other Samaritan Innovations

While many more features of Samaritan could be outlined in detail, the shared innovations above are sufficient to distinguish the Jewish subgroup from the Samaritan subgroup. Nevertheless, we may mention here just a few more innovations particular to the Samaritan tradition. In the system of *binyanim*, Samaritan has pairs of *binyanim* corresponding to *pi''el/pi''al*, *hitpa''el/hitpa''al*, and *nif'al*, each consisting of a heavy form with a geminated second radical and a simple form with a single second radical: e.g., ונקרב [wniqˈqɑrrɑb] 'and shall come near' || וְנִקְרַב (Exod. 22.7). It is also a common feature of Samaritan to make secondary morphophonological distinctions not present in the historical form nor in the Jewish traditions. For example, the Samaritan tradition implements various forms of the *qal* participle, one for habitual meaning and one for the actual present: e.g., והנה מלאכי אלהים עלים וירדים בו [ˈweːnna mɑːˈlɑːkki eːˈluwwəm ˈʕaːləm wjɑːˈreːdəm ˈbuː]

'and look, the angels of God were going up and going down on it' || הנחל הירד מן ההר: (Gen. 28.12); וְהִנֵּה מַלְאֲכֵי אֱלֹהִים עֹלִים וְיֹרְדִים בּוֹ [anˈneːl ajˈjuːrəd ˈman ˈɑːr] 'the brook that runs down from the mountain' || הַנַּחַל הַיֹּרֵד מִן־הָהָר: (Deut. 9.21). Note that while the pattern [ˈjuːrəd] is used for habitual 'runs/flows down', the pattern [ˈjɑːrəd] is used for the actual present 'are going down'.[33]

1.4. Absolute Chronology and the Jewish || Samaritan Split

All of the above evidence would suggest that there was a split between the Jewish traditions of Biblical Hebrew and the Samaritan traditions of Biblical Hebrew at some point in antiquity. Although it is not always possible to determine the absolute chronology of such a split, there are a number of clues that may help narrow down the precise dating.

1.4.1. Dating of Spirantisation of בג״ד כפ״ת

It is difficult to determine when precisely spirantisation of בג״ד כפ״ת took place in the history of Aramaic and Hebrew. While spirantisation is attested relatively early in the Aramaic of Mesopotamia (c. 7th century CE), it did not make its way to the west until later. It is likely that spirantisation first occurred in Aramaic and then was extended into Hebrew as a result of language contact (Steiner 2005; Steiner 2007).

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[33] For more on these and other features, see Ben-Ḥayyim (2000, 105–20, 187–192). See also chapter 3, §6.0.

When spirantisation did occur, however, it is unlikely that all the stop consonants were spirantised at once; the shift more likely took place in stages. According to Steiner, the merger of *χ, *$\hbar$ → $\hbar$, which occurred in the late Second Temple Period, is essential for understanding the relative timing of spirantisation. It seems to be the case that as long as *χ was still part of the consonantal inventory, the spirantisation of the velar stop /k/ was blocked, since its fricative counterpart could have been con-fused with *χ.[34] The spirantisation of the labials (i.e., /b/, /p/) and dentals (i.e., /d/, /t/) thus occurred before the *χ, *$\hbar$ → $\hbar$ merger, whereas the spirantisation of the velars (i.e., /g/, /k/) was delayed until after the merger. According to Steiner, the mer-ger of *χ, *$\hbar$ → $\hbar$ can be dated to around the first century BCE or the first century CE. That the velar stops were the last to undergo spirantisation is also supported by the absence of a spirantised /k/ in the Egyptian Aramaic attested in P. Amherst 63 (c. 4th/3rd century BCE; Steiner 2005; Steiner 2007; Steiner 2011).

The fact that, at least historically, the Samaritan tradition attests to the spirantisation of the labials and dentals but not the velars suggests that as a linguistic tradition it split off from the

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[34] It should be noted, however, that such 'blocking' is by no means au-tomatic or necessary. The shift of ח to /χ/ (and subsequent merger with כ) in Ashkenazi Hebrew, for example, would seem to directly contradict such reasoning. Nevertheless, the fact that ח and כ are clearly kept dis-tinct in late antique and medieval Hebrew suggests that, for whatever reason, ח no longer represented /χ/ when כ originally underwent spi-rantisation. Otherwise, we might expect some later dialects of Hebrew (in late antiquity and the Middle Ages) to exhibit a merger of ח and כ.

Jewish traditions prior to the first century BCE/CE. Otherwise, it too would likely exhibit the spirantisation of /g/ and /k/.

1.4.2. Dating of *w-yiqṭol* → *wayyiqṭol*

There are a few clues regarding the absolute chronology of the gemination of the prefix consonant in the *wayyiqṭol* form. If we look at the oldest attested Jewish traditions of Biblical Hebrew, we see progression from the Roman period to the Byzantine period. In the Secunda, gemination in the prefix consonant—and/or a full vowel before the prefix consonant in cases where gemination would not be represented in the Greek—is attested less than half the time. By the time of Jerome's transcriptions, however, the distinct morphology of *wayyiqṭol* is attested consistently without any exceptions. If we date the composition of the Secunda (or Pre-Secunda) to the second or third century CE (Kantor forthcoming c), then this suggests that the gemination in the *wayyiqṭol* form had probably already begun to develop by the first century CE. This is consistent with the fact that the so-called 'sequential tenses' were fading out of use in the vernacular by the end of the Second Temple Period. This is exactly the time when we would expect certain traditions to secondarily distinguish (in the morphophonology) what would by that time have been a more archaic usage of the *yiqṭol* form.[35]

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[35] For a fuller discussion, see Kantor (2020).

1.4.3. Dating of the Merger of *sin* שׂ and *samekh* ס

There are a number of interchanges of שׁ (שׂ) ↔ ס attested already in the Hebrew Bible. While some occur in pre-exilic books of the Bible, most are found in exilic and post-exilic books. It has thus been suggested that the merger of */ɬ/, */s/ → /s/ occurred at some point in Late Biblical Hebrew and continued in even later stages of the language (Rendsburg 2013, 104). If this change was already underway by the mid-to-late Second Temple Period, then the Samaritan linguistic tradition must have broken off from the Jewish linguistic tradition by this point as well. Otherwise, we would expect to find */ɬ/ → */s/ in Samaritan also.

1.4.4. Historical Origins of the Samaritan Community

If we ignore linguistic evidence for the moment, there is archaeological and historical evidence regarding the date at which the Samaritan community came to be distinct from the wider Jewish community. The Samaritan temple was built already in the fifth or fourth century BCE. While some scholars, such as Kartveit (Kartveit 2009; Pummer 2012), argue that this moment marked the 'birth of the Samaritans', others argue that it was a more gradual process. Before the destruction of the Samaritan temple in the second century BCE, there may still have been a stronger connection between the 'Proto-Samaritans' and the Jews, even if their communities were largely or somewhat distinct. By the second century BCE, however, the Samaritans separated to form their own distinct community. A gradual process of separation from the fourth century BCE to the second century BCE seems plausible. This is also consistent with the hypothesis that the distinct

textual tradition of the Samaritan Pentateuch goes back to the third century BCE.[36]

The archaeological and historical evidence for the origin of the Samaritans correlates well with the linguistic evidence we have outlined above. The fact that the Samaritan Hebrew tradition did not develop a spirantised ג or כ, has no distinct *wayyiqtol* form, and does not exhibit the */ɬ/, */s/ → /s/ merger suggests that it split off from the Jewish reading traditions in the early-to-mid Second Temple Period. The absolute chronology of this split will serve as a foundation for discussing the development of the Biblical Hebrew reading traditions in the remaining sections.

Finally, it should be noted that after their split from the wider Jewish community, the Samaritans continued to pass down and develop their distinct tradition of Hebrew. Perhaps because their community remained relatively isolated and distinct from the wider Jewish community, however, there is no clear evidence that further subgroups developed within the Samaritan branch, even if it does admit some internal diversity.[37] The remainder of our analysis will thus focus on the Jewish traditions.

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[36] For more on the establishment of the Samaritan community and the origin of the Samaritan Pentateuch, see Kartveit (2009); Pummer (2012).

[37] At the same time, however, this may be a mere accident of historical attestation. In earlier periods, when the Samaritan community numbered in the hundreds of thousands, it is quite possible (and even likely) that various reading traditions developed within the branch.

1.5. Addendum: Sister Reading Traditions or Merely Sister Dialects?

While the discussion above has demonstrated that Jewish and Samaritan may have split off from one another as Hebrew *dialects*, it remains to be seen whether there was indeed a shared ancestor from which both of these distinct *reading traditions* developed. After all, it is entirely possible that the Samaritan oral reading tradition of the Torah is simply the product of applying the Samaritan dialect of Hebrew onto the biblical text. If this is the case, the Samaritan oral reading tradition would not necessarily reflect further developments from a shared tradition but rather dialectal differences in the spoken language. In reality, it is probably the case that some combination of the two possibilties obtained. Indeed, there is at least one piece of evidence which may point to a shared ancestor reading tradition.

In the account of Joseph naming his firstborn son in Genesis 41, we read the following: וַיִּקְרָ֨א יוֹסֵ֤ף אֶת־שֵׁ֤ם הַבְּכוֹר֙ מְנַשֶּׁ֔ה כִּֽי־נַשַּׁ֥נִי אֱלֹהִים֙ אֶת־כָּל־עֲמָלִ֔י 'and Joseph called the name of the firstborn Manasseh (= [manaʃˈʃeː]), (saying), "For God has made me forget (= [naʃˈʃaːniː]) all my hardship"' (Gen. 41.51). What is peculiar about this verse, however, is that the *piʕʕel/piʕʕal* verb נשׁני 'has made me forget' is vocalised with an initial /a/ vowel נַשַּׁ֥נִי instead of the expected /i/ vowel **נִשַּׁ֥נִי (cf. צִוַּ֥נִי 'commanded me'). This is the only instance in all of the Tiberian vocalisation where the *qaṭal* form of the *piʕʕel/piʕʕal* has an initial /a/ vowel. While this is the original vowel in Proto-Northwest Semitic (see Suchard 2020, 247–48) and persists in Aramaic, these facts are unlikely to account for its presence here. A much simpler explanation

based in assonance likely applies. In order to bring out the sound-play in the name מְנַשֶּׁה, which is formed from the participle, the *qaṭal* form of the verb was vocalised with a similar vowel pattern, with /a/ on the *nun.*

What is perhaps more interesting here, however, is that the Samaritan tradition essentially does the opposite. Normally, likely due to the influence of Aramaic, the Samaritan tradition of Hebrew has an initial /a/ vowel in the *qaṭal* form of the *piʿʿel/piʿʿal*, rather than an initial /i/ vowel as in Tiberian: e.g., דבר [ˈdabbər] 'spoke' (Gen. 12.4); מלל [ˈmalləl] 'would have said' (Gen. 21.7; see chapter 5, §1.1.13). As such, Samaritan has a *paʿəl* rather than a *piʿʿel/piʿʿal*. Nevertheless, in this one instance, the form is vocalised with an initial /i/ vowel rather than an in-itial /a/ vowel: i.e., ויקרא יוסף שם הבכור מנשה כי נשאני אלהים את עמלי = [wˈjiqra ˈjuːsəf ˈʃam abˈbaːkor **maːˈnaːʃi** ˈkiː **niʃˈʃaːni** eːˈluwwəm ˈit ʕaːˈmaːli]. While the form [niʃˈʃaːni] is less likely to bring out soundplay, it is significant to note that it too reflects a lone exception to typical D-stem morphology in the Samaritan tradition, albeit in the opposite direction.

The exceptional treatment of נשני/נשאני in Gen. 41.51 in both Tiberian and Samaritan may thus be indicative of a shared ancestor reading tradition—in which the form נשני was read with exceptional morphology—from which they both descended.[38] As the reading tradition was passed down, memorised, and taught, part of this teaching may have included a note that the form נשני

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[38] It is also possible, however, that the similarity here is due to later contact between the traditions.

in Gen. 41.51 was unique. While this was realised as a *pi‘‘el* →
pa‘‘el shift in Tiberian, the opposite occurred in Samaritan.

At the same time, we should not rule out the possibility that
the Jewish || Samaritan split, which occurred much earlier than
the other splits covered in the remainder of the book, was merely
a dialectal one. It is not necessary to posit a shared ancestor read-
ing tradition for these two traditions of Hebrew. The respective
reading traditions of these distinct communities could have de-
veloped (at least in part) as a result of applying their dialect of
Hebrew to the biblical text. In fact, different parts of the tradition
can likely be explained in different ways. It is indeed probably
the case that, while some of the reading tradition was inherited,
much of the Samaritan tradition is the result of applying their
dialect of Hebrew to the text of the Pentateuch.

2.0. Innovations of Proto-Masoretic || Popular Branches

Within the Jewish branch of the Biblical Hebrew reading tradi-
tions, the main split is between the 'Proto-Masoretic' branch, on
one hand, and the 'popular' branch, on the other. To the former
belong the Babylonian and Tiberian traditions. To the latter be-
long the Secunda, Jerome, and Palestinian. Indeed, there are cer-
tain innovations attested only in Tiberian and Babylonian (the
'Masoretic' branch) and certain innovations attested only in the
Secunda, Jerome, and Palestinian (the 'popular' branch).

2.1. (Proto-)Masoretic Innovations

2.1.1. Rounded *Qameṣ* /ɔː/

At some point in the history of Hebrew, etymologically long */aː/ raised slightly and acquired rounding to become */ɔː/. In the Masoretic tradition, this vowel has come to be known as *qameṣ*. It appears to be the case that this phenomenon occurred in Tiberian and Babylonian but not in the other Jewish traditions. Note the following examples below:[39]

Table 9: Rounded *qameṣ* in Proto-Masoretic || popular traditions

Unrounded /a(ː)/		Rounded 'qameṣ' /ɔː/	
Secunda	ραμωθ	Babylonian	בֹּקֹר
	[ʀɑːˈmoːθ]		[vɔːˈqɔːr]
	'lofty'		'cattle'
	(Ps. 18.28)		(1 Sam. 14.32)
Jerome	*hissa*	Tiberian	הַדָּבָר
	[ʔiʃˈʃaː]		[haddɔːˈvɔːɔʀ]
	'woman'		'the thing'
	(Gen. 2.23)		(Exod. 18.17)
Palestinian	מֹשׁפָּט		
	[miʃˈpʰatˤ]		
	'justice'		
	(Ps. 37.28)		

There is some debate regarding the allegedly ambiguous representation of historical */aː/ with Greek α and Latin *a* (Harviainen 1977). At least theoretically, such a transcription convention

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[39] Palestinian is from P300 (MS Cambridge Taylor-Schechter 20.54; Garr and Fassberg 2016, 110). Babylonian is from Yeivin (1985, 933).

could represent an [ɔː] vowel. However, evidence from Greek in-
scriptions authored by L1 Aramaic–L2 Greek speakers in Byzan-
tine Zoora suggests that this is not the case. When there is some-
thing like an [ɔː] vowel or a shift from [ɑː] → [ɔː] → [oː], fre-
quent confusion in transcription is common (Kantor 2023). There
is also some debate regarding the original vowel system of the
Palestinian tradition (Heijmans 2013b; Yahalom 2016). Never-
theless, we accept that the vocalic phonology of the Palestinian
tradition resembled that of Jewish Palestinian Aramaic, namely
a five-vowel system of /i, e, a, o, u/ (Fassberg 1990).[40] In each of
these traditions, the vowel quality remains unrounded as [a(ː)]
or [ɑ(ː)]. The presence of a *qameṣ* vowel [ɔː] in both Babylonian
and Tiberian, then, constitutes a shared innovation.[41]

The absolute chronology of the **ā* → [ɔː] shift, however,
requires further attention. If this change happened at a late date,
then perhaps the ancestor reading traditions of Tiberian and Bab-
ylonian that existed contemporaneously with the Secunda and
Jerome also simply had a long /ā/ [ɑː] vowel. These differences
would thus reflect diachronic change rather than dialectal or tra-
ditional variation. There is, however, some evidence that this
change happened relatively early in late antiquity. Both Tiberian
and Babylonian reflect rounding of **a* → '*qameṣ*' in the environ-
ment of the consonant *waw*: e.g., קָו 'line' and מָוֶת 'death'. Such a
change would have had to occur when ו was still a labio-velar

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[40] Note, however, that Fassberg (1990) also includes /ə/.

[41] For the [ɔː] quality in Tiberian, see Khan (2020b, §§I.2.1.1, I.2.I.4).
For the [ɔː] quality in Babylonian, see Yeivin (1985, 364–68).

approximant [w] rather than a labio-dental fricative [v]. According to Khan and Kantor (2022), the [w] → [v] change occurred by the Byzantine period at the latest. This suggests that the *qameṣ* quality must also have already developed by the Byzantine period. This chronology is also supported by the use of *waw matres* corresponding to vowels represented by *qameṣ* in biblical quotations in the Babylonian incantantion bowls: e.g., שומורו (for שֹׁמְרוֹ) 'they kept' (Num. 9.23; Molin 2020, 163–64). Accordingly, we may reasonably conclude that the *qameṣ* quality existed in the Masoretic traditions contemporaneously with Palestinian, probably Jerome, and possibly even the Secunda, all of which simply had a long /ā/ [ɑː] vowel. As such, it may indeed constitute an innovation of the Masoretic branch.

2.1.2. Philippi's Law: *éCC → áCC*

According to the earliest iteration of Philippi's Law, etymological short */i/ shifts to */a/ in (i) stressed word-final syllables that were closed by two consonants and (ii) stressed closed penultimate syllables: i.e., *í → *á / _CC. In large part, Philippi's Law was invoked to explain forms like *dibbírtā → דִּבַּרְתָּ 'you spoke' and *hiʃliktā → הִשְׁלַכְתָּ 'you threw'. It is also related to the variation in forms like בַּת 'daughter' vs בִּתּוֹ 'his daughter'. Over time, however, this law has undergone constant revisions and modifications to account for various exceptions.[42]

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[42] Most recently, the rule has been pulled apart and replaced by a set of more nuanced rules that explain the same data: (i) *i → *e in all positions, (ii) *e → *ɛ / _C_1C_2, (iii) *é → *ɛ́ / eC_C, (iv) *e → *ɛ / C_C(C)#,

This phenomenon is not distributed evenly across the various Biblical Hebrew reading traditions. While both Tiberian and Babylonian attest to it frequently—though even between them the distribution is not identical—the ancient transcriptions do not. Occasional variation in non-biblical Palestinian manuscripts may also indicate that it was not present in the earlier authentic layers of Palestinian (Harviainen 1977):[43]

Table 10: Philippi's Law in Proto-Masoretic || popular traditions

*qiṭṭilt(ā) → *qiṭṭilt(ā) *hiqṭilt(ā) → *hiqṭilt(ā) *qiṭṭ → *qiṭ		*qiṭṭilt(ā) → *qiṭṭalt(ā) *hiqṭilt(ā) → *hiqṭalt(ā) *qiṭṭ → *qaṭ	
Secunda	εκσερθ [hɛkʔˈtsʔɛʀtʰ] 'you shortened' (Ps. 89.46)	Babylonian	הקהֹלֽתׄ [hiqˈhaːltʰɔː] 'you assembled' (Ezek. 38.13)
Jerome	*geth* [ˈgɛθ] 'winepress' (Isa. 63.2)	Tiberian	גַּ֫ת [ˈgaːaθ] 'winepress' (Joel 4.13)
Palestinian	הֹידֹריכתני [hiðriχˈtʰani] 'you guided me' (T-S NS 249.2, l.19)		הִרְגַּזְתֵּ֫נִי [hiʀgazˈtʰaːniː] 'you disturbed me' (1 Sam 28.15)

(v) *ɛ́ → *á, (vi) *é → *ɛ́ before geminate coronal consonants in polysyllabic words, such as בַּרְזֶל. For the most comprehensive and up-to-date treatment of Philippi's Law, see Suchard (2020, 141–67).

[43] Palestinian is from Revell (1970, 158). Babylonian is from Yeivin (1985, 556). For Jerome, see Yuditsky (2016, 106).

The fact that this $*i \rightarrow *a$ shift is attested in Babylonian and Tiberian but not in the other traditions suggests that it may be regarded as a shared innovation of the (Proto-)Masoretic branch.[44] We should also note that the Palestinian tradition actually has many forms that look like Tiberian and Babylonian in this respect: e.g., הֹ in an abbreviated *serugin* manuscript (T-S A43.1) for הֹסתּרת [hisˈtʰartʰa] (Isa. 54.8).[45] However, keeping with our methodology of preferencing divergence and variation in Palestinian, the form הֹדֹריכתני [hiðriχˈtʰani] in a non-biblical manuscript may actually indicate that the underlying authentic Palestinian tradition looked more like the Secunda and Jerome.[46]

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[44] One might suggest, however, that apparent cases of Philippi's Law in Babylonian may also be attributed to the general $*e \rightarrow a$ shift therein.

[45] For the text, see Garr and Fassberg (2016, 118).

[46] Note, however, that the relevant syllable in this form is unstressed due to the suffix. Tiberian or Babylonian would have *pataḥ* in such an environment: cf. הִמְלַכְתָּנִי 'you have made me king' (2 Chron. 1.9). Before a following /ī/ vowel, however, this does not apply: e.g., שְׁאִלְתֵּיו 'I asked for him' (1 Sam. 1.20); יְלִדְתֵּיךָ 'I have begotten you' (Ps. 2.7). This may indicate a different distribution of Philippi's Law and/or paradigmatic levelling in Tiberian and Babylonian. In either case, the Palestinian form הֹדֹריכתני [hiðriχˈtʰani] reflects the typologically more archaic form and the Babylonian and Tiberian form the innovation. Nevertheless, we do find variation in Tiberian, as in the *qere* form of ילדתני in Jer. 2.27, which is vocalised as יְלִדְתָּנוּ. This may indicate that the differences between Tiberian, Babylonian, and Palestinian may be attributed to differential levelling of the /a/.

2.1.3. Lengthening of the Vowel in *$*ʔillv̆$ → *$*ʔēllē$ → אֵלֶּה

Historically, the demonstrative pronoun אֵלֶּה 'these' likely goes back to a form like *$*ʔill$- or *$*ʔillay$ with an initial etymologically short vowel (Hasselbach 2007; Suchard 2020, 231–32). The fact that Tiberian and Babylonian both have a *ṣere* in this form, however, indicates that there was some kind of lengthening in the (Proto-)Masoretic branch. Where we can compare other traditions, such as the Secunda, the vowel is short:[47]

Table 11: Demonstrative pronoun אֵלֶּה 'these' in Proto-Masoretic || popular traditions

*ʔellē		*ʔēllē	
Secunda	ελλε	Babylonian	אֵלֹּה
	[ˈʔɛllɛ:]		[ˈʔe:lla:]
	'these'		'these'
	(Deut. 1.1)		(Jer. 9.8)
Jerome	*helle*	Tiberian	אֵלֶּה
	[ˈʔɛllɛ:](?)		[ˈʔe:ellɛ:]
	'these'		'these'
	(Exod. 1.1)		(Deut. 1.1)
Palestinian	אֱ for אלה		
	[ˈʔelle]		
	'these'		
	(Isa. 57.6; T-S A 43.1)		

In Babylonian, note that the pattern *$*CíCCā$ (with initial stress) elsewhere results in an initial *pataḥ* vowel, as in the 3MP independent pronoun: הֹמֹּה [ˈhammɔ:] (Yeivin 1985, 1104 || BHS הֵמָּה

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[47] Palestinian is from Garr and Fassberg (2016, 120). Babylonian is from Yeivin (1985, 1118).

Job. 6.7 'they'); הֵ֫ם ['ham] (Yeivin 1985, 1104 || BHS הֵ֫מָּה Job. 8.10 'they'). The fact that we find a *ṣere* in the demonstrative אֵ֫לֶּה ['ʔeːllaː], then, likely implies that the lengthening exhibited in Tiberian also occurred in Babylonian and is thus a shared innovation of the (Proto-)Masoretic branch.[48]

While the other traditions are mostly ambiguous, it is significant that the Secunda has a short vowel in ελλε. Note also the short vowel in the independent pronoun: εμ (Secunda || BHS הֵ֫מָּה Ps. 9.7 'they'). Though the Palestinian example is ambiguous, it may be significant that it uses the sign for *seghol* rather than *ṣere*, even if the pronunciation tradition realised them identically.

2.1.4. Vowel Lowering in *Segholate* Nouns with Guttural Roots

Historically, *segholate* nouns were of the pattern **qaṭl*, **qiṭl*, or **quṭl* with a final consonant cluster. Eventually, most of the various Biblical Hebrew reading traditions would introduce an epenthetic vowel, usually an *e*-class vowel, to resolve the final consonant cluster. When the second or third radical is a guttural, however, this epenthetic often lowers to an *a*-vowel. While this lowering is characteristic of the Tiberian and Babylonian traditions, it is often (but not always) absent in the Secunda, Jerome,

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[48] On the other hand, lengthening of stressed **e* vowels to /ē/ in closed syllables is the normal development in Tiberian. That it does not normally occur in Babylonian is perhaps more relevant here. In any case, this example may simply reflect a microcosm of the various distributions of vowel lengthening across different traditions (and/or times?).

and Palestinian. This is especially the case when the third radical is *ḥet*:[49]

Table 12: *Segholate* nouns with guttural roots in Proto-Masoretic || popular traditions

*qeṭeG		*qeṭaG	
Secunda	βεσε	Babylonian	נֹצַח
	[ˈbɛts²ɛʕ]		[ˈnaːsˤaħ]
	'gain'		'Glory'
	(Ps. 30.10)		(1 Sam. 15.29)
Jerome	bete	Tiberian	לָנֶצַח
	[ˈbɛt²ɛħ][50]		[lɔːˈnɛːsˤaħ]
	'security'		'forever'
	(Gen. 34.25)		(Ps. 52.7)
Palestinian	נֹצֵֽח		
	[ˈnesˤeħ]		
	'forever'		
	(T-S H 16.5)		

Tiberian and Babylonian often differ from the Secunda, Jerome, and Palestinian with respect to vowel lowering in the environment of gutturals. As a part of this wider phenomenon, this example constitutes one more case of innovation on the part of the 'Proto-Masoretic' branch. It is also possible, however, that such differences may reflect diachronic change and the relative weakening of the guttural consonants over time.

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[49] Palestinian is from Yahalom (1997, 25). Babylonian is from Yeivin (1985, 828).

[50] Note also the following examples: *reeb* 'Rahab' (Isa. 30.7); *been* 'watchtower' (Isa. 32.14); *nehel* 'river' (Ezek. 47.7).

2.2. Popular Innovations

2.2.1. **i → e, *u → o* in Closed Unstressed Syllables

In the earliest stages of Hebrew, the short vowels */i/, */a/, and */u/ could occur in closed unstressed syllables. It is also possible that the vowels */i/ and */u/ shifted to the more open vowels */e/ and */o/ at a relatively early stage of the language (Kutscher 1969; Lambdin and Huehnergard 2000, 12; Suchard 2020).[51] In any case, however, it is noteworthy that the Secunda, Jerome, and Palestinian tend to have /e/ and /o/ vowels in this position, whereas Tiberian and Babylonian have /i/ and /u/ (or /ɔ/), respectively:[52]

Table 13: *e and *i in closed unstressed syllables in Proto-Masoretic || popular traditions

	*e		*i
Secunda	λεββι	Babylonian	רֹנֹה
	[lɛbˈbiː]		[rinˈnɔː]
	'my heart'		'joy'
	(Ps. 28.7)		(Prov. 11.10)

[51] Reconstructed/historical forms throughout this volume may reflect either */i/, */u/ or */e/, */o/. The specific vowel height chosen for a given reconstruction is often based on what is most illustrative for a particular feature or context, but these pairs can be seen as somewhat interchangeable for etymological forms.

[52] Palestinian is from Harviainen (1977, 142, 171). Babylonian is from Yeivin (1985, 781, 862).

Jerome	*metta*	Tiberian	לִבִּי
	[mɛtˀˈtˀaː]		[libˈbiː]
	'bed'		'my heart'
	(Gen. 48.2)		(Ps. 40.11)
Palestinian	לִבּוֹ		
	[lebˈbo]		
	'his heart'		
	(Bod.Heb. MS d 41,		
	13v, l. 23)		

Table 14: *o and *u or *ɔ in closed unstressed syllables in Proto-Maso-retic ‖ popular traditions

	*o		***u or *ɔ**
Secunda	βεσοχχα	Babylonian	חכְמֹה
	[bɛsokˈkʰaː]		[ħuχˈmɔː]
	'in a shelter'		'wisdom'
	(Ps. 31.21)		(Jer. 49.7)
Jerome	*sgolla*	Tiberian	חֻקַּי
	[sɣolˈlaː]		[ħuq̱ˈqaːaj]
	'prized possession'		'my statutes'
	(Mal. 3.17)		(1 Kgs 3.14)
Palestinian	בְּסֹכֹה		חָכְמָה
	[besokˈkʰa]		[ħɔχˈmɔː]
	'in a shelter'		'wisdom'
	(Ps. 31.21; T-S		(Ps. 37.30)
	20.53)		

If one considers the vowels */i/ and */u/ to be original, then the forms in the Secunda, Jerome, and Palestinian may be regarded as a shared innovation of the 'popular' branch. If, on the other hand, one accepts the early shift of */i/ → */e/ and */u/ → */o/, then the Tiberian and Babylonian forms may be regarded as shared innovations, in which case we should have one more example in §2.1 and one fewer example in the present section

(§2.2). Either way, given the fact that we have several examples of shared innovations in each section, this particular one supports our subgroupings in one way or another. It is also significant that /e/ and /o/ vowels for historical */i/ and */u/ are also characteristic of Jewish Palestinian Aramaic (see chapter 5, §1.1.3).[53]

2.2.2. The Quality of a '*Shewa*-Slot' Reduced Vowel: [e] or [ɛ]

Analysing the nature of a vocalic *shewa* in the various Biblical Hebrew reading traditions requires a diachronic perspective. In the earliest stages of Hebrew, there was no such thing as '*shewa*'. Over time, however, etymologically short vowels in open unstressed syllables underwent reduction: i.e., *dabarīm* → *d(ə)bārīm*. This resulted in the creation of consonant clusters: i.e., *dbārīm*. The insertion of an epenthetic vowel on the phonetic level to resolve such clusters is what we now call vocalic *shewa*. So even if from a phonetic perspective vocalic *shewa* has a value, from a phonological perspective it is equivalent to zero.

It is significant, however, that the phonetic realisation of vocalic *shewa* is not the same in all Biblical Hebrew reading traditions. While Tiberian generally has [a] (i.e., דְּבָרִים = [davɔːʀiːim]; Khan 2020b, §I.2.5), the evidence suggests that the earliest layers of Babylonian might have allowed the cluster to remain on the phonetic level (i.e., דֹּבֹרִים = [dvɔːriːm]). On the

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[53] For more on this phenomenon, see Kutscher (1969); Harviainen (1977).

other hand, interchanges of *pataḥ* ↔ *ḥitfa* may indicate that vo-
calic *shewa* was realised as [a] (Yeivin 1985, 398–418). In the
ancient Greek and Latin transcriptions of Hebrew, the histori-
cal/etymological vowel is often preserved in such an environ-
ment. Nevertheless, there are some cases where reduction is ap-
parent. In these cases, like Palestinian, the Secunda and Jerome
can exhibit an *e*-class vowel in the '*shewa* slot'. This vowel could
be interpreted as [e], [ɛ], or [ə]:[54]

Table 15: Quality of '*shewa*-slot' vowels in Proto-Masoretic || popular
traditions

Shewa as [ɛ] or [e]		*Shewa* as [a] or ø	
Secunda	αδδεβαρειμ	Babylonian	דְּבֹרִ֫י
	[haddɛβɑːˈʁiːm]		[dvɔːˈraːj]
	'the words'		'my words'
	(Deut. 1.1)		(Jer. 23.29)
Jerome	*bethula*	Tiberian	דְּבָרִ֔ים
	[bɛθuːˈlɑː]		[davɔːˈʁiːim]
	'virgin'		'things'
	(Commentary on		(2 Kgs 17.9)
	Isa. 7.14)		
Palestinian	בֻּקׇצׇפֶּ֫ךָ		
	[beqasˤpeˈχa]		
	'in your anger'		
	(Ps. 38.2; T-S		
	20.54)		

The tendency toward an *e*-class vowel in the '*shewa* slot' in the
Secunda, Jerome, and Palestinian constitutes a shared innovation
of the 'popular' branch. The [ɛ] or [e] realisation of *shewa* also

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[54] Palestinian is from Garr and Fassberg (2016, 111). Babylonian is from
Yeivin (1985, 934).

has parallels in vernacular Jewish Palestinian Aramaic (see chapter 5, §1.1.2). It may even be the case that [ɛ], [e], or [ə] was the general realistion of '*shewa*' in more spoken layers of the language, whereas the biblical readings of some traditions had standardised other realisations, like [a] as in Tiberian.[55]

It should be noted, however, that the behavior of '*shewa*-slot' vowels in each of these traditions is far more complex and varied than outlined here, but it lies far beyond the scope of the present book to treat it.[56] The Secunda, for example, has a greater tendency to preserve historical vowels in open unstressed syllables (Yuditsky 2005). Nevertheless, where reduction does occur, the grapheme ε can be used to signify it (Kantor forthcoming b, §3.3.6). Also, in Jerome's transcriptions, we find preservation of historical vowels, reduction represented with *e*, and the occasional non-historical *a*, perhaps due to influence from a more prestigious tradition (see §5.1.3 and also n. 63).

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[55] The realisation of *shewa* in Babylonian is not entirely clear. As mentioned above, while there was likely a higher tolerance for clusters, as in Modern Hebrew, *pataḥ* ↔ *ḥitfa* interchanges in Babylonian may point to a realisation of [a]. On the other hand, there are occasional instances of *yod* being used as a *mater lectionis* for vocalic *shewa* in Jewish Babylonian Aramaic (see Juusola 1999, 44–45; Molin 2017, 35). Once again, this may reflect a more 'spoken' realisation of *shewa* as [e]/[ɛ]/[ə] and a more 'biblical' realisation of *shewa* as [a]. Note that even MS Kaufmann of the Mishnah attests to *yod* for vocalic *shewa*: e.g., בְּיסִימָנִין 'by its marks' (BabaB. 7.3).

[56] For more on '*shewa*-slot' vowels in these traditions, see the section on '*shewa*' in Khan et al. (2025).

2.2.3. The *-CV* 2MS Suffix

Historically, the 2MS suffix was realised as *-ka.* After word-final short vowels were elided, this suffix came to be realised simply as *-k*, but not without vowel harmony first leading to the preceding vowel being generalised as *a*. As a result, the sequence underwent meta-analysis so that the form of the suffix was regularly realised as *-ak*: i.e., *bayt-V-ka → *bayt-a-ka → *bayt-ak (Lambdin and Huehnergard 2000, 50–53). At the same time, due to analogical extension of the ending of the longer byform of the 2MS independent pronoun */ʔattā/ (from */ʔantah/), there also developed a 2MS pronominal suffix with a final long vowel *-kā (Al-Jallad 2014; Suchard 2020, 205–06). This development must have occurred at a relatively early stage of the language, since it appears already in (albeit a minority of) Iron Age inscriptions (Hornkohl 2023, 124): e.g., וקברכה */wa-qibr-aka/ 'and your tomb' (Ḥorvat ʿUzza Literary Text l. 13). While there is some internal variation in each of the traditions, Tiberian and Babylonian attest to the 2MS patterns/byforms of the *-CV* variety, whereas the Secunda, Jerome, and Palestinian attest to the 2MS patterns/byforms of the *-VC* variety:[57]

Table 16: 2MS suffixes in Proto-Masoretic || popular traditions

-āχ		*-χɔ̄*	
Secunda	οζναχ	Babylonian	מִשְׁכֹּבָ֖ךְ
	[ʔozˈnaːχ]		[maʃkɔːvˈχɔː]
	'your ear'		'your bed'
	(Ps. 31.3)		(2 Sam. 13.5)

[57] Palestinian is from Yahalom (1997, 24). Babylonian is from Yeivin (1985, 427, 749).

Jerome	*dabarach*	Tiberian	שְׁמְךָ
	[daβaːˈʀaːχ]		[ʃimˈχɔː]
	'your words'		'your name'
	(Hos. 13.14)		(Gen. 17.5)
Palestinian	עַמֹּךְ		
	[ʕamˈmaχ]		
	'your people'		
	(Deut. 26.15)		

There is no doubt that both **-CV* and **-VC* forms existed as byforms at a very early stage of the Hebrew language. The epigraphic record and the consonantal text of the MT themselves often attest to a **-VC* pattern.[58] Nevertheless, historically the more archaic and original form is of the pattern **-CV*. Therefore, the forms without a final vowel, characteristic of the Secunda, Jerome, and Palestinian, may be regarded as an innovation. At the same time, the Babylonian and Tiberian forms reflect an innovation based on analogical extension. This further supports the subgrouping argued for in this section. It is also significant that the 'popular' forms are also characteristic of Aramaic and Mishnaic Hebrew. Language contact may thus have encouraged the preference of one byform over another (see chapter 5, §1.1.6).

2.2.4. *Hifʿil* Prefix Vowel in the *Yiqṭol* and Imperative

Historically, the *yiqṭol* form in the *hifʿil binyan* was of the pattern **yaqṭil*, with an **a* as the prefix vowel (Lambdin and

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[58] Note the following epigraphic example, in which the 2MS *qaṭal* verb is written with a final *heh mater* but the 2MS suffix is not: ונתתה·ביד·אמתכ **/wa-natattā ba-jad ʔamat-ak/* 'and you shall give into the hand of your maidservant' (Mouss 2:4).

Huehnergard 2000, 74; Suchard 2020, 416). This pattern is preserved in both Tiberian and Babylonian. In the Secunda, Jerome, and occasional variants in Palestinian, on the other hand, the prefix vowel is **e*:[59]

Table 17: *Hifʿil yiqṭol* forms in Proto-Masoretic || popular traditions

*yeqṭīl		**yaqṭīl*	
Secunda	θεριβ [tʰɛʀˈħiːβ] 'you make wide' (Ps. 18.37)	Babylonian	יַֽקְהִיל [jaqˈhiːl] 'assembled' (2 Chron. 5.2)
Jerome	*iesphicu* [jɛsˈpʰiːχuː] 'they strike' (Isa. 2.6)	Tiberian	יַשְׁלִיךְ [jaʃˈliːiχ] 'will cast' (Isa. 2.20)
Palestinian	תֹּחטיא [tʰɛħˈtˤiː] 'makes sin' (Ezek. 14.13; T-S 20.59)		

Table 18: *Hifʿil* imperative forms in Proto-Masoretic || popular traditions

*heqṭel/*hiqṭel		**haqṭēl/*haqṭal*	
Secunda	εσιληνι [hɛtsˤ(tsˤ)iːˈleːniː] 'save me!' (Ps. 31.3)	Babylonian	הַקְשֵׁב [haqˈʃav] 'listen!' (Job 33.31)

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[59] Palestinian is from Harviainen (1977, 130, 185–186). Babylonian is from Yeivin (1985, 562, 567).

Jerome	*eezinu*	Tiberian	הַשְׁלִיכֵהוּ
	[hɛʔɛˈziːnuː]		[haʃliːˈχeːhuː]
	'incline!'		'throw it!'
	(Joel 1.2)		(Exod. 4.3)
Palestinian	הֹצִילֵנִי		
	[hisˤsˤiːˈleːniː]		
	'save me!'		
	(Ps. 39.9; T-S		
	20.54)		

This innovation, which is also found in the Mishnah—note the form יְמְשֵׁךְ 'should draw back' (Zav. 3.3) in MS Kaufmann—is likely the result of analogy. It could reflect either analogy to the prefix vowel in the *qaṭal* form (i.e., *heqṭīl*; Yuditsky 2017, 162) or analogy to the typical prefix vowel in other *yiqṭol* forms like the *qal* and the *nifʿal*. This occurs in some modern Arabic dialects, such as that spoken in Israel and Palestine: e.g., [ji-ftaħ] (cf. Classical Arabic [ja-ftaħ]) in Form I (parallel to *qal*) and [ji-krem] (cf. Classical Arabic [ju-krim]) in Form IV (parallel to *hifʿil*; Elihay 2012, 755–756, 760).[60] In either case, it may be regarded as a shared innovation of the Secunda, Jerome, and Palestinian, namely the 'popular' branch.[61]

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[60] For more on this analogy, see Kantor (forthcoming b, §4.2.7).

[61] Note, however, that there is at least one possible parallel in the Babylonian tradition: הֹדְרִיכֹנִי 'guide me!' (Ps. 119.35; MS E22). See Díez Macho and Navarro Peiro (1987).

2.2.5. *Yiqṭol* Prefix in I-ʿ Roots: i.e., **yaʿtol → *yeʿtol*

At an early stage of Hebrew and/or Northwest Semitic, there were three distinct forms of the prefix conjugation in the *qal binyan*: **yaqṭul*, **yaqṭil*, and **yiqṭal* (Rainey 1996, 65; Kossman and Suchard 2018; Shachmon and Bar-Asher Siegal 2023). While the prefix vowel is generally levelled to /i/ (or /e/) in most reading traditions of Biblical Hebrew, Tiberian and Babylonian still exhibit a distinction between **yaqṭul* and **yiqṭal* in I-ʿ roots (Lambdin and Huehnergard 2000, 59): e.g., יַעֲמֹד 'will stand' (< **yaʿmud*), but cf. יֶעֱרַב 'will be pleasing' (< **yiʿrab*). In other traditions, however, note that the prefix vowel seems to have generalised as /e/ across the board; Samaritan is included here to demonstrate the relative antiquity of this generalisation:[62]

Table 19: *Yiqṭol* prefix in I-ʿ roots in Proto-Masoretic || popular traditions

*yeʿ-		**yaʿ-*	
Secunda	θεσου [tʰɛʕˈsuː] 'you do' (Mal. 2.3)	Babylonian	תעֲבֹד [tʰaʕaˈvoːð] 'you shall serve' (Deut. 10.20)
Palestinian	ותעדֿי [vattʰeʕˈdi] 'and you got adorned' (Ezek. 16.13)	Tiberian	יַעֲשׂוּ [jaːʕaˈsuː] 'shall do' (Exod. 12.47)

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[62] Palestinian is from Yahalom (2016, 167). Babylonian is from Yeivin (1985, 461).

Samaritan	יעשו
	[ˈjeːʃʃu]
	'shall do'
	(Exod. 12.47)

While an *e*-class prefix vowel is preserved in the 1CS form of I-ʿ verbs in Tiberian—e.g., וָאֶעְדֵּךְ 'and I adorned you' (Ezek. 16.11)—I-ʿ verbs from the **yaqṭul* pattern have a *pataḥ* as the prefix vowel elsewhere in the paradigm. The fact that this phenomenon is also attested in the Samaritan branch suggests that it might be the result of influence from spoken Hebrew or Aramaic. It is also consistent with the trend to generalise the /e/ prefix vowel even in the *hifʿil binyan*, as examined above. Therefore, this may be considered a shared innovation of the popular branch, though it may also be due to language contact (see chapter 5, §1.1.9) and/or parallel development.

3.0. Innovations of Tiberian || Babylonian

Within the 'Masoretic' branch of the Biblical Hebrew reading traditions, we have just Tiberian and Babylonian. Because the variations between Tiberian and Babylonian are well documented and many (see Khan 2020b; Yeivin 1985), we will cite only a few here. Note also that even though this section is only intended to separate Tiberian and Babylonian, other traditions may also be cited to underscore the innovative nature of a feature.

3.1. Tiberian Innovations

3.1.1. *CuCC- → *CɔCC-

In closed unstressed syllables, the historical vowel */u/ has various realisations in the different traditions of Biblical Hebrew (see also §2.2.1). While the 'popular' branch tends to realise it lower as /o/, Babylonian realises it as /u/. In the Tiberian tradition, however, it comes to be realised with the quality of *qameṣ* [ɔ] (if not followed by a geminated consonant, in which case it is realised as /u/):[63]

Table 20: Realisations of historical */u/ in closed unstressed syllables in Tiberian || other Jewish traditions

*CuCC → *CoCC-		*CuCC- → *CɔCC-	
Secunda	χοδχοδ [kʰoðˈkʰoð] 'agate' (Isa. 54.12)	Tiberian	חָכְמָה [ħɔχˈmɔː] 'wisdom' (Ps. 37.30)
Jerome	*bosra* [botsˀˈʁɑː] 'Bozrah' (Isa. 34.6)		
Palestinian	חָׁכמֹה [ħoχˈma] 'wisdom' (Ps. 37.30; T-S 20.54)		

[63] Palestinian is from Garr and Fassberg (2016, 110). Babylonian is from Yeivin (1985, 781, 862).

CuCC → *CuCC-*
Babylonian   חֹכְמֹ֖ה
[ħuχˈmɔː]
'wisdom'
(Jer. 49.7)

While it is not entirely clear whether the 'popular' branch or Babylonian reflects the more original (to Biblical Hebrew of the early Second Temple Period) form (see §2.2.1), it is clear that Tiberian has an innovation here given the shift in quality to [ɔ].

3.1.2. Furtive *Pataḥ*

In the Tiberian tradition, the pronunciation of final /h/, /ḥ/, or /ʕ/ can be aided orthoepically by the insertion of an epenthetic [a] vowel before the final guttural. The Babylonian tradition—and the popular traditions—do not normally exhibit this feature:[64]

Table 21: Furtive *pataḥ* in Tiberian || other Jewish traditions

No Furtive *Pataḥ*		**Furtive *Pataḥ***	
Secunda	ουαββωτη	Tiberian	רוּחַ
	[(w)uhabboːˈtˀeːħ]		[ˈʁuːaħ]
	'and he who trusts'		'breath'
	(Ps. 32.10)		(Gen. 6.17)
Jerome	*esne*		
	[hɛtsˀˈneːʕ]		
	'doing humbly'		
	(Mic. 6.8)		

[64] Palestinian is from Garr and Fassberg (2016, 114). Babylonian is from Yeivin (1985, 326–30); Khan (2013c).

Palestinian	מֵרוּח
	[meˈruħ]
	'from wind'
	(Ps. 55.9; T-S
	12.195)
Babylonian	לֹקֵחַ
	[loːˈqeːħ]
	'taking'
	(Deut. 27.25)

This phonetic phenomenon is particular to Tiberian, which constitutes another innovation to distinguish it from the Babylonian tradition. It is also probably related to a different typology of syllable structure in the Babylonian tradition (Khan 2020a, 16, 26).

Note, however, that there are similar phenomena attested occasionally in other traditions. In Jerome, for example, whose transcriptions do not normally exhibit furtive *pataḥ*,[65] there are a few examples that do seem to reflect something like it, albeit with varying vowel qualities: e.g., *ruah* vs רוּחַ 'wind' (Jer. 10.13); *colea* vs קוֹלֵעַ 'slinging (MS)' (Jer. 10.18); *sue* vs וְשׁוֹעַ 'and Shoa' (Ezek. 23.23); *sia* vs שִׂיחַ (comments on Amos 4.13). Given the overall 'popular' profile of the Hebrew tradition reflected in Jerome's transcriptions, we may tentatively posit that this constitutes an example of influence of the more prestigious tradition on that of Jerome already in the ancient period. This phenomenon appears to be exhibited in some other features in the tradition (see chapter 5, §2.4). This may indicate that a 'Proto-Masoretic' ancestor

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[65] Cf. *maphate* vs מְפַתֵּחַ [mafatˈtʰeːaħ] 'engraving (MS)' (Zech. 3.9), *bari* vs בָּרִחַ [bɔːˈʀiːaħ] 'fleeing (MS)' (Isa. 27.1), *esne* vs וְהַצְנֵעַ [vahasˤˈneːaʕ] 'and [doing] humbly' (Mic. 6.8).

of Tiberian was already fairly established during the Byzantine period. Note that Tiberian Hebrew is the only tradition that exhibits a furtive *pataḥ* regularly.

3.1.3. *maqṭal* → *miqṭal*

One of the most characteristic features of Tiberian Hebrew concerns the realisation of the historical *maqṭal* pattern. While there is some evidence that a *maqṭal* → *miqṭal* shift occurred in certain phonological environments (e.g., I-sibilant roots) in other traditions, Tiberian has progressed this change so that the *maqṭal* pattern is essentially only preserved in a limited number of roots (e.g., I-w, I-y, I-n, I-guttural, and sometimes I-sonorant):[66]

Table 22: Realisation of historical *maqṭal* pattern in Tiberian || other traditions

maqṭal		*miqṭal*	
Secunda	μαβσαραυ [maβts²aˈʁaːw] 'his fortresses' (Ps. 89.41)	Tiberian	מִדְבָּ֑ר [miðˈbɔːɔʁ] 'wilderness' (Deut. 32.10)
Jerome	*magras* [maɣˈʁaːʃ] 'pastureland' (Ezek. 48.17)		
Palestinian	מׄגדל [maɣˈdal] 'tower (cstr.)' (Ps. 61.4; T-S 20.52)		

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[66] Palestinian is from Harviainen (1977, 140). Babylonian is from Yeivin (1985, 1008).

Babylonian	מֹדבֹּ֫ר
	[maðˈbɔːr]
	'wilderness'
	(Ps. 102.7)
Samaritan	מדבר
	[ˈmadbɑr]
	'wilderness'
	(Exod. 13.18)

It is not that this phenomenon was not attested at all in other traditions, but it seems to have been largely restricted to I-sibilant roots: e.g., μισγαβ (Secunda || BHS מִשְׂגָּב־, Ps. 46.12 'a fortress'); *mesphat* (Jerome || BHS לְמִשְׁפָּט, Isa. 5.7 'justice'; see §4.2.3). Nevertheless, its significant extension and generalisation in Tiberian is to be considered an innovation particular to that tradition. There may, however, be some examples of non-Tiberian traditions in the ancient period with **maqṭal* → **miqṭal* in non-I-sibilant roots, but the evidence is meagre and sporadic.[67]

3.1.4. **yiqṭolēnī* → **yiqṭlēnī*

Historically, a *qal yiqṭol* form with a suffix would have been realised as something like **yiqṭolēnī* or **yeqṭolēnī*. While numerous other Biblical Hebrew reading traditions, including Babylonian, preserve the theme vowel in such contexts, Tiberian regularly reduces the theme vowel to *shewa*:[68]

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[67] For more on this phenomenon, see Hornkohl (2023, 34–38).

[68] Babylonian is from Yeivin (1985, 469–72). For Qumran, see 4Q83 f9ii:4. For the phenomenon at Qumran, see Qimron (2018, 193–99).

Table 23: *Qal yiqṭol* forms with suffixes in Tiberian || other traditions

	yiqṭolēnī		*yiqṭlēnī*
Secunda	θεσοδηνι	Tiberian	יְזְבְּלֵנִי
	/tesʕoðḗnī/		/jizblḗnī/
	[tʰɛsʕoˈðeːniː]		[jizbaˈleːniː]
	'you support me'		'will honor me'
	(Ps. 18.36)		(Gen. 30.20)
Qumran	אל תעזובני		
	/ʔal teʕzoβḗnī/		
	[ʔal tʰɛʕzoˈβeːniː]		
	'do not forsake me!'		
	(Ps. 38.22)		
Jerome	*iezbuleni*		
	/jezbolḗnī/		
	[jɛzbʊˈleːniː]		
	'will honor me'		
	(Gen. 30.20)		
Babylonian	תֹטבֹלֹנֹֿ		
	/tiṭbolḗnī/		
	[tʰitˤboˈleːniː]		
	'you plunge me'		
	(Job 9.31)		
Samaritan	יזבלני		
	/jizbɑlínni/		
	[jizbɑːˈlinni]		
	'will honor me'		
	(Gen. 30.20)		

Although the preservation of such vowels is often cited as an important feature shared by the ancient transcriptions, Qumran, and Babylonian, it does little to group these traditions. After all, it is merely a shared retention. What is more significant is that

Tiberian is innovative in reducing the theme vowel rather than preserving it.

3.1.5. *hem(m)* → *hēm*

Historically, the 3MP independent pronoun was realised as something like *himma(h)* or *hemma(h)* (Suchard 2020, 216–18). While this form is largely preserved in Samaritan, other traditions elide the final vowel and simplify the resulting final gemination. In most traditions, this vowel is then realised as a short *e*-class vowel (*pataḥ* in Babylonian due to the *seghol, pataḥ → pataḥ* merger), but Tiberian lengthens this vowel to *ṣere*:[69]

Table 24: 3MP independent pronoun in Tiberian || other traditions

hem(mā)		*hēm*	
Secunda	εμ	Tiberian	הֵם
	/hém/		/hḗm/
	[ˈhɛm]		[ˈheːem]
	'they'		'they'
	(Ps. 9.7)		(Gen. 14.24)
Babylonian	הֵ֗ם		
	/hám/		
	[ˈhaːm]		
	'they'		
	(Job 8.10)		
Samaritan	הם		
	/ímma/		
	[ˈimma]		
	'they'		
	(Gen. 14.24)		

[69] Babylonian is from Yeivin (1985, 1104).

On this point, the lengthening found in Tiberian is to be considered an innovative feature. It is probably part of the wider phenomenon of lengthening exhibited in forms like לֵב /lév/ [ˈleːev] and אֵשׁ /ʔéʃ/ [ˈʔeːeʃ], which are derived from nominal patterns with final gemination (i.e., *libb and *ʔiʃʃ) and parallel Babylonian forms like לֵב /láv/ [ˈlaːv] and אֵשׁ /ʔáʃ/ [ˈʔaːʃ] (Yeivin 1985, 781–83). Note that Secunda Hebrew also exhibits short vowels in such forms: e.g., λεβ and ες. For more on this phenomenon, see §3.2.4. It may also point once again to the various distributions of vowel lengthening in different reading traditions of Biblical Hebrew (see n. 54).

3.2. Babylonian Innovations

3.2.1. Merger of /ɛ/, /a/ → /a/

While the Tiberian tradition is characterised by a vocalic system with seven distinct vowel qualities, Babylonian only has six distinct vowel qualities. The vowel corresponding to Tiberian *seghol* (and often that lengthened to *ṣere* due to stress) has merged with that corresponding to *pataḥ* (Yeivin 1985, 364–68):[70]

Table 25: Merger of /ɛ/, /a/ → /a/ in Babylonian || Tiberian

pataḥ, seghol = /a/		*pataḥ = /a/, seghol = /ɛ/*	
Babylonian	מַלְךְ	Tiberian	מֶלֶךְ
	/mál(a)χ/		/mél(ɛ)χ/
	[ˈmaːlaχ]		[ˈmɛːlɛχ]
	'king'		'king'
	(Deut. 17.14)		(Deut. 17.14)

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[70] Babylonian is from Yeivin (1985, 840, 849).

וּמַלְכַּת־		וּמַלְכַת
[wumalkʰaθ]		[wmalˈkʰaθ]
'and queen of'		'and queen of'
(1 Kgs 10.1)		(1 Kgs 10.1)

This is one of the most salient differences between Tiberian and Babylonian and constitutes an innovation on the part of the latter. It is not entirely clear whether the vowel represented by the *pataḥ* sign in Babylonian was realised as [a] or [æ].[71] The precise dating of this change is unknown, but it may have occurred at a relatively late stage of development.

It should also be noted that reading Tiberian *seghol* as [a] or [æ] is one of the clear distinctives of modern Yemenite traditions of Hebrew, which constitute the present-day continuation of the medieval Babylonian tradition, at least in many respects.[72] Note the following examples: e.g., [ˈkʰæsæf] (Morag 1963, 24 || BHS כֶּסֶף, Isa. 2.7 'silver'); [ˌmɐːʃeˑl ˈʔærasˤ] (Morag 1963, 121 || BHS מֹשֵׁל־אֶרֶץ, Isa. 16.1 'ruler of the land'); [bæḏˈḏarax] (Morag 1963, 40 || BHS בַּדֶּרֶךְ, Isa. 37.34 'by the way').

3.2.2. *Ṣere* ↔ *Ḥolem*

Some tradents of the Babylonian tradition seem to have fronted the *ḥolem* vowel to something like an open-mid central rounded vowel [ɞ], so that it was regularly confused with *ṣere* (Yeivin 1985, 369–71; Khan 2013c, 956):

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[71] Note that both [æ] and [a] are attested in modern Yemenite traditions, with the latter being more common (though not exclusively present) in the environment of pharyngeals (Morag 1963, e.g., 24, 40).

[72] Note that the constraints of Tiberian pointing have limited the continuation of some features.

Table 26: Confusion of *ṣere* and *ḥolem* in Babylonian || Tiberian

ḥolem as [ɐ:]		*ḥolem* as [o:]	
Babylonian	יֹשֹׁבֵי	Tiberian	יֹשְׁבֵי
	[jɐːʃˈveː]		[joːoʃˈveː]
	'inhabitants (cstr.)'		'inhabitants (cstr.)'
	(Ezek. 15.6)		(Ezek. 15.6)

Although a relatively minor phonetic change, this feature of some strands of the Babylonian pronunciation tradition constitutes an innovation particular to Babylonian.

Once again, this is a distinctive feature of modern Yemenite reading traditions of Biblical Hebrew. Generally, Tiberian *ḥolem* is read as either an open-mid central rounded vowel [ɐ] or as a close-mid front unrounded vowel [e]: e.g., [ˈʕɐːð] (Morag 1963, 92 || BHS עֹוד, Isa. 1.5 'still'); [ˈlɐ· ˈzɐːruː] (Morag 1963, 92 || BHS לֹא־זֹרוּ, Isa. 1.6 'they have not been pressed'); [lĭjeˈsef] (Ya'akov 2015, 33 || BHS לְיוֹסֵף, Gen. 47.29 'to Joseph'). While there is significant variation, southern Yemen tends to have [e] for *ḥolem*, whereas central and northern Yemen tends to have [ɐ] for *ḥolem*. The latter is also better preserved by men, in Bible reading, in pause, among scholars from the south, and in Ṣanʿa (Ya'akov 2013; Ya'akov 2015, 32–39).

3.2.3. Epenthetic Vowel after Word-Final ʿayin

In some cases, the Babylonian tradition has an epenthetic *pataḥ* vowel after word-final ʿayin. This differs from Tiberian, which preserves the original structure of the word and/or adds an epenthetic only before the ʿayin (Yeivin 1985, 326–30, 856; Khan 2013c, 960):

Table 27: Word-final *'ayin* in Babylonian || Tiberian

-VSa#		-VS#	
Babylonian	לִשֹּׂבַֽע	Tiberian	לְשֹׂבַע:
	[lɔːˈsovaʕa]		[lɔːˈsoːvaʕ]
	'in abundance'		'in abundance'
	(Ps. 78.25)		(Ps. 78.25)
	למֹפְגָּֽע		לְמִפְגָּע
	[lmafˈgɔːʕa]		[lamifˈgɔːʕ]
	'as a target'		'as a target'
	(Prov. 1.19)		(Job 7.20)

This pattern of epenthesis appears to be unique to the Babylonian tradition and thus constitutes another innovation that differentiates it from Tiberian Hebrew.

3.2.4. Further Progression of Philippi's Law

Even though Philippi's Law and related phenomena are attested significantly in both Tiberian and Babylonian, they exhibit a different distribution. In some of the short forms associated with Philippi's Law (e.g., בַּת 'daughter' from **bint* → **bitt*),[73] for example, Babylonian has an /a/ vowel where Tiberian has /i/ (Yeivin 1985, 778–85; Khan 2013c, 960–61):

Table 28: Philippi's Law in Babylonian || Tiberian

*CiCC → *CaC(C)		*CiCC → *CiC(C)	
Babylonian	אֵֽשׁ	Tiberian	אֵשׁ
	[ˈʔaːʃ]		[ˈʔeːeʃ]
	'fire'		'fire'
	(Exod. 12.8)		(Exod. 12.8)

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[73] But for a full and more nuanced description of Philippi's Law and the necessary modifications, see Suchard (2020, 141–67).

לֹ֤ב	לֵ֤ב
[ˈlaːv]	[ˈleːev]
'heart'	'heart'
(Deut. 28.65)	(Deut. 28.65)

Babylonian is unique among the Jewish traditions in this respect. Note that the Secunda has both εϛ and λεβ (Kantor forthcoming b, §4.3.3.3). It is curious, however, that Samaritan also exhibits forms like [ˈaʃ] and [ˈlab] (Ben-Ḥayyim 2000, 76). This seems to be a parallel development in Samaritan and Babylonian, rather than a shared retention from an earlier stage. As such, this feature may be regarded as a Babylonian innovation distinguishing it from Tiberian.[74]

3.2.5. *mimminnū* 'from him', *mimmv̄nū* 'from us'

In the Tiberian tradition, the form מִמֶּנּוּ is polysemous, indicating either the PREP מִן 'from' with the addition of a 3MS suffix (i.e., 'from him') or the PREP מִן 'from' with the addition of a 1CP suffix (i.e., 'from us'). This duplication of form is likely due to the assimilation of the /h/ after the reduplicated base: i.e., *min +
*min + *hū → *mimminnū (3MS) vs *min + *min +nū → *mimminnū (1CP). While this is the shape of the form in Tiberian, Babylonian and Samaritan appear to have a morphological distinction. The 3MS form has gemination on the *nun,* whereas the 1CP form has a long vowel and no gemination on the *nun* (Yeivin 1985, 1139–41):

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[74] One might also connect such forms to the general *seghol, pataḥ* → *pataḥ* merger in Babylonian Hebrew. On the other hand, note that the **qill* pattern also frequently results in *ṣere* in Babylonian Hebrew: cf. אֹם (from **'emm*) 'mother'; תֹּל (from **tell*) 'heap' (Yeivin 1985, 778–79).

Table 29: PREP מִן 'from' with 3MS suffix in Babylonian and Samaritan || Tiberian

mimmɐnnū (3MS)		*mimmɛnnū* (3MS)	
Babylonian	מִמֶּנּוּ	Tiberian	מִמֶּנּוּ
	[mimˈmaːnnuː]		[mimˈmɛːɛnnuː]
	'from it'		'from it'
	(Exod. 12.9)		(Exod. 12.9)
Samaritan	ממנו		
	[mimˈminnu]		
	'from it'		
	(Exod. 12.9)		

Table 30: PREP מִן 'from' with 1CP suffix in Babylonian and Samaritan || Tiberian

mimmēnū (1CP)		*mimmɛnnū* (1CP)	
Babylonian	מִמֶּנּוּ	Tiberian	מִמֶּנּוּ
	[mimˈmeːnuː]		[mimmɛːɛnnuː]
	'from us'		'from us'
	(Deut. 1.28)		(Deut. 1.28)
Samaritan	ממנו		
	[mimˈmaːnu]		
	'from us'		
	(Deut. 1.28)		

It is curious that a similar type of distinction is also found in Samaritan Hebrew. While this could indicate a shared retention on the part of Babylonian and Samaritan, this is unlikely given the etymology of the preposition מִן with suffixes. It seems more likely that the morphological distinction is the result of secondary analogy with other prepositions like תַּחְתֵּנוּ and בֵּינֵינוּ. This could occur as a parallel development in each tradition. Moreover, it is also possible that each tradition reflects the influence of the spoken

language, namely Aramaic, in which a distinction is maintained: e.g., מִנֵּהּ 'from him' vs מִנַּנָא 'from us'.

The principle of archaic heterogeneity might also support reconstructing the Tiberian form as more archaic, since 1CP prepositions elsewhere have either a *ṣere* connecting vowel or a *qameṣ* connecting vowel. The lack of a connecting vowel in Tiberian is thus exceptional and reflects less generalisation.

3.2.6. *yiqṭlū → *yqiṭlū (II-Sonorants and II-Sibilants)

Historically, the 3MP *yiqṭol* form in the *qal binyan* was of the pattern *yiqṭolū or *yiqṭalū. Over time, the theme vowel reduced so as to create a word-medial cluster: i.e., *yiqṭolū → *yiqṭlū. In numerous traditions, this word-medial cluster is resolved by the typical realisation of vocalic *shewa* after the second consonant of the cluster. In the case of II-sonorant and II-sibilant roots, however, the Babylonian tradition resolves this cluster by inserting an epenthetic after the first consonant of the cluster (Yeivin 1985, 386–96; Khan 2013c, 958–59):

Table 31: *yiqṭlū → *yqiṭlū in Babylonian || Tiberian

*yiqṭlū → *yqiṭlū		*yiqṭlū → [jiqtˤaluː]	
Babylonian	יִדֹרֹכוּ	Tiberian	יִדְרְכוּ
	[jiðirˈχuː]		[jiðrˤɑˈχuː]
	'tread'		'tread'
	(1 Sam. 5.5)		(1 Sam. 5.5)
	יִמֹשֹׁלוּ		יִמְשְׁלוּ
	[jimiʃˈluː]		[jimʃaˈluː]
	'let have dominion!'		'let have dominion!'
	(Ps. 19.14)		(Ps. 19.14)

This phenomenon is quite possibly the result of influence of the spoken language, in which such variant syllable structures in the environment of sonorants and sibilants would not be unusual. Note that it also occurs in the Secunda (see §4.2.5).

4.0. Innovations of the Secunda and Jerome || Palestinian

Within the 'popular' branch of the Jewish reading traditions, there is a further subgrouping with the Secunda and Jerome on one side and Palestinian on the other. Due to the degree of convergence with Tiberian in Palestinian-pointed manuscripts, however, enumerating distinct innovations can be a difficult task. This list may (and probably ought to) change as we grow in our knowledge and description of Palestinian.

4.1. Palestinian Innovations

4.1.1. The Five-Vowel System

Although the Palestinian vocalisation system actually contains seven distinct vowel signs, the Palestinian pronunciation system appears to have operated with a five-vowel system: /i/, /e/, /a/, /o/, /u/ (Yahalom 1997, 15–16). In this way, it is distinct from both the Secunda and Jerome, on one hand, and from Tiberian and Babylonian, on the other. Note a comparison of the vowel systems of the various Jewish reading traditions:

Table 32: Comparison of vowel systems of Jewish reading traditions

Sec.		Jer.		Pal.		Bab.		Tib.	
ι/ει	/ī/ [iː]	i	/ī/ [iː]	א̇ [i]		א̇ [i]		א [i]	
η	/ē/ [eː]	e	/ē/ [eː]	א̤	[ẹ]	א̈ [e]		א [e]	
ε	/e/ [ɛ]		/e/ [ɛ]	א̣		א� [a]		אֶ [ɛ]	
α	/a/ [a]	a	/a/ [a]	א̈	[a]			א [a]	
	/ā/ [aː]		/ā/ [aː]	א̇		א [ɔ]		אָ [ɔ]	
o	/o/ [o]	o	/o/ [o]	א̊	[o]				
ω	/ō/ [oː]		/ō/ [oː]			א̣ [o]		א ,אֹ [o]	
ου	/ū/ [uː]	u	/ū/ [uː]	א̊ [u]		א [u]		אֻ ,וּ [u]	

Presumably, the Palestinian system is based on the merger of vowels that were previously distinguished by length, /ē/ and /e/, on the one hand, and /a/ and /ā/, on the other. It could thus have descended from a vocalic system like the one represented in the Secunda and Jerome, so this may not necessarily be the best example of an innovation distinguishing it from the Secunda and Jerome. In any case, however, the five-vowel system parallels that attested in Jewish Palestinian Aramaic (see chapter 5, §1.1.1).

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[75] That there was phonemic length in the Biblical Hebrew reading traditions at the time of Jerome is implied by his statements about Jews ridiculing Christians who mispronounce length (see Harviainen 1977, 49–50; Brønno 1970, 205; Kantor 2017, 253).

[76] Note, however, that Tiberian has both /ɔ̄/ and /ɔ/, the former of which corresponds to Babylonian /ɔ̄/ and the latter of which (typically occurring in closed unstressed syllables) corresponds to Babylonian /u/, even though these are not parallel in the chart.

4.1.2. *CuCC- → *CaCC-

Although most cases of etymological short */u/ in an unstressed closed syllable come to be realised as /o/ in the Palestinian tradition (see §2.2.1), there are some examples with /a/ (Harviainen 1977, 166):

Table 33: Realisation of etymological short */u/ in unstressed closed syllables in Palestinian || Secunda and Jerome

	*CuCC → *CoCC-		*CuCC- → *CaCC-
Secunda	βεσοχχα	Palestinian	וֹמתניהֹם
	[bɛsokˈkʰɑː]		[vemaθneˈhem]
	'in a shelter'		'and their loins'
	(Ps. 31.21)		(Ps. 69.24; T-S
			12.196)
Jerome	*sgolla*		חֹכמֹה
	[sɣolˈlɑː]		[ħaχˈma]
	'prized possession'		'wisdom'
	(Mal. 3.17)		(Ant. 912)

This constitutes a clear departure from the other traditions of Biblical Hebrew and thus reflects an innovation of the Palestinian tradition. Note, however, that occasional similar forms are also attested in the Secunda and Jerome, even if much more rarely: e.g., *phalach* [pʰaʕlaːχ] 'your work' (Hab. 3.2).

4.1.3. 3ᴍs Independent Pronoun as /ho/

Historically, the 3ᴍs independent personal pronoun was realised as *huʾa*. Over time this form developed into *hū* in most of the Hebrew traditions. There is some evidence, however, that some ancient traditions, such as the Dead Sea Scrolls, came to realise this form with a semivowel as *huwa* or *huwā*, as evidenced by

spellings like הואה and הוה (Qimron 2018, 259). In some non-biblical manuscripts of the Palestinian tradition, the 3MS independent pronoun is vocalised as /ho/, which may reflect some sort of contraction of a form like *huwa* or *huwā* (Yahalom 2016, 18):

Table 34: 3MS independent pronoun in Palestinian || Secunda and Jerome

huʾa → *hū*		*huʾa* → *hō*	
Secunda	ου	Palestinian	והוֹא
	[ˈhuː]		[ve-ˈho]
	'he'		'and he'
	(Ps. 18.31)		(T-S NS 249.1 + H
Jerome	hu		16.1)
	[ˈhuː]		
	'he'		
	(Isa. 2.22)		

Note that the realisation in Palestinian actually reflects a possible outcome of original */huʔa/ (Suchard 2020, 211). Though not attested in biblical manuscripts, this may constitute one more particular innovation of the Palestinian tradition that distinguishes it from the Secunda and Jerome.

4.2. Secunda and Jerome Innovations

4.2.1. Rule of *shewa*: *dabrē, *laqṭōl, *walʃōnī

According to the so-called 'rule of *shewa*', when two consecutive syllables have vowels that should reduce (i.e., *CəCəC-), the sequence is resolved with a single *ḥireq* vowel (i.e., *CiCC-) in the Tiberian tradition, barring certain phonetic conditions and analogical processes (Yuditsky 2010; Suchard 2020, 176–78). The rule can be depicted as follows: *CəCəC- → *CiCC-. It often occurs

when one of the prepositions לְ כְ בְ precedes a noun beginning
with *shewa* (e.g., לִבְנֵי 'to the sons of') or in the construct plural
form of a noun like דָּבָר 'word' (i.e., *dabarē* → *dəbərē* → *divrē*
→ דִּבְרֵי 'words of'). In Tiberian and Babylonian, such sequences
tend to be resolved with an /i/ vowel. In Palestinian, such se-
quences can be resolved with an /i/ vowel or, in the case of prep-
ositions, not resolved at all. In the Secunda and Jerome, these
sequences can have a variety of outcomes, but when they are re-
solved in a similar way to Tiberian and Babylonian, an /a/ vowel
is used instead of an /i/ vowel:[77]

Table 35: 'words (cstr.)' in Secunda and Jerome || other Jewish tradi-
tions

	dabarē → *daβrē*		*dabarē* → *divrē*
Secunda	δαβρη	Babylonian	דֹבֹרֹי
	[daβˈʀeː]		[divˈreː]
	'words (cstr.)'		'affairs (cstr.)'
	(Ps. 35.20)		(1 Sam. 10.2)
Jerome	*dabre*	Tiberian	דִּבְרֵי
	[daβˈʀeː]		[divˈʀeː]
	'words (cstr.)'		'words (cstr.)'
	(Chronicles)		(Gen. 24.30)

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[77] Palestinian is from Harviainen (1977, 139). Babylonian is from Yeivin
(1985, 934).

Palestinian	דִּבֹ֗רֵי [78]
	[divˈreː]
	'words (cstr.)'
	(Bod.Heb. MS d
	55, 5r, l.15)

It is significant to note that all of the traditions here exhibit some kind of innovation. The examples in the Secunda and Jerome could reflect either a different 'rule of *shewa*' (i.e., *CəCəC- → *CaCC-) or vowel syncope (i.e., *daβareː → *daβ(a)reː → *daβreː). In either case, the innovation of the Secunda and Jerome sets them off against the other traditions. The *ḥireq* vowel in both Tiberian and Babylonian is clearly an innovation.

It is difficult to know what to do with Palestinian in this case. It seems to align with Babylonian and Tiberian, even though we have already assigned it to the 'popular' subgroup of the Jewish traditions. One might suggest that such a vocalisation is due to later convergence, and yet even in non-biblical manuscripts this is relatively consistently attested. The data from the Palestinian tradition can actually be further clarified by looking at other environments for this phenomenon.

When the prefixed prepositions בְּ כְּ לְ precede a word beginning with *shewa*, once again the Secunda and Jerome attest to the

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[78] Harviainen cites this non-biblical Palestinian form as דַּבֹּרֵי, which exhibits both a *pataḥ* and a superscript *yod* over the *dalet*. However, the *pataḥ* is likely a mistaken reading. See Harviainen (1977, 139). For another non-biblical form with this vocalisation instead of just a superscript *yod*, see דְּבֹרֵי [divˈreː] (TS NS 249.7 + TS NS 301.28, f. 4, l. 20; Revell 1970, 165).

pattern *baCC-, *kaCC-, *laCC-, whereas Babylonian and Tiberian attest to the pattern *biCC-, *kiCC-, *liCC-. While Palestinian also attests to this latter pattern frequently, there is further variation, which we will explore below:[79]

Table 36: Inseparable prepositions before initial consonant clusters in Secunda and Jerome || other Jewish traditions

*baCC-, *kaCC-, *laCC-*		*biCC-, *kiCC-, *liCC-*	
Secunda	βαρσωναχ [baʀtsʼoːˈnaːχ] 'by your favor' (Ps. 30.8)	Babylonian	בְּגְבוּרֹתָם [biɣvuːrɔːˈθɔːm] 'with their might' (Ezek. 32.29)
	λαβλωμ [laβˈloːm] 'to curb' (Ps. 32.9)	Tiberian	לִכְתֹּב [liχˈtʰoːov] 'to write' (Deut. 31.24)
Jerome	*labala* [laβhɑːˈlɑː](?) 'to calamity' (Isa. 65.23)	Palestinian	בְּצְדְקָה [bisˤðaˈqa] 'in righteousness' (Isa. 54.14; T-S A43.1) כִּפְקֹדֹת [kʰifquˈðaθ] 'as the charge (cstr.)' (T-S H7.7)

While each of these traditions exhibits further internal variation,[80] it is significant that when the sequence *bəCəC-* is resolved

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[79] Palestinian is from Revell (1970, 198). Babylonian is from Yeivin (1985, 1150–52).

[80] For internal variation in the Secunda, see Kantor (forthcoming b, §3.4.2.1).

to *bVCC-*, the Secunda and Jerome tend towards an /a/ vowel and Babylonian and Tiberian tend towards an /i/ vowel. This distribution would presumably constitute innovations both on the part of the Secunda and Jerome, on one hand, and Babylonian and Tiberian, on the other.

Here is also where Palestinian starts to differ from all the other traditions with respect to the 'rule of *shewa*'. While it usually exhibits forms like Babylonian and Tiberian as above—possibly due to later convergence?—it also has forms that maintain the *shewa* and do not resolve the cluster in any way. Note, for example, how the construct form בני 'sons of', when preceded by ל 'to', has an *e*-vowel on both the *bet* and the *nun* but no vowel sign on the *lamed*: לבֹנֵ 'to the sons of' (Ps. 72.4; T-S 12.196). Presumably, because the *bet* is vocalised with an *e*-vowel, this pointing reflects a pronunciation like [levene]. Much like colloquial Modern Hebrew, this would seem to reflect the general realisation of *lamed* with *shewa* (= [e]) in all environments and no special rule of *shewa*. Given the tendency for Palestinian to exhibit more colloquial forms, this may reflect the more authentic underlying layer of Palestinian.

The final common environment in which we can assess the 'rule of *shewa*' in the various Biblical Hebrew reading traditions concerns its occurrence when the CONJ *waw* precedes a word beginning with a '*shewa*-slot' vowel. Historically, the CONJ *waw* was realised as *wa-*, irrespective of what followed. Before a word with an initial open unstressed short syllable, it would have been realised the same way: i.e., *wa-naqebā* 'and female'. After the reduction of short vowels in open unstressed syllables (i.e., the

phenomenon that produces 'vocalic *shewa*'), the CONJ *waw* tended to take a different shape in different traditions. In Tiberian Hebrew, for example, the CONJ *waw* came to be realised as -וְ [va-]: e.g., וְדָבָר [vaðɔːˈvɔːɒʀ] 'and a matter' (Judg. 18.7). In the Secunda and Jerome, on the other hand, it was simply /w-/, realised phonetically as [(w)u-] (Kantor forthcoming b, §4.7): e.g., ουλω /wlṓ/ [(w)uˈloː] 'and not' (Ps. 18.38); *ulo* /wlṓ/ [(w)uˈloː] 'and not' (Isa. 7.12).

However, when preceding a word with an initial consonant cluster, the CONJ *waw* sequence is usually realised variously in the Biblical Hebrew traditions. In Tiberian, it is realised as -וּ [wu-CC]. In Babylonian, the same sequence is realised as -וִ [wi-CC]. In the Secunda and Jerome, this sequence can be realised as [wa-CC]. In Palestinian, however, there does not appear to be a distinction, as is perhaps indicated by the presence of an *e*-vowel on the first consonant of the word and no vowel sign on the preceding *waw*—or an actual *e*-vowel sign on the *waw*:[81]

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[81] Palestinian is from Garr and Fassberg (2016, 112, 114, 116). For Palestinian, note also how in manuscripts that use the אֵ sign for *shewa*, the CONJ *waw* is vocalised with the same sign in such environments: e.g., וּזרֹ֯עַ 'and arm' (Yahalom 1997). Babylonian is from Yeivin (1985, 1152).

Table 36: CONJ *waw* before initial consonant clusters in Secunda and Jerome || Palestinian || Babylonian and Tiberian

[wa-CC]		[wə-CəC]		[wi-CC] or [wu-CC]
Secunda ουαλσωνι [walʃoːˈniː] 'and my tongue' (Ps. 35.28)	**Palestinian** 	וּתֿשׁוּעֿתֿךְ [veθeʃuʕaθˈχa] 'and your salvation' (Ps. 40.11; T-S 20.54)	**Babylonian** 	וֿתֿלֿבֵּֿב [wiθlabˈbeːv] 'and make cakes' (2 Sam. 13.6)
Jerome *uarab* [waʀˈħaβ] 'and wide of' (Ps. 104.25)		וּבֿאַׁף [veveˈʔaf] 'and in anger' (Ps. 55.4; T-S 12.195) וּכֿלֹׁמֹּֿה [veχelimˈma] 'and shame' (Ps. 71.13; T-S 12.196)	**Tiberian** 	וּנְקֵבָה [wunqeːˈvɔː] 'and female' (2 Kgs 17.9)

Although the vowel of the CONJ *waw* in the Secunda and Jerome more or less matches its historical realisation, this is nevertheless a shared innovation (of the entire sequence) given the syncope of the following vowel. Moreover, it is also possible that the CONJ *waw* had reduced to **w-* at a relatively early stage, so that the realisation of the sequence **w-CC* is actually just another instantiation of the 'rule of *shewa*' discussed above. It is after all significant that, save for the CONJ *waw* in Tiberian and Palestinian, the various Biblical Hebrew reading traditions tend to resolve **w-CC* in the same way that they resolve **dabarē → *divrē, *davrē*, etc.

Note the general consistency in the chart below—inconsistencies are highlighted in **red**:[82]

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[82] Babylonian is from Yeivin (1985, 934, 1150–1156). Note that Palestinian is excepted due to possible convergence with Tiberian. Sources for data in preceding footnotes.

Table 37: 'Rule of *shewa*' in Jewish traditions

*CaCaC →	*CaCC-		*CiCC-, *CaCaC-		*CiCC-
	Secunda	**Jerome**	**Palestinian**	**Babylonian**	**Tiberian**
*w- + CC-	ουαλσωνι [walʃoˈniː] 'and my tongue!' (Ps. 35.28)	uarab [warˈħaβ] 'and wide (cstr.)' (Ps. 104.25)	וֶחֱלִמָּה [veχelimˈma] 'and shame' (Ps. 71.13; T-S 12.196)	וְחֹלְבֵיב [wiθlabˈbeːv] 'and make cakes' (2 Sam. 13.6)	וַתְּנֻקֵּבָ [wunqeˈvɔː] 'and female' (2 Kgs 17.9)
*b-, *k-, *l- + CC-	βαρσωναχ [barts'oːˈnaːχ] 'by your favour' (Ps. 30. 8)	labala [laβhaˈlaː]? 'to terror/ calamity' (Isa. 65.23)	בְּצִדְקָה [bisˤðaˈqa] 'in righteousness' (Isa. 54.14; T-S A43.1)	בִּגְבוּרֹתָם [biɣvurɔːˈθɔːm] 'with their might' (Ezek. 32.29)	בִּרְצוֹנְךָ [biʁsˤoːonˈχɔː] 'by your favour' (Ps. 30.8)
*dabarē-	δαβρη [daβˈʁeː] 'words (cstr.)' (Ps. 35.20)	dabre [daβˈʁeː] 'words (cstr.)' (Chronicles)	דִּבְרֵי [divˈre] 'words (cstr.)' (MS 55 d 5r, l. 15)	דִּבְרֵי [divˈʁeː] 'affairs (cstr.)' (1 Sam. 10.2)	דִּבְרֵי [divˈʁeː] 'words (cstr.)' (Gen. 27.42)

Once again, however, it should be noted that there is considerably more variation than represented here. In the Secunda, for example, it is also common to get what appears to be the normal realisation, namely [(w)u-], before a cluster: e.g., ουλμαν [(w)ul'maʕn] 'and for the sake of' (Ps. 31.4). The form [wɛ-], similar to Babylonian, also occurs once: ουεβροβ [wɛβ'ʁoβ] 'and in the abundance (cstr.)' (Ps. 49.7).[83] Nevertheless, the presence of the sequence *wa-CC in the Secunda and Jerome is significant, even if not consistent. Note that this feature too has parallels in Mishnaic Hebrew and Jewish Palestinian Aramaic (see chapter 5, §1.1.5).

Although the data from Palestinian are inconsistent, it is distinct from both the Secunda and Jerome, on one hand, and from Babylonian and Tiberian, on the other. It may be that Palestinian tended toward the *CəCəC- (or properly *CeCeC- in the five-vowel system) pattern and later, perhaps due to convergence, resolved some of these sequences as in Babylonian and Tiberian. In either case, the various realisations of the 'rule of *shewa*' reflect innovations for each of these groups: Secunda and Jerome—Palestinian—Babylonian and Tiberian.

4.2.2. Sonority Sequencing for Epenthetic *Shewa*

As noted above, vocalic *shewa* is an epenthetic inserted on the phonetic level to resolve a consonant cluster. While the Palestinian tradition tends to realise vocalic *shewa* consistently, in the Secunda and Jerome, the presence or absence of an epenthetic to

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[83] For a full treatment, see Kantor (forthcoming b, §§3.4.2.1, 4.7).

resolve a cluster depends, to some degree, on sonority sequencing (Kantor forthcoming b, §3.4.1):[84]

Table 38: Rising sonority sequences in Secunda and Jerome || Palestinian

Cluster with Rising Sonority		*Shewa* with Rising Sonority	
Secunda	βριθ	Palestinian	בְּרִיתְךָ
	[ˈbʀiːθ]		[beriˈθaχ]
	'covenant (cstr.)'		'your covenant'
	(Ps. 89.40)		(Bod.Heb. MS 55
Jerome	*brith*		d)
	[ˈbʀiːθ][85]		
	'covenant'		
	(Commentary on		
	Mal. 2.4)		

In the Secunda and Jerome, a consonant cluster is generally more likely to be maintained when there is rising sonority from the first consonant to the second consonant of the cluster, as in the sequence *b-r* (Kantor forthcoming b, §3.4.1). Apparently, the regularisation of an [e] or [ə] vowel in Palestinian does not depend on sonority.

4.2.3. Vowel Fronting and Raising near Sibilants

In the pronunciation traditions underlying the transcriptions in the Secunda and Jerome, there is a strong tendency for /a/ vowels to undergo fronting and raising in the environment of sibilants (Kantor forthcoming b, §§3.2.9.1.1–3). This does not appear to be attested as strongly in Palestinian. Such raising occurs in a

[84] Palestinian is from Yahalom (1997, 13).

[85] But cf. the spelling *berith* in comments on Gen. 17.2/Jer. 11.3.

variety of environments, but is perhaps most easily demonstrable in the historical *maqṭal* noun pattern. While the Secunda and Jerome normally have *maqṭal* (see §3.1.3), they exhibit *miqṭal* or *meqṭal* in the environment of sibilants:[86]

Table 39: Vowel fronting and raising near sibilants in Secunda and Jerome || Palestinian

a → i before Sibilants		*a* before Sibilants	
Secunda	μισχνωθαμ	Palestinian	מֹשְׁכֹּנָיו
	[miʃkʰnoːˈθam]		[maʃkʰaˈnav]
	'their dwellings'		'his dwellings'
	(Ps. 49.12)		(Bod.Heb. MS d
			55, 5r, l.15)
	μισγαβ		מֹצְעֹדֵי
	[misˈgɑːβ]		[masˤʕaˈðe]
	'fortress'		'steps of'
	(Ps. 46.12)		(Ps. 37.23; T-S
			20.54)
Jerome	*mimizra*		מֹזְבֹּח
	[mim(m)izˈʀaːħ]		[mazˈbeħ]
	'from east'		'altar'
	(Commentary on		(Bod.Heb. MS d
	Gen. 2.8)		55, 9v, l.21)

Although there may be a perceptual element here—high vowels are more easily identifiable in the environment of sibilants (Yeni-Komshian and Soli 1981)—there is compelling evidence for vowel fronting/raising. This phonetic phenomenon is likely due to influence of the vernacular (see chapter 5, §1.1.4).

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[86] Palestinian is from Harviainen (1977, 139–40).

4.2.4. Short 2MS Endings

Historically, the 2MS ending on the *qaṭal* verb was realised as *-*ta* as in *qaṭal-ta. The normal development of this form would have brought about *qāṭal-t (≈קְטַלְתְּ) without a final vowel on the 2MS person ending. It is likely, however, that due to analogical extension of the long byform of the 2MS independent pronoun (see more on this in §2.2.3), the final vowel of this form was lengthened: i.e., *qaṭal-ta → (analogy with */ʔattā/) → *qaṭal-tā → קָטַלְתָּ.[87] This development likely occurred relatively early in the language, so that both *qaṭalt and *qaṭaltā existed side-by-side for 2MS *qaṭal* forms in biblical times. While there is some internal variation in each tradition, Tiberian, Babylonian, and Palestinian attest to *-*tā*, while the Secunda and Jerome attest to *-*t*:[88]

Table 40: 2MS *qaṭal* forms in Secunda and Jerome || other Jewish traditions

2ms *-*t*		2ms *-*tɔ̄*	
Secunda	φαρασθ	Babylonian	כֹּתַֿבְֿתָּֿ
	[pʰɑːˈʁatsˀtʰ]		[kʰɔːˈθaːvtʰɔː]
	'you broke down'		'you wrote'
	(Ps. 89.41)		(Jer. 36.17)

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[87] For more on the analogical extension of the byform */ʔattā/ (from */ʔantah/), see Al-Jallad (2014).

[88] Palestinian is from Yahalom (1997, 168). Babylonian is from Yeivin (1985, 427, 749). Note, however, that Palestinian actually demonstrates shorter -*VC* forms when it comes to suffixes (see §2.2.3).

Jerome	*sarith*	Tiberian	גָּדֵלְתָּ
	[sɑːˈʁiːθ]		[ɡɔːˈðaːaltʰɔː]
	'you have wrestled'		'you are great'
	(Gen. 32.29)		(Ps. 104.1)
		Palestinian	שִׁימַׁרְתה
			[ʃimˈmartʰa]
			'you preserved'
			(T-S 249.7 +
			301.28)

One should also note that a similar principle applies to the 2MS pronoun (ה)את 'you (MS)' which, though attested as αθθα and *attha* in the transcriptions, also appears in the short form:

Table 41: 2MS pronoun in Secunda and Jerome || other Jewish traditions

*ʾat(t)		**ʾattā*	
Secunda	ουαθ	Babylonian	אֹתֹה
	[(w)uˈʔatʰ]		[ʔatˈtʰɔː]
	'and you'		'you'
	(Ps. 89.39)		(Deut. 14.21)
Jerome	*ath*	Tiberian	אַתָּה
	[ˈʔatʰ]		[ʔatˈtʰɔː]
	'you'		'you'
	(Ps. 90.2)		(Ps. 31.5)

The forms in the Secunda and Jerome reflect the expected development of the historical form */ʔanta/ → */ʔatta/. The forms in Babylonian and Tiberian, on the other hand, reflect a development from a distinct byform, namely */ʔantah/ → */ʔattā/ (Al-Jallad 2014). Nevertheless, it is plausible that the influence of Aramaic or Mishnaic/colloquial Hebrew served to encourage the prevalence of the short byform in the Hebrew traditions of the Secunda and Jerome (see chapter 5, §1.1.6).

4.2.5. *yeqṭlū → yqeṭlū (II-sonorants and II-sibilants)

Similarly to the Babylonian tradition (see above in §3.2.6), the Secunda also exhibits the variant syllable structure *yeqṭlū → yqeṭlū in II-sonorant and II-sibilant roots. This same type of variant syllable structure is present in Jerome, albeit in a nominal form. This phenomenon does not appear to be attested in the Palestinian tradition:

Table 42: *yeqṭlū → yqeṭlū in Secunda and Jerome || Palestinian

*yeqṭlū → yqeṭlū		*yeqṭlū	
Secunda	ϊκερσου	Palestinian	וְיִשְׂמֹחוּ
	[jikˀɛʀˈtsˀuː]		[vijism(e)ˈħu]
	'will wink'		'and let rejoice!'
	(Ps. 35.19)		(Ps. 70.5; T-S
Jerome	*masarfoth*		12.196)
	[masaʀˈɸoːθ]		
	'Misrephoth'		
	(Josh. 11.8/13.6)		

It is a bit problematic that this feature is cited as an innovation in both the Secunda–Jerome subgroup and Babylonian, given the fact that they are in different subgroups of the Jewish traditions. It seems, however, that with respect to this feature, vernacular influence (see §3.2.6) touched the Secunda–Jerome subgroup and Babylonian but not Palestinian and Tiberian. In this sense, this feature may still be regarded as distinguishing between the Secunda–Jerome and Palestinian, on one hand, and between Babylonian and Tiberian, on the other, without necessitating a closer relationship between the Secunda–Jerome and Babylonian. It simply points to influence of the vernacular on each. On the other

hand, the fact that this phenomenon occurs in a number of modern Arabic dialects, even in non-sonorant roots (e.g., **yaktubū →* **yiktubū →* [bjikitbu] 'they write'), underscores the fact that this could be the result of parallel development.

It is also worth noting that Aquila's transcriptions do not exhibit this same alternate syllable structure where Jerome does, as he has the transcription μαστρεφωθ [maṣreˈɸoːθ] 'Misrephoth' (Josh. 11.8; Field 1875, I:362).

5.0. Innovations of the Secunda || Jerome

Although the reading traditions reflected in the Greek and Latin transcriptions are quite similar—perhaps owing in part to chronological proximity—they are distinct. Each of them exhibits a number of characteristic features not shared with the other.

5.1. Jerome Innovations

5.1.1. Epenthetic in *Segholate* Nouns

As noted above, *segholate* nouns were of the pattern **qaṭl, *qiṭl,* or **quṭl* with a final consonant cluster. Over time, most of the various Biblical Hebrew reading traditions introduced an epenthetic to resolve the final cluster. While epenthesis (with [ɛ]) is present in Jerome, the final cluster is normally maintained in the Secunda, aside from roots with gutturals (Kantor forthcoming b, §3.4.1.3.1):

Table 43: Ephenthesis in *segholate* nouns in Secunda || Jerome

*qVṭl		*qVṭɛl	
Secunda	γαβρ	Jerome	*geber*
	[ˈgaβʀ]		[ˈgɛβɛʀ]
	'man'		'man'
	(Ps. 18.26)		(Isa. 22.17)
	ουαμμελχ		*ammelech*
	[(w)uhamˈmɛlkʰ]		[hamˈmɛlɛχ]
	'and the king'		'the king'
	(1 Kgs 1.1)		(Zech. 14.10)
	κοδς		*codes*
	[ˈkˀoðʃ]		[ˈkˀoðɛʃ]
	'holiness'		'holiness'
	(Ps. 46.5)		(Isa. 52.1)
	κωελθ		(*ac*)*coheleth*
	[kˀoːˈhɛltʰ]		[(hakˀ)kˀoːˈhɛlɛθ]
	'Qoheleth'		'Qoheleth'
	(Eccl. 1.1)		(Eccl. 1.1)

Epenthesis in Jerome constitutes an innovation to distinguish it from the Secunda. In this way, the tradition underlying Jerome also resembles other Jewish traditions rather than the Secunda, though parallel development is likely for such a phenomenon. It is also worth mentioning that this is not merely a case of diachronic progressions, since epenthesis in the Secunda is conditioned based on the Sonority Sequencing Principle (cf. ιεθερ for /jetr/ in Ps. 31.24). The Septuagint, which predates both of these

traditions, also exhibits epenthesis (Knobloch 1995, 191–94): e.g., ἰάρεδ (Gött. || BHS יֶ֫רֶד Gen. 5.18 'Jared').[89]

5.1.2. Distribution of *Wayyiqtol* Forms

Although a *dagesh* to distinguish past semantics of *waw* + *yiqtol* is present in all the Jewish traditions, it appears to be just developing in the tradition of the Secunda.[90] A minority of cases (perhaps 15%–30%) exhibit distinct morphology. In Jerome, on the other hand, it has fully progressed, being present in all cases where you would expect past semantics. Note how there are places where Jerome has distinct *wayyiqtol* morphology but the Secunda does not (Kantor 2020):

Table 44: Past narrative *w* + *yiqtol* forms in Secunda || Jerome

w-yiqtol (most of the time)		*wayyiqtol*	
Secunda	ουϊεθθεν	Jerome	*uaiethen*
	[(w)ujɛtˈtʰɛn]		[wajjɛtˈtʰɛn]
	'and made'		'and gave'
	(Ps. 18.33)		(Gen. 14.20)
	ουϊκρα		*uaiecra*
	[(w)ujikʔ'ʀɑ:]		[wajjɛkʔ'ʀɑ:]
	'and called'		'and called'
	(Lev. 1.1)		(Lev. 1.1)

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[89] For more on this phenomenon and how various ancient transcription traditions exhibit different typologies of epenthesis conditioned on the basis of sonority, see Kantor (forthcoming b, §3.4.1.3).

[90] It is also possible that due to influence of the spoken language and/or Aramaic, more traditionally *wayyiqtol* forms were replaced by *w-yiqtol* forms in at least some cases in the reading tradition of the Secunda.

Therefore, even though distinct *wayyiqtol* morphology (of the CONJ *waw* and the prefix) is attested in both traditions, its advanced progression in Jerome may be regarded a distinctive of that tradition.[91]

5.1.3. '*Shewa*-Slot' Vowels as [a]

Although it does not occur regularly, it is also worth noting that there is slightly more standardisation of '*shewa*-slot' vowels in Jerome, often with a non-etymological [a]. This occurs in one case of the prefix vowel of the *yiqtol* form of the *pi''el/pi''al*, which is normally /e/ (or ø), being realised as [a].[92] It also occurs at least once in the nominal pattern **quṭūlīm/**qiṭūlīm*. A comparable pattern does not appear to be attested in Secunda Hebrew:

Table 45: *yiqtol pi''el/pi''al* forms in Secunda || Jerome

**y(ĕ)qaṭṭel* → [(j)iqaṭṭel]		*yqaṭṭel → [jaqaṭṭel]	
Secunda	ιδαββηρου	Jerome	iasaphpheru
	[iðab'be:ʀu:]		[jasap'pʰe:ʀu:]
	'do [not] speak'		'that might tell'
	(Ps. 35.20)		(Ps. 78.6)

[91] For a full treatment of the issue, see Kantor (2020; forthcoming b, §5.2).

[92] For an argument that this was the prefix vowel in Proto-Hebrew, see Suchard (2016).

Table 46: *quṭūlīm/*qiṭūlīm nominal pattern in Secunda || Jerome

*qiṭūlīm → ?		*qiṭūlīm → [qaṭu:li:m]	
Secunda	?	Jerome	*zanunim*
			[zanu:ˈni:m]
			'whoredom'
			(Hos. 1.2)

This is not the normal behaviour of 'shewa-slot' vowels in the He-
brew tradition underlying Jerome's transcriptions. As such, tran-
scriptions like *iasaphpheru* and *zanunim* may reflect more stand-
ardisation of vowels prone to reduction, perhaps due to influence
of a more prestigious ('Proto-Tiberian?') tradition.

5.2. Secunda Innovations

5.2.1. Plural Participle as *qōṭlīm

Historically, the plural participle of the *qal binyan* was realised as
*qōṭilīm (or *qōṭelīm). While various traditions treat these se-
quences differently—internal variation is attested in both the
Secunda and Jerome—Jerome tends to preserve the vowel of the
second radical more whereas the Secunda tends to have *qōṭlīm
(Kantor forthcoming b, §3.4.2.2):

Table 47: Plural *qal* participles in Secunda || Jerome

qōṭlīm		*qōṭelīm*[93]	
Secunda	ασσωμριμ	Jerome	*chorethim*
	[haʃʃoːmˈʀiːm]		[kʰoːʀɛˈθiːm]
	'those who keep'		'Cherethites; cut-
	(Ps. 18.33)		ters'
			(Zeph. 2.5)
			nocedim
			[noːkˀɛˈðiːm]
			'shepherds'
			(Amos 1.1)

This same distinction is often evidenced between rabbinic and biblical variants in other pronunciation traditions. Note, for example, that in the Sephardi tradition, the rabbinic tradition will pronounce such sequences as [qotˤˈlim], but the biblical tradition as [qotˤeˈlim] (Khan 2013a). Given that all of the traditions under discussion fall under the 'popular' branch, including Sephardi, this might suggest that Jerome's tradition was more closely tied to the biblical reading tradition of the 'popular' branch and the Secunda more influenced by the colloquial or rabbinic tradition of the 'popular' branch, even though it does reflect a biblical reading tradition in itself. On the other hand, this may be reading too much into this one feature, which is easily explicable in light of internal development. Note, after all, that Tiberian Hebrew also has a silent *shewa* in such forms: e.g., שֹׁמְרִים = [ʃoːomˈʀ̥iːim].

[93] It is also possible that such forms reflect nominalised adjectives, as in Tiberian יֹלֵדָה 'woman giving birth', in which case the second vowel would actually be lengthened.

5.2.2. The 2ᴍѕ Object Suffix on Verbs: *-eχ/*-ekkā

While most traditions of Biblical Hebrew have either *-χā or *-āχ as their 2ᴍѕ object suffix on verbs—the same shape as the suffix on nouns—the Secunda has *-eχ or *-ekkā:

Table 48: 2ᴍѕ object suffix in Secunda || Jerome

*-eχ, *-ekkā		*-āχ	
Secunda	ερωμεμεχ	Jerome	*amaggenach*
	[ʔɛʀoːmɛˈmɛχ]		[ʔamaggɛˈnaːχ]
	'I will exalt you'		'I will deliver you'
	(Ps. 30.2)		(Hos. 11.8)
	αϊωδεχχα		
	[hajoːˈδɛkkʰaː]		
	'will [dust] praise		
	you?'		
	(Ps. 30.10)		

Both the Secunda and Jerome have suffixes of the *-VC* pattern, but they differ in terms of the vowel. While the suffix in Jerome resembles that of Biblical Aramaic, that of the Secunda is distinct. The form -εχ in Secunda Hebrew probably reflects a development based around an assimilated 'energic *nun*': i.e., *-inka → *-ikka → *-ikk → *-ek(k) → *-ek → -εχ. Note that the short vocalic grapheme *epsilon* is indicative of a syllable closed by etymological final gemination.[94] The long suffix -εχχα may be due to analogical extension of the independent pronoun (see above in chapter 4, §§2.2.3, 4.2.4): i.e., *-inka → *-ikka → (analogy with

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[94] Note for comparison that the 3ᴍᴘ suffix on verbs does have a long vowel: ουεσοκημ 'and I beat them' (Ps. 18.43). This likely reflects a simple suffix /-m/ after the long connecting vowel /-ē/, which is likely the result of analogy to III-w/y verbs (see Suchard 2020, 202–03, 212).

/ʔattā/) → *-ikkā → *-ekkā → -εχχα. It is also possible that the suffix in the spoken language was normally /-ékkā/ with a long vowel, but the reading tradition was constrained by the consonantal text. Where a *heh mater* was present, the regular spoken form /-ékkā/ was maintained. Where a *heh mater* was absent, as was probably the norm, the regular suffix had to be shortened to /-éχ/.[95] Such dialectal forms mapping onto the consonantal text in this way is a common feature of various Biblical Hebrew reading traditions (see also chapter 5, §1.1.12).[96]

Although the Secunda form /-éχ/ is unique for the 2MS object suffix among the various dialects of Hebrew, it should be noted that the integration of 'energic *nun*' into the object suffixes is quite common in other traditions as well. In Tiberian, object suffixes with an integrated 'energic *nun*' are the default for third person singular suffixes on *yiqṭol* verbs: e.g., יִדְרְשֶׁנּוּ 'shall require it (MS)' (Deut. 23.22); אֶצֱּרֶנָּה: 'I keep it (FS)' (Isa. 27.3). In Samaritan Hebrew, suffixes with an integrated 'energic *nun*' are even more common, also being attested in the 1CS: e.g., [tiqbaːˈrinni] (Ben-Ḥayyim 1977, verse; 2000, 227–36 || BHS תִקְבְּרֵנִי Gen. 47.29 '(do not) bury me'); [jeːmuːˈʃinni] (Ben-Ḥayyim 1977, verse || BHS יְמֻשֵּׁנִי Gen. 27.12 'will feel me'); [jizbaːˈlinni] (Ben-

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[95] For an in-depth analysis of the development of this suffix in Secunda Hebrew, see Kantor (forthcoming b, §4.1.4.2.2).

[96] A prime example of this phenomenon occurs with the *qal~nifʿal* suppletive verb נגשׁ-יגשׁ 'to approach'. While the consonantal text points to an original *qal* verb, the *nifʿal* of later stages of Hebrew was superimposed on the consonantal text where possible, namely only in the *qaṭal* form and participle (Hornkohl 2023, 199, 474–75).

Ḥayyim 1977, verse || BHS יְזְבְּלֵנִי Gen. 30.20 'will honour me').[97]
Given the penchant of Samaritan Hebrew to absorb elements of
the vernacular, this could indicate that 'energic' suffixes were
common in the spoken language. Note also that 'energic' suffixes
on *yiqtol* verbs are fairly regular in Aramaic.[98]

All of this suggests that the 2MS object suffix /-éχ/, which
is clearly a distinctive innovative feature of Secunda Hebrew,
may be at least partially due to influence of the vernacular.

5.2.3. Theme Vowel in *Yiqtol* II-/III-Guttural Forms

Historically, there is a tendency for II-guttural and III-guttural
verbs to have an /a/ theme vowel in the *yiqtol* (Huehnergard
2002, 112): e.g., **yapʿal → *yipʿal →* יִפְעַל; **yaṣlaḥ → *yiṣlaḥ →*
יִצְלַח. While the Secunda often preserves this, there are also some

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[97] There are also cases where the Samaritan Pentateuch and/or oral
reading has an 'energic' suffix on the third person suffixes where Tiberian does not: e.g., [titteːˈninnu ˈliː] (Ben-Ḥayyim 1977, verse, cf. BHS
תִּתְּנוֹ־לִי: Exod. 22.29 'you shall give it to me'); [wnakˈkinnu] (Ben-Ḥayyim 1977, verse || BHS וַנַּכֵּהוּ (SP ונכנו) Deut. 3.3 'and we struck him');
[wˈmiː jaːqiːˈminnu] (Ben-Ḥayyim 1977, verse || BHS מִן־יְקוּמוּן: (SP מי
יקימנו) Deut. 33.11 'that they not rise again').

[98] In Biblical Aramaic, object suffixes on *yiqtol* verbs are preceded by
'energic *nun*' in all persons: e.g., יְחַוִּנַּנִי 'shows me' (Dan. 5.7); יְשֵׁיזְבִנָּךְ:
'may deliver you!' (Dan. 6.17); יְשֵׁיזְבִנְכוֹן 'will deliver you' (Dan. 3.15);
אֲהוֹדְעִנֵּהּ: 'I will make known to him' (Dan. 5.17); יִתְּנִנַּהּ: 'gives it' (Dan.
4.22). The same applies to Targumic Aramaic: e.g., יקטלינני 'will kill me'
(Gen. 4.14); אֲבָרְכִינָךְ 'I will bless you' (Gen. 22.17); וְיִזְרְקִינֵיה 'and shall
throw it' (Exod. 9.8).

forms that have an /o/ theme vowel (Kantor forthcoming b, §§4.2.1.2.4, 4.2.1.2.5). This is not the case in Jerome:

Table 49: *Yiqṭol* II-guttural forms in Secunda || Jerome

	yiqGol		*yiqGal*
Secunda	θεσοδηνι	Jerome	iesag
	[tʰɛsˁoˈðeːniː]		[jɛʃˈʔaɣ]
	'you support'		'roars'
	(Ps. 18.36)		(Amos 1.2)
	εμωσημ		
	[ʔɛmħoːˈtsˀeːm]		
	'I strike them'		
	(Ps. 18.39)		
	ουεσοκημ		
	[(w)uʔɛʃhoˈkˀeːm]		
	'and I beat them'		
	(Ps. 18.39)		
	λοομ		
	[loˈħom]		
	'make war!'		
	(Ps. 35.1)		

Table 50: *Yiqṭol* III-guttural forms in Secunda || Jerome

	yiqṭoG		*yiqṭaG*
Secunda	φθοου	Jerome	haiecba
	[pʰθoˈħuː]		[hajɛkˀˈbaˁ]
	'open!'		'will … rob?'
	(Isa. 26.2)		(Mal. 3.8)
	βετ<οου>		
	[bɛtˀoˈħuː]		
	'trust!'		
	(Isa. 26.4)		

This feature also has parallels in Mishnaic Hebrew and is likely the result of influence of the spoken language (see chapter 5,

§1.1.10). Among the Biblical Hebrew traditions, however, it appears to be a distinctive feature of Secunda Hebrew.

6.0. Innovations of Sephardi || Ashkenazi Branches

Because the Sephardi and Ashkenazi traditions are ultimately descended from a form of Palestinian from the Middle Ages (Morag 2007), it is not necessary to take them into account for linguistic subgrouping. Nevertheless, because of the important role they have played in the history of Hebrew, particularly with respect to providing the basis for Modern Hebrew pronunciation, they deserve a brief treatment here. It should be noted that, because Sephardi and Ashkenazi Hebrew both base their reading on the Tiberian vowel points, some phenomena within these reading traditions are explained in light of the specific notational system of Tiberian *niqqud* interfacing with their pronunciation systems. Finally, as above, the innovations noted below are not meant to be comprehensive but merely to establish the distinction between the traditions.

6.1. Ashkenazi Innovations

6.1.1. Vocalic Inventory

While earlier forms of Ashkenazi Hebrew maintained the five-vowel system of Palestinian (Khan 2020b, 112), this began to change in the fourteenth century CE due to the influence of German (Henshke 2013). As a result of language contact (and perhaps also influence from the vowel signs themselves), modern

Ashkenazi traditions have developed larger vocalic inventories. Northeastern Ashkenazi (NEA), for example, has a six-vowel system of /ɪ, ej, ɛ, a, ɔ, u/.[99] Note that this reflects a merger of *ḥolem* and *ṣere*. Mideastern Ashkenazi (MEA), on the other hand, exhibits the following vowels in their system: /iː, ɪ, ej, ɛ, aj, a, ɔ, ɔj, uː/.[100] Southeastern Ashkenazi (SEA) exhibits the following vowel system: /iː, ɪ, ej, ɛ, ə, a, ɔ, oj, u/. Central Ashkenazi (CA) and Western Ashkenazi (WA) also have distinct vowel systems, but the descriptions of these traditions are less comprehensive (Katz 1993; Glinert 2013).

6.1.2. Diphthongisation of *Ṣere* and *Ḥolem*

One of the most distinctive features of Ashkenazi Hebrew is the diphthongisation of certain vowels. At least to some degree, this occurs in all Ashkenazi traditions with respect to the vowels *ṣere* and *ḥolem*. The vowel *ṣere* usually exhibits the pronunciations [ej] or [aj], whereas *ḥolem* exhibits [ej], [ɛu], [ɔj], or [ɔu]/[au].

In Northeastern, Southeastern, and Central Ashkenazi, *ṣere* is realised as [ej]: e.g., [ˈejgɛl] (Katz 1993, 70 || עֵגֶל 'calf'); [ˈxejlɛk] (Glinert 2013, 194 || חֵלֶק 'piece'). In Mideastern and Western Ashkenazi, it can be realised as [aj]: e.g., [ˈajgɛl] (Katz 1993, 70 || עֵגֶל 'calf'); [ˈxaːjlɛk]/[ˈxajlɛk]/[ˈxejlɛk] (Glinert 2013, 195 || חֵלֶק 'piece').

In Northeastern Ashkenazi, *ḥolem* is normally realised as [ej] like *ṣere*: e.g., [ejˈlɔm]/[ˈejlɔm] (Katz 1993, 69 || עוֹלָם

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[99] But note that Glinert (2013) cites this as /ɪ, ej, ɛu, ɛ, a, ɔ, u, ə/.

[100] Note, however, that Glinert (2013) cites this as /iː, ɪ, aj, ej, ɛ, a, ɔ, u, oj, ə/.

'world').[101] In Mideastern, Southeastern, and Central Ashkenazi, it is realised as [ɔj] or [oj]: e.g., [ɔjd] (Katz 1993, 70 || עוֹד 'yet; more'); [kojl] (Glinert 2013, 194 || קוֹל 'voice, sound'). In Western Ashkenazi, it is realised as [oː], [ɔu], or [au]: e.g., [koːl]/[kɔul]/[kaul] (Glinert 2013, 196 || קוֹל 'voice, sound').

This feature is likely the result of language contact and assimilation to the vowel systems of the vernacular. This is especially the case with Yiddish, which exhibits the same sort of dialectal developments as Middle High German *ei* (e.g., *eins*) and *ou* (e.g., *boum*).

6.1.3. Merger of *Tav Rafah* תֿ and ס, שׂ = /s/

Another characteristic feature of Ashkenazi Hebrew concerns the merger of *tav rafah* תֿ with *sin* שׂ = /s/ and *samekh* ס = /s/. Note the following examples: [ɛs] (Katz 1993, 70 || אֶת 'DOM'); [haməˈdiːnɔjs] (Katz 1993, 80 || BHS הַמְּדִינוֹת Est. 1.3 'countries'). This feature is likely the result of language contact and assimilation to the vernacular, in which [θ] did not exist.

6.1.4. Merger of ח and *Kaf Rafah* כֿ = /x/

Unlike the Palestinian and Sephardi traditions, in which ח maintains its historical pronunciation as /ħ/, the Askhenazi traditions realise it as /x/, thus reflecting a merger with *kaf rafah* כֿ. Note the following examples: [xɔˈxɔm]/[ˈxɔxɔm] (Katz 1993, 70 || חָכָם

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[101] But some regions realise it as [ɛu]: e.g., [ɛuˈrejv] (Glinert 2013, 194 || עוֹרֵב 'raven').

'wise man'); [xajl] (Katz 1993, 80 || BHS חֵיל Est. 1.3 'army [cstr.]'). There are, however, some exceptional dialects in which ח merged with ה instead of כ (Glinert 2013, 195). This phenomenon is likely the result of language contact and the absence of the [ħ] sound in the local vernaculars.

6.1.5. Merger of ע and א

In the Ashkenazi traditions, both א and ע are realised as 'zero': e.g., [ɔˈmejn] (Katz 1993, 69 || אָמֵן 'amen'); [iːˈʃɔ] (Katz 1993, 71 || אִישָׁה 'her husband'); [ejˈlɔm]/[ˈejlɔm] (Katz 1993, 69 || עוֹלָם 'world'); [uˈsu] (Katz 1993, 80 || BHS עָשָׂה Est. 1.3 'he made/ did'). This is likely due to language contact and the absence of guttural consonants in the vernaculars of the tradents.[102]

6.1.6. De-Pharyngealisation of Emphatics ט and ק

It should be noted that the Ashkenazi traditions merge the historical emphatic consonants ט and ק with their non-emphatic counterparts ת and כ: e.g., [kəˈtɔjv] (Katz 1993, 80 || BHS כְּטוֹב Est. 1.10 'when [the heart of the king] was well'); [kɔˈdejʃ] (Katz 1993, 70 || קָדוֹשׁ 'sacred'). This is likely due to the influence of the vernacular languages of the tradents, in which there were no pharyngealised consonants.

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[102] Further variation, however, is attested. Note that Dutch Ashkenazi shifts *'ayin* to a velar nasal as a result of contact with Dutch Sephardi. This occurs, for example, in the name *Yankef* (from יַעֲקֹב). I would like to thank Benjamin Suchard for pointing this out to me.

6.1.7. Simplification of Phonemic Gemination

Finally, as might be expected when the relevant contact languages do not have double consonants, historically geminated consonants are simplified to single consonants in Ashkenazi Hebrew: e.g., [hamɔjˈlajx] (Katz 1993, 80 || BHS הַמֹּלֵךְ Est. 1.1 'who [was] reigning'); [ˈginas] (Katz 1993, 80 || BHS גִּנַּת Est. 1.5 'garden [cstr.]'). This is unlike certain varieties of Sephardi Hebrew, in which gemination is maintained, since the relevant contact languages (e.g., Arabic) also had phonemic gemination.

6.2. Sephardi Innovations

6.2.1. Maintenance of Five-Vowel System

The modern Sephardi traditions continue the most characteristic feature of the medieval Palestinian tradition, namely the five-vowel system of /i, e, a, o, u/ (Morag 2007, 557; Henshke 2013). While this does not constitute a secondary innovation in comparison with the higher node of subgrouping, it does distinguish it from Ashkenazi, which exhibits significantly more innovations in the vowel system.

6.2.2. The פָּעֳלוֹ = /paʕolo/ Pattern

While the medieval Palestinian tradition realised the historical pattern *puʕlō with a variety of vocalisations, such as [poʕoˈlo], [paʕaˈlo], [poʕaˈlo], and [paʕoˈlo] (Harviainen 1977, 154–60), the modern traditions all tend to exhibit the pattern [paʕoˈlo]. Note that a form like נָעֳמִי is pronounced consistently as [naʕoˈmi] (Henshke 2013). Although such a pronunciation is attested at an

earlier stage, the generalisation of this phonological phenomenon constitutes an innovation of modern Sephardi traditions in comparison with medieval Palestinian.

6.2.3. Accented כָּל as [kal]

There are two instances in the Hebrew Bible in which the form כָּל bears its own accent: כָּל עַצְמוֹתַי ׀ 'all my bones' (Ps. 35.10); כָּל אֲחֵי־רָשׁ ׀ 'all a poor man's brothers' (Prov. 19.7). In each case, the Sephardi traditions pronounce the word as [kal] (Henshke 2013). This likely constitutes an innovation of this branch, albeit influenced by the vowel signs.

7.0. The Formation of Modern Israeli Hebrew

At this point, we should say a word about the formation of the Modern Israeli Hebrew system of pronunciation in the late nineteenth and early twentieth century. Over the course of roughly sixty years from the 1880s to the 1930s, a series of *ʿaliyot* ('waves of immigration') brought many new Hebrew-speaking Jews to Palestine. It was at this time and place that Hebrew was undergoing 'revival' as a spoken language (Fellman 1973; Blau 1981; Bunis 2013; Reshef 2013b).

In the earliest stages of its formation, the early modern Hebrew speech community was comprised predominantly of Sephardi Jews, most of whom were from North Africa, the Middle East, or Asia. It was their Sephardi Hebrew traditions and dialects that established the foundation for the pronunciation system of Modern Hebrew. Due to later waves of Jewish migration from

Europe to Palestine, however, the Ashkenazi pronunciation system also came to exert significant influence on the language. After their arrival in Palestine, European Ashkenazi Jews attempted to adopt the Sephardi pronunciation that had been established through earlier waves of migration. This was in part because Sephardi Hebrew was viewed by some as more authentically Hebrew and in part because Ashkenazi migrants wanted to distance themselves from their tradition, which (from a socio-linguistic perspective) was associated with the Diaspora. Nevertheless, due to the difficulty of some consonants (e.g., gutturals, emphatics) for European speakers, much of their own pronunciation remained. Because of their large population, Ashkenazi-background speakers exerted a significant influence over the realisation of consonants in Modern Hebrew. The five-vowel system of Sephardi, however, presented no trouble for European Jews. The combination of these factors brought about a sort of 'hybrid' linguistic system, which came to follow Sephardi vocalic patterns and syllable structure, but yielded to Ashkenazi norms for some of the more 'difficult' consonants. This 'hybrid' system of Ashkenazi consonants and Sephardi vowels is what has come to be the majority pronunciation of Modern Israeli Hebrew today (Morag 1980; Reshef 2013a, 399–400; Reshef 2013b; Zhakevich and Kantor 2019, 572, 574).[103]

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[103] We should note, however, that even some non-Arabic- and non-Aramaic-speaking Sephardi traditions exhibit variation with non-emphatic consonants due to the influence of vernaculars (Morag 2007, 556–57). Such speakers might have also influenced the pronunciation system of early Modern Hebrew.