

# Artikel

## Tiberian Hebrew Segol – A Reappraisal<sup>1</sup>

Richard L. Goerwitz (Chicago/Illinois, U.S.A.)

In a recent article,<sup>2</sup> W. Randall Garr has argued that \**a* shifted to *ε* in the dialectal precursors to Tiberian Hebrew whenever it was followed by a consonant and a high, front, nonlabial vowel or semivowel.<sup>3</sup> Garr's article has important ramifications on at least two levels. On the lower level, the article offers new explanations for the appearance of *segol* in historical *qVtl* nouns, for the *i* that often appears in unstressed historical \**CaC<sup>o</sup>CV*- sequences (e.g. *dibre-*), and for the appearance of *segol* in forms where historical \**a* is followed by a consonant and a semivowel (e.g. *ʔεbyɔɾ*). On the upper, and more general, level, Garr's article represents an effort towards ousting traditional modes of phonological analysis among Semitists in favor of a more formal, structuralist approach. The goal of this paper will be to refine Garr's formulations, and to show how placing them in an explicit diachronic context helps elucidate their relationship to several underlyingly related, though seemingly quite disparate, phenomena.

Before addressing the broader issues of diachronic sequencing, let us first deal with the question of precisely where Garr's assertions stand in need of modification, and of how this might influence our formulation of the \**a* → *ε* shift.

Although he makes only passing reference to its actual, phonetic realization,<sup>4</sup> Garr analyzes Hebrew *shwa* as though it patterned with high, front, nonlabial vowels - a contention for which there appears to be no external, graphemic evidence. The *Secunda*, for instance, represents *shwa* as *alpha*, *epsilon*, or nothing.<sup>5</sup> Jerome shows a similar pattern of transcription.<sup>6</sup> In the Masoretic Text itself the sign *shwa* merely represents vowellessness (hence *shwa mobile* and so-called „*shwa medium*“ are

---

<sup>1</sup> I thank David Stampe, E. J. Revell and Dennis Pardee for their valuable advice on various points. Special thanks are also due to Randall Garr.

<sup>2</sup> W. Randall Garr, „The *Seghol* and Segholation in Hebrew“, JNES 48:2 (1989), p. 109-116. Hereafter cited as Garr, „*Seghol*“.

<sup>3</sup> According to Garr the shift was blocked where \**a* stood in an atonic, open syllable, and where an inflectional boundary stood between any two segments. Garr, „*Seghol*“, p. 116.

<sup>4</sup> He transcribes it as [ʔ]. Garr, „*Seghol*“, p. 114 (§ 2.2.3).

<sup>5</sup> See Gerard Janssens' *Studies in Hebrew Historical Linguistics Based on Origen's Secunda*, Orientalia Gandensia IX (Leuven, 1981), chapter VII.

<sup>6</sup> Jerome expresses short, open, unstressed \*/*a*/ as *a* (50x), *e* (15x), or as nothing (10x). He likewise expresses short, open \*/*e*/ and \*/*o*/ as *e* (15x), *a* (10x), or nothing (5x). These are the statistics, based on words with known etymologies, as reckoned by Tapani Harviainen in „On Vowel Reduction in Hebrew“, *OrS* 33-35 (1984-86), p. 167-74. Harviainen believes that his numbers indicate qualitative preservation of short, open, unstressed vowels. However, thirty examples of *i* and *u* (together!) hardly constitute a statistically valid sample. Harviainen also lists five cases where *u* seems to have been preserved as Latin *o* or *u*, all of which can be explained either as assimilation of *shwa* to a subsequent vowel when a guttural or *r* intervenes, or as assimilation to an adjacent bilabial consonant (see also below, note 11).

written with the same sign as *shwa quiescens*). Grammarians differentiate these purportedly different types of *shwa*, not through criteria internal to the Masoretic Text, but through historical reconstructions, inferences based on the presence or absence of a subsequent hardened consonant, and through the supposed length of the preceding vowel.<sup>7</sup> Garr simply lacks any external evidence for his feature analysis of *shwa* a high, front, unrounded „phone.“

The lack of any external, phonetic basis for his characterization of *shwa*, however, cannot be held up, in and of itself, as an insurmountable obstacle to Garr's analysis. Evidence is not exhaustive for pre-Masoretic vocalizations, and, although Garr is not explicit about his chronology, it is at least possible that there was once a stage in which *shwa* bore a high, front realization. Let us therefore examine how Garr applies his formulations, to see if they show at least an internal, theoretical consistency.

On page 115 of his article, Garr asserts that \*/a/ went to  $\epsilon$  when the following „high, front nonlabial phone [was] neither semivocalic nor fully vocalic.“<sup>8</sup> This gives rise to the following derivation for \*CaCC segolate nouns: (a) \**dárk* > (b) \**dár<sup>c</sup>k* > (c) \**dér<sup>c</sup>k* > (d) *dérék*, with form (c), coming about via assimilation of \**a* to what is transcribed as *shwa*. The difficulties here stem, not only from Garr's feature analysis of the glide, but also from his understanding of vowel-assimilation as proceeding from the [ə] to the full vowel. Just from a theoretical standpoint, it is hard to see how an epenthetical vowel might condition the realization of its full, phonemic neighbor. When CV<sub>1</sub>CV<sub>2</sub>(C) assimilations take place (where V<sub>2</sub> = a secondary vowel), they always run in the other direction.

In the Masoretic Text, for instance, we find the following \*CaCC nouns:

[hɛ:sɛd̪] [na:ħal] [zɛ:ra ʕ]

[ʕɛ:ħɛd̪] [la:ħaʔ] [pɛ:sah]

As can readily be seen from this brief, but representative, chart, a guttural requires a low vowel in the preceding syllable.<sup>9</sup> Where no guttural follows, the vowel is  $\epsilon$ . The main exception to this rule comes in the second column, where the epenthetical vowel becomes low, even though it does not precede a guttural. The conditioning factor there is the full vowel in the preceding syllable.<sup>10</sup> In not a single case does the epenthetical vowel condition the full vowel. Garr's formulation of \**a* →  $\epsilon$  as a case of assimilation of a full vowel to a nonphonemic „phone“ runs

<sup>7</sup> BLe, § 10 z, esp. note 3. That the Masoretes thought of CCV(C) (< C<sup>o</sup>CV[C] < CVCV[C]) sequences as composing a single syllable is clear from various *sandhi* phenomena. Conjunctive dagesh, for instance, appears in words beginning with a stressed syllable, whether it is of type CV(C) or C(<sup>o</sup>)CV(C) (Gen 1:11-12; Exod 3:15; Deut 15:2; Josh 15:12; Judg 13:15; 1Sam 21:10; 1Kgs 2:31; Isa 5:14; Jer 23:6; Ezek 40:4, 44:5; Pss 36:7, 104:1, 139:8; Job 10:20, 41:5; Prov 6:35; Neh 9:7; 2Chr 33:4). *Nesiga* acts in a similar manner (e.g. Gen 1:11, 15:7; Hab 3:11; 1Chr 28:10; cf. Gen 24:60).

<sup>8</sup> Garr, „*Seghol*“, p. 115 (§ 3).

<sup>9</sup> In two cases, *het* does not trigger lowering of the full vowel (חם and חם).

<sup>10</sup> This pattern of assimilation to a preceding full vowel is observable even in the Qumran Scrolls. See Elisha Qimron's *Hebrew of the Dead Sea Scrolls*, Harvard Semitic Studies 29 (1986), § 200.24-200.241, on \*CuCC nouns. The lack of matres for short vowels other than *u* prevents us from knowing the situation with CaCC and CiCC nouns. Cf. Akkadian *pirsu* and *pursu* forms, which, in the absolute, were pronounced as *purus* and *piris*, respectively.

completely opposite to this pattern. Even if we place the shift in some hypothetical period in which the epenthetical vowel was a short glide or *shwa*, the same criticism applies: In Hebrew, *shwa* often assimilates to full vowels, but never the reverse!<sup>11</sup> Put in more general terms, the basic difficulty with Garr's analysis is that, while he takes great care not to call glide vowels phonemes, he nevertheless consistently attributes to them a full feature analysis, and makes them the basic conditioning factors in much of the evidence behind his formulation of the  $*a \rightarrow \varepsilon$  rule. To avoid calling a segment a phoneme, and yet to make it a critical factor in conditioning the realization of full phonemic segments confuses the phonologically relevant with the irrelevant. More to the point, it runs against every other piece of evidence we have about glide vowels in Hebrew! This is not to say that Garr's entire analysis rests on his treatment of glide vowels. It is to say, however, that this portion of his analysis - a major one - shows enough difficulties to lead us to seek some broader characterization of the  $*a \rightarrow \varepsilon$  rule - one which obviates the need for phonologically significant assertions about *shwa*. The remainder of this paper will be devoted to showing that such a characterization is indeed possible. As long as we observe a certain, specific relative ordering of events, Garr's instances of *segol* may be seen simply as a natural reflex of  $*a$  in open syllables. To understand how this statement could be compatible, for instance, with the phenomenon of pretonic lengthening ( $*a \rightarrow [a:] / \_CV [+stress]$ ), it will be necessary to deal first with the relative diachronic order of several well-known Hebrew vocalic shifts.

By most reconstructions, length was phonemic in Proto-Semitic. Hebrew can therefore be reasonably assumed to have possessed this characteristic at some point in its proto-history. Over the course of time, however, it shifted to a system in which these distinctions of quantity were irrelevant.<sup>12</sup> One visible consequence of the shift to a quality-based vocalic system was the labialization of  $*/a:/ (< */a/)$ .<sup>13</sup> Formerly,  $*/a:/$  had simply served as a long allophone of  $*/a/$ . Stress-based lengthening rules, in fact, typically brought about neutralization of the feature [+short] in  $*/a/$ , causing it to fill the slot left largely vacant in the wake of the Canaanite Shift ( $*/a:/ \rightarrow /o:/$ ).<sup>14</sup> The phenomenon of stress lengthening in non-

<sup>11</sup> This trend is observable, even in texts stemming from the pre-Christian era. In IQIs<sup>a</sup>, for instance, *shwa* sometimes copies the value of a subsequent full vowel (as also in Jerome [see note 6]). E. Y. Kutscher cites relevant examples in his *Language and Linguistic Background of the Isaiah Scroll* (Leiden, 1974), p. 5 f. In general, see also Gotthelf Bergstrasser's *Hebräische Grammatik*, 1. Teil (Leipzig, 1918), § 10 g.

<sup>12</sup> The Tiberian pointing system indicates quality but not length (Ble, §10 y). That this situation is reflective of the underlying phonemic contrasts has been demonstrated in a recent study of Karaite transcriptions in Arabic characters by Geoffrey Khan („Vowel Length and Syllable Structure in the Tiberian Tradition of Biblical Hebrew“, *JSS* 32:1 [Spring, 1987], p. 23-82). Length contrasts do indeed appear in earlier transcriptions, such as in the *Secunda* (where verbs apparently retain historically short vowels at the point of stress). It is a mistake, however, to superimpose this system on the Tiberian dialect.

<sup>13</sup> I use the term „labialization“ loosely to refer to the shift from a low vowel to a low-mid back rounded vowel.

<sup>14</sup> Examples of such neutralization rules are numerous and well-known (e.g. pretonic lengthening, pausal lengthening in verbs, tonic lengthening in nonverbs, and compensatory lengthening before degeminated *aleph* and *resh*, and sometimes *ayin*).

verbs later on brought realignments to this system, creating a contrast between \*/a:/ (< \*a) and \*/a/ in closed, stressed syllables.<sup>15</sup> With increased pressure towards a stress-timed, quality-based vocalic system, however, this contrast broke down once again, as \*/a:/ moved towards a low-mid back rounded articulation mode ([ɔ(:)]<sup>16</sup>). After this point, the various neutralization rules which had formerly brought about coalescence of the one historical phoneme, \*/a/, with its formerly [-short] counterpart, \*/a:/, became inactive, and lengthening of /a/ became a merely phonetic phenomenon (→ [a:]).<sup>17</sup>

As evidence for a shift away from quantitative, towards qualitative, distinctions among low vowels, I would cite the behavior of \*/a/ in secondarily opened CaC syllables, specifically before so-called „strong“ gutturals. From various phenomena within the Masoretic Text, it appears that degemination of *aleph*, *resh*, and morpheme-initial *ayin* created open syllables much earlier than did degemination of *heh*, *het*, and non-morpheme-initial *ayin*. This is why, for instance, forms like *wayb̄ṣerek* show penultimate accent, while II-guttural forms like *wayba<sup>c</sup>ér* do not.<sup>18</sup> Apparently, at the time when the stress shift occurred, doubled strong gutturals remained intact. Hence stress-movement could occur in the one, but not in the other. Later on, of course, the strong gutturals degeminated as well. By the time this event occurred, though, the Hebrew phonological system had altered itself in such a way as to permit compensatory lengthening (→ [wayba:<sup>c</sup>er]) without necessitating a coalescence of \*a with \*ā. What this means is that, by the time degemination of strong gutturals took place, length no longer had phonological relevance for low vowels. This is why the Masoretes represented \*a before a „virtually doubled“ guttural with *pataḥ*, even though Karaite transcriptions show clearly that the vowel itself was phonetically long.<sup>19</sup>

Degemination of strong gutturals brought about similar effects in many other parts of speech. Take, for example, הוּוּ (article + 3ms pronoun). By the time the second *heh* degeminated, CaCCV \*hahhū was no longer capable of shifting to CāCV (i.e. to \*/hāhū/, with phonemic \*ā). Instead it simply went to [ha:hu:]

<sup>15</sup> E.g. *yibḳar* : *yibḳor* (proper name), *olal* : *olol*. Cf. nifal participles and their corresponding 3ms perfect verbs.

<sup>16</sup> From its use to represent historically short \*u in the MT, *qameṣ* appears to have represented a low-mid back rounded vowel - a suspicion which is confirmed by evidence from various reading traditions, such as the Ashkenazic and Yemenite (see Eduard Yechezkel Kutscher, *A History of the Hebrew Language*, Raphael Kutscher ed. [Leiden, 1982], § 37). Syriac and Samaritan reading traditions show a similar pattern. That the vowel was labialized is clear from various assimilations, as for instance occur in BH *šwʾ* and *mawet*, where an adjacent bilabial semivowel conditions an „unexpected“ shift from \*a to ɔ.

<sup>17</sup> The existence of long *pataḥ* has been amply confirmed by Khan's (cited, note 12) Karaite Hebrew Bible manuscripts transcribed in Arabic characters. See notes 19, 20, and 22 below.

<sup>18</sup> Non-nifal -CVCVC context forms with an open penult and a historically short, or „shortened,“ [-high, -low] vowel in the final syllable show penultimate accent in the 3ms, 3fs, and 2ms. The 1cs is only retracted in III-*heh* forms. Even there, though, the accentuation is not entirely consistent.

<sup>19</sup> In Tiberian Hebrew the verb in question would have been pronounced with a long [a:] ([wayva:<sup>c</sup>er]). See Khan's (cited, note 12) discussion of length in open, unstressed syllables (section III of his article). See also below, where long *pataḥ* is discussed in more detail.

(/hahu/), again with long *pataḥ*.<sup>20</sup> Likewise, [ta:ḥat] and other such strong, II-guttural \*CVCC nouns, which, by virtue of the epenthetical vowel, had gone to CV:CVC,<sup>21</sup> simply became [Ca:CaC].<sup>22</sup> The basic message to be gleaned from these examples is, as stated above, that, by the time strong gutturals degeminated, the system of contrasts for low vowels had changed in such a way as to render length phonologically superfluous. That change, I would argue, was made possible by the well-known labialization and backwards shift in the articulation point of long \*ā.

So far my discussion has mainly hinged on the realization of \*/a/ in syllables opened by degemination of a strong guttural after the occurrence of the \*ā → ɔ shift. Let me just point out that, where gutturals are not involved, \*/a/ in secondarily opened syllables is generally realized as [ɛ:] ([mɛ:lɛk], [dɛ:rɛk], etc.<sup>23</sup>). This phenomenon has been discussed at length by E. J. Revell, whose observations may be summed up, perhaps somewhat oversimplified, as follows: Historical \*a shifted to [ɛ:] in open syllables, except before a *heh*, *het*, and non morpheme-initial *ayin*, where it retained its original quality (→ [a:]).<sup>24</sup> This exception does not apply when *ayin* or *heh* is followed by unstressed *qameṣ* (e.g. [hɛ:hɔ:ri:m]), or when *het* is followed by a *qameṣ*, regardless of whether it is stressed or unstressed (e.g. [ʔɛ:hɔ:d], [hɛ:hɔ:lɔ:b]).<sup>25</sup> Revell's formulation of *ɛ* here basically as a natural reflex of \*a in open syllables is simpler and more intuitive than Garr's. Moreover, it obviates the need for hypothetical stages in the language where full vowels assimilate to nonphonemic glides. Revell's scheme, however, suffers from a problem of environments. Why, for instance, does \*a shift to ɔ (< \*ā) in the first syllable of *קָבַר* and *קָהַבְתִּי*? Revell himself, having no ready answer to the question, simply relayed the observable facts. I believe that Revell is quite correct in his analysis of *ɛ* as a reflex of \*a in open syllables. The apparent problem with conflicting environments has a simple resolution - one which hinges on the dating of

<sup>20</sup> Khan (cited, note 12) adduces this very form in Arabic transcription on p. 33. See his discussion of „virtual doubling“ on pages 34-5.

<sup>21</sup> That the initial vowel in segolate nouns was long seems clear from *u*- and *i*-type segolates, which show *holem* and *šere* in the first syllable. On the length of the vowels represented by these graphemes, see Khan's article (cited, note 12), especially the sample segolate forms on page 44. His Karaite transcriptions show quite clearly that the first vowel in segolates, like all stressed vowels, was long.

<sup>22</sup> Again, see Khan (cited, note 12), p. 44, where this form is cited in Arabic transliteration.

<sup>23</sup> On the lengths here, see Khan (cited, note 12), p. 44 (the first set of examples).

<sup>24</sup> E. J. Revell, „The Development of Segol in Open Syllables as a Reflex of \*a,“ in *Linguistics and Biblical Hebrew*, Walter Bodine ed. (forthcoming). I cannot agree with Revell's assertion that the shift \*a → *ɛ* represents a „medial stage“ in the process of change to ɔ (§ 9.1 end) because allophonic coalescence of \*/a/ with /ɛ/ represents an articulatory shift physically so disjunct from that with /ɔ/. If anything, the many instances Revell cites of dissimilation of \*a to segol before Cɔ indicate a trend towards maximum phonetic differentiation of the two phonemes, /ɔ/ (< \*/a:/) and /a/. As was mentioned above, the breakdown in length distinctions was probably responsible for the shift of \*ā to ɔ - a perceptibility-maximizing device intended to offer greater differentiation between phonemes formerly distinguished only by length. Where both were juxtaposed, the need was particularly acute, especially when they were pronounced phonetically long (*ergo* not before closed CɔC syllables).

<sup>25</sup> The precise rules for dissimilation of \*a before gutturals and *qameṣ* are actually quite complex. See note 24.

secondary opening in relation to the  $*\bar{a} \rightarrow \text{ɔ}$  shift and to the cessation of the aforementioned length-neutralization rules for the low vowel.

As was argued above, Hebrew went through a stage in which lengthening rules typically brought about neutralization of the feature [+short] in  $*a$ , causing it to coalesce with the newly re-arisen phoneme  $*\bar{a}$  - a stage which ended with the „labialization“ of  $*\bar{a}$ . It was only after this point that degemination of strong gutturals took place and short  $*a$  began to appear once again in open syllables. By the time, therefore, that Revell's  $*a \rightarrow [a:] / [\varepsilon:]$  shift began to operate, most instances of short  $*a$  had already become long by way of the old length neutralization rules of the type  $*a \rightarrow *\bar{a} (\rightarrow \text{ɔ})$ , or else had gone to *shwa* via reduction of short, open, unstressed vowels.<sup>26</sup> The only situation where the shift could apply was in certain secondarily opened syllables - that is, in former CVC syllables gone CV either through degemination of a strong guttural, or through the introduction of an epenthetical vowel (e.g.  $*malk$  [CVCC]  $\rightarrow *malek \rightarrow melek$  [CV:CVC]).<sup>27</sup>

What is essentially being posited here is a two-tiered system of phonological analysis. The first, and historically earlier, tier consists of rules which assume an active system of length contrasts for low vowels in Hebrew - one where neutralization of the feature [+short] resulted in the coalescence of the long allophone of  $*a$  with the historical phoneme,  $*/a:/$  (remaining in forms such as  $*q\bar{a}m$ ). After this process ossified, both  $*\bar{a} (< *a)$  and historical  $*\bar{a}$  shifted to a low-mid back rounded vowel - a change which marked the beginning of the second, and historically later, tier. After this point,  $*a$  in open syllables took on a variety of articulation points. Before gutturals and across morpheme boundaries it became [a:]. In open syllables it became [\varepsilon:]. In stressed syllables followed by a bilabial semivowel it became [ɔ:] (e.g.  $\text{ׁוְעַן}$ ,  $m\text{ׁוְעַת}$ , etc.).<sup>28</sup> Certain dissimulatory factors affected it as well, such as the one mentioned below involving a subsequent *qameš*. All of these rules belong to the diachronically later period - one in which the old pretonic lengthening rules had ceased to be productive, due to a fundamental shift in the system of contrasts for low, and later all, vowels. It is to this period that Garr's  $*a \rightarrow \varepsilon$  shift belongs.

So it would seem, Garr could have dispensed with his phonological description of nonphonemic glides as high, front, unrounded phones. As long as it is seen in its correct diachronic context, Revell's understanding of  $\varepsilon$  as a natural reflex of  $*a$  in open syllables can be stated simply and fairly comprehensively - without any reference to the specific quality of any subsequent glide:

$$*a \rightarrow \varepsilon / C_1 \_ \$ C_2 V (\$ = \text{syllable boundary})$$

<sup>26</sup> Pretonic lengthening, for instance, is present in the Secunda, as is reduction of short vowels to *shwa*; a consistent shift,  $*a \rightarrow \varepsilon$ , however, is not apparent (the two phonemes may in fact have coalesced).

<sup>27</sup> Degemination of strong gutturals and epenthesis are arguably very late. The latter change, for instance, is very rare in the Secunda, and only sporadic in Jerome's transcriptions. Joshua Blau, „Some Remarks on the Prehistory of Stress in Biblical Hebrew“, *Israel Oriental Studies IX* (1979), p. 53. On the Secunda, see Janssens (cited, note 5), p. 90.

<sup>28</sup> The *qameš* here comes by way of assimilation of  $*a$  to the back, rounded quality of the following consonant.

Reference must be made to  $C_2$  and to V in certain specific cases. The shift, as noted above, is blocked (1) when  $C_2 = \text{heh, het}$ , or non morpheme-initial  $^c\text{ayin}$  (as with  $na^c\text{ar}$  above, *raḥum, baḥur* [ba:ḥu:r]).<sup>29</sup> It is also blocked (2) when a morpheme boundary is present in the environment (e.g. the 1cs verbal suffix *-ani* [a:ni:]). These restrictions, however, do not apply when V = [ɔ:] (e.g. *heḥrim* [he:hɔ:ri:m], *keḥšim*, pausal  $^s\text{eh}\text{ɔy}$  [cf. the context form]). Note that the behavior of  $*a$  varies considerably, depending on the precise value of  $C_2$  when V = *qameš*. Still, the generalization holds that intra-morphemic  $*a$  normally goes to [ɛ:] in open syllables before non-gutturals - a change which occurs in the period after the labialization of historically long  $*\bar{a}$  ( $*\bar{a} \rightarrow \text{ɔ}$ ).<sup>30</sup>

Clearly this rule does not account for every segol in the Tiberian dialect. It does account, however, for nearly every segol derived from historical  $*a$  in the period in question. The few instances where it does not work occur in closed syllables, and are, ironically, covered by the rule Garr had proposed to account for all cases of  $*a \rightarrow \text{ɛ}$ . The two names cited by Garr,  $^s\text{eby}\text{ɔ}\text{ɔp}$  and  $^s\text{eby}\text{ɔ}\text{ɔr}$ , are prime examples of this phenomenon.<sup>31</sup>

In conclusion, then, let it be said that Garr deserves credit for demonstrating that appearance of  $\text{ɛ}$  in segolates represents part of a more general phonological process (i.e. one that it is not a product of „vowel harmony“). He has also astutely observed that the morpheme boundary interferes with this process. His analysis, however, does not take full account of the diachronic context in which the shift occurs (for which reason it appeared necessary for him to posit assimilations of full vowels to adjacent glides). By moving qualitative information about subsequent segments to the exceptions, by foregoing the whole notion of assimilation of  $*a$  to nonphonemic glides, and by setting the  $*a \rightarrow \text{ɛ}$  shift in a chronological context, we arrive at a more universally applicable formulation:

$*a \rightarrow \text{ɛ} / C_1 \_ C_2 V$ , except (1) when  $C_2 = a$  guttural,<sup>32</sup> or (2) when a morpheme boundary is present in the environment. The exceptions do not apply when V is long *qameš*.

As noted above, this shift must be understood as occurring after labialization of  $*a:/$ , and thus after degemination of the weak gutturals and after productive pretonic, final, and tonic-nonverbal neutralization of the feature [+short] in the

<sup>29</sup> By now syllable-final  $^s\text{aleph}$  has probably quiesced, so we can simplify this statement from „*heh, het*, or  $^c\text{ayin}$ “ to „gutturals“.

<sup>30</sup> It should perhaps be added that II-*vav* segolate nouns (e.g.  $\text{š}\text{ɔw}^s$ , *mɔwet*) do not represent exceptions to these rules, since their historical  $*a$  became labialized ( $\rightarrow \text{ɔ}$ ) under the influence of an adjacent bilabial semivowel. The word for ‘brother’ also does not constitute an exception, since the singular is formed from the base  $*^s\text{ah}(i)$ , while plural assumes  $*^s\text{ahh}$ . Hence it is only to the plural that the rule stated above can apply.

<sup>31</sup> Garr, *Seghol*<sup>2</sup>, § 1.3, 3 (p. 115). These two proper names represent the sole verifiable instances Garr cites of his rule (i.e. of  $*a \rightarrow \text{ɛ}$  before a consonant and a high, front, nonlabial nonconsonant). The rest can be reanalyzed in the simpler terms outlined here. Before these two names can be integrated into some kind of diachronic scheme, Garr must explain why the shift does not occur before  $y\{y,i\}$ , in *-yɔhu* names (e.g. the *a* in *nianyɔhu*), in the word  $^s\text{aly}\text{ɔ}$ , and before a degeminated consonant (e.g. *ykasymu* [Exod 15:5; cf. Isa 46:5]). Other cases of non-occurrence can be explained as due to the influence of a guttural or *resh*.

<sup>32</sup> See note 29.

historical phoneme \*/a/. In reality, the exception to the exceptions, i.e. when V = long *gameš*, represents a separate dissimilation rule, which fits into the general picture of a shift to qualitative, rather than quantitative, vowel distinctions.<sup>33</sup> I include it here for completeness' sake.

Aside from the minor difficulty with closed syllables mentioned earlier, the rule posited above - a modified version of Revell's formulation - is solid, and can be inserted in place of Garr's slightly less general formulation. The real gains to be made here, however, are not in this or that slight modification of an environment, but in unifying the \*a → ε shift with other seemingly disparate phenomena (degemination of gutturals, epenthesis, labialization of \*/a:/, dissimilation of \*/a/ to /ε/ before *gameš*), and by setting these phenomena in their correct chronological order. It is on this level that the scope of the formulation becomes apparent and apparent difficulties with the environments find elegant resolution.

*Abstract:*

As a means to explaining why proto-Hebrew \*a often appears as *segol* in the Masoretic Text, the suggestion has recently been made that the shift came by way of assimilation of \*a to a subsequent high, front, non-labial phone. Key to this hypothesis is the notion that *shwa* can be analyzed as such a phone. Unfortunately, evidence marshalled from various sources renders this hypothesis doubtful. Instead, it appears that *segol* simply represents a natural reflex of \*a in open syllables. The main difficulty with this alternative analysis is that it conflicts with the notion of pretonic lengthening (which also occurred in open syllables). Resolution of this difficulty may be had by attention to the relative dating of the two shifts. Pretonic lengthening belongs to a stage in which distinctions of length were still active for low vowels. During this period, lengthening of \*a resulted in a merger with its long counterpart, \*a:. At some point, however, quantitative distinctions between \*a and \*a: broke down. After this event, lengthening no longer resulted in a merger between the two phonemes. Instead, it merely resulted in a (phonetically) long *paṭaḥ* or, as in most cases, *segol*.

*Address of the author:*

Richard L. Goerwitz III, Department of Near Eastern Languages and Civilizations,  
University of Chicago, Chicago / Illinois 60615, U.S.A.

---

<sup>33</sup> See above, note 24.