# ON THE HISTORY OF THE BABYLONIAN JEWISH ARAMAIC READING TRADITIONS: THE REFLEXES OF *a AND *ā†

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*To the master, Professor H. L. Ginsberg, on his seventy-fifth birthday*

THE vowel system of Babylonian Jewish Aramaic (BJA) is only imperfectly known. There are, however, several "reading traditions,"[1] preserved orally or in writing, with varying claims to authenticity. Among these are the Babylonian vocalization of Targums Onkelos and Jonathan (TOJ),[2] the vocalization of the *codex unicus* of the Geonic work *Halakhot Pəsuqot* (HP),[3] and the oral tradition for reading the Talmud preserved by the Yemenite Jews (Y). Of lesser importance are the vocalization of Codex Paris 1402 of *Halakhot Gədolot* (HG)[4] and that of various Geniza fragments of Talmud (F).[5] These sources converge with dramatic frequency in the picture they provide of BJA phonology and morphology. However, they also diverge quite significantly in many major details. It follows, therefore, that in order to make use of these sources in reconstructing the phonology and morphology of BJA, some theory of their historical relationships must be assumed. One such theory has already been offered by Shlomo Morag in a series of publications. Perhaps the crucial issue in question is the status and development of pre-BJA *a and *ā implied by the sources.[6] This paper will examine afresh the data and analyses presented by Morag and offer an alternative theory.

[1] The term is Shlomo Morag's (see "Oral Tradition as a Source of Linguistic Information" in J. Puhvel ed., *Substance and Structure of Language*, [Berkeley, 1968] and "Oral Traditions and Dialects," *Proceedings of the International Conference on Semitic Studies* [Jerusalem, 1969]). However, I am using it specifically to refer to traditions of the West Semitic type where much of the phonology and morphology is normally unexpressed in writing and must be realized in one of two ways, either by rote memorization of the pronunciation of specific form-tokens and/or types, or by the application of rules. A written vocalization-pointing can be seen then as the expression in writing of "reading tradition."

[2] See the introduction to my edition of *Targum Onkelos: A Collection of Fragments in the Library of JTSA, New York*, 4 vols. (Jerusalem, 1976) and works cited there.

[3] *Sefer Halachot Peseqot by Bar Jehudai Gaon* (Jerusalem, 1971).

[4] *Sefer Halachot Gedolot* (Jerusalem, 1971).

[5] Morag has gathered and discussed many of these fragments. (See his "Towards the Vocalization of the Babylonian Talmud in the Geonic Period" [in Hebrew], *World Congress of Jewish Studies*, vol. 2 [Jerusalem, 1968], pp. 89–94).

[6] In the present paper the following notation will be adopted: * will be used for proto- and pre-phonemes and forms. Otherwise, italicized letters will be used, unless specific reference is being made to the phonological status of a given phone, in which case / / will

## 1. *Morag's View of the Vocalization Tradition of BJA*

1.1 The Yemenite oral tradition serves as the cornerstone of Morag's theory. His view is summed up by the following statement:

> Whereas the authenticity of the Yemenite oral tradition of post-Biblical Hebrew may be tested by comparison with vocalized Mss., the same is not true for the Yemenite tradition of the Aramaic of the Babylonian Talmud. Our opinion of the value of the latter must be based on internal evidence only in the absence of vocalized Mss. with which it could have been collated. Having examined the nature of this tradition as it stands, we may say that in many of its features it would appear to constitute a genuine reflection of a Babylonian Aramaic dialect, as learned by Yemenite scholars, assiduous readers of the Talmud, who went to Babylonia for the purpose.[7]

Presumably by "the absence of vocalized Mss.," Morag meant Talmudic manuscripts per se, for it was only shortly later that he proposed a comparison between Y and HP and used it to validate the antiquity and stability of the former.[8] However, here a paradox results, for vis-à-vis the *a-*ā question, Morag did not abandon the primacy of the Yemenite tradition. Indeed on this matter, the opinion that Y preserves a more ancient tradition than HP emerges from his discussion. Such a view is, of course, not excluded but a priori does seem rather less plausible than the position defended below, namely that HP is more faithful to the structure of a living dialect of Geonic Aramaic, while Y is an archaizing tradition.

1.2 According to Morag, Y preserves a tradition of a dialect in which very limited merger (Morag's "neutralization") of the *a-*ā opposition took place. The environments of merger are: (*a*) penultimate open syllables preceding open syllables (/_CV##/); and (*b*) some open syllables preceding *shwa*, with concomitant syncope of *shwa* (*āCəCV > äCCV).

1.2.1 Morag tenders the following explanation of the mergers:

(*a*) he assumes a length and quality contrast between /å̄/ and /a/. On the basis of comparative evidence, stress is posited for penultimate open syllables, where the final syllable is also open. Because of the stress on these syllables, the feature of length is neutralized, "/a/ also being realized as a long vowel in this position. The /å̄/-/a/ contrast has thus turned out to be based upon one phonemic factor only, the qualitative. It seems, however, that this feature alone was not sufficient to retain the contrast in question, all the more so since both phonemes were realized as low vowels of approximately the same highness";[9]

(*b*) the shift of å̄CəCV > äCCV is explained by syncope of the *shwa* followed by vowel shortening in the now closed syllable.[10] This shift is only sporadic in Y.

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be used for phonemic status and [ ] for allophonic. Phones are cited for each tradition in accord with that tradition's phonological structure. Thus for TOJ and Y, we have /å/ and /ä/, while for HP we have /a/, which equals [a]-[å].

⁷ Morag, "Notes on the Vowel System of Babylonian Aramaic as Preserved in the Yemenite Tradition," *Phonetica* 7 (1962): 217–39.

⁸ Idem, "Towards the Phonology of Babylonian Aramaic" [in Hebrew], *Lěšonénu* 32 (1967): 76–77, 83, 86, and 87.
⁹ Idem, "Vowel System," p. 228.
¹⁰ Ibid., p. 229.

1.2.2. Morag employs analogy to account for other instances in which Y $\ddot{a}$ replaces historical *$\bar{a}$. Thus in the sound participle, the shift of *qātel > *qätel*, where the conditions of merger are not met, is explained as owing to the analogy of the III Y verb where they are, viz. *qāte > *qäte*.[11] In sum, then, in Y, according to Morag we are dealing with a very limited sound shift partially morphologized.

1.3 In HP the environments in which [a] replaces *$\bar{a}$ are wider than in Y. In the environment *$\bar{a}$CəCV, the shift occurs virtually without exception, and Morag accounts for the rest by positing further analogical processes. For example, the feminine plural suffix, *ān, is *an*. Morag somewhat tentatively explains this again as resulting from analogy to the III Y participle in two stages. First, the masculine plural *qatan* influenced the feminine *qatyān > *qatyan*. Then the feminine plural suffix in all other forms followed suit.[12]

Morag claims that all other incidences of the two phones in both traditions appear practically identical. The opposition remained phonemic in both traditions.[13] Since in Morag's view the main environment in which Y has $\mathring{a}$ versus $a$ in HP is the feminine plural suffix, it follows that HP represents a dialect which is a later stage of development than Y, precisely by virtue of having carried the *$\bar{a}$CəCV shift to completion and having carried analogy further as well. The Yemenite realization of *qameș* as $\mathring{a}$ in Bible and Targum would then be simply a survival. This is the same phon(eme) which existed in the dialect of BJA and reading of Bible and Targum, which they received from the Geonim.[14] This account has obviously great implications for the description of BJA, as it would tend to establish Y as the frozen record of a living dialect more ancient in visage than HP and therefore presumably closer to the language of the Talmud itself. However, as I shall try to show, Morag's theory is not the only way to account for these data.

## 2. *The Rationale for an Alternate View*

### 2.1 The Conditioning of the Neutralization

Morag's explanation for the shift of $\bar{\mathring{a}} > a$ in penultimate open syllables is not satisfying for the following reasons:

(a) it assumes a double contrast between /$\bar{\mathring{a}}$/ and /a/; both length and quality are distinctive.[15] This is itself uneconomical, unless supported by the system as a whole, while in BJA there are no other length contrasts.[16] However, here, the sole purpose

[11] Ibid., pp. 223–24.
[12] Idem, "Phonology of Babylonian Aramaic," pp. 74–75.
[13] Idem, "Vowel System," p. 221.
[14] See idem, *The Hebrew Language Tradition of the Yemenite Jews* [in Hebrew] (Jerusalem, 1963), pp. 100–106; and cf. idem, "Babylonian Aramaic in the Tradition of Yemen: The Sound Verb" [in Hebrew], S. Lieberman et al., eds., *Sefer Henoch Yalon* (Jerusalem, 1963), pp. 182–221, esp. here 185, n. 75.
[15] Idem, "Vowel System," p. 228.
[16] To be sure, such a system is often assumed for Eastern Syriac as well. Birkeland himself characterizes it as "very curious" (see H. Birkeland, "The

Syriac Phonematic Vowel Systems," *Festkrift til Professor Olaf på hans 80-Årsdag* [Oslo, 1947], pp. 13–39, esp. 14). It is not at all clear from his discussion what necessity there is for assuming a length contrast between his /a/ and /ā/, since he avers that "no doubt a:ā and e:ē express *qualitative* differences as well." Surely the fact that the Syrians call the supposed *short* member of the second pair *long* and the *long* member *short* hardly supports a length contrast theory. Confusions and variation between the members of the pairs also does not prove that the opposition was quantitative (see further, sec. 3.3.1 below).

of this assumption is to motivate the shift, and there is no other evidence for length in this vowel at this time;[17]

(b) it involves the assumption of a stress placement rule, again solely to motivate the hypothesized development;[18]

(c) it posits that given stress lengthening of a short vowel in a certain position and its consequent merger with a long vowel, the product of the merger was paradoxically interpreted as belonging to the short vowel phoneme.[19]

Moreover, if the durational increment which triggered the vowel shift were caused by stress, one would expect that other stressed syllables would likewise undergo the shift. Since there is no evidence for a shift of other stressed $\dot{a}$'s, nor for a distinction between the stress-type evident here and the stress-type evident for nonshifting $\dot{a}$'s, we will have to look elsewhere for the motivating factor or factors.

## 2.2 The Use of Analogy

As seen above (secs. 1.2.2 and 1.3), by positing a very limited phonetic shift, Morag is forced to assume rather complicated analogical processes to explain other $*\bar{a} > a$ transfers. These analogies do not appear to have a clear rationale, such as regularizing paradigms or the like, and therefore an explanation which obviates the need for them would seem a priori preferable.[20]

## 2.3 Unexplained Forms

In the following forms in HP the shift $*\bar{a}$ to $a$ has to be explained on an ad hoc basis if Morag's reconstruction be accepted:

(a) $k\partial wa\theta eh$, "according to him" < $*k\partial w\bar{a}\theta eh$ (pp. 5, 231)
(b) $h\partial wa = leh$, "he became" < $*h\partial w\bar{a}$ leh (pp. 23, 206)[21]

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[17] Morag, "Vowel System," p. 237, n. 59.

[18] With his usual scrupulousness, Morag (in "Vowel System," p. 237, n. 57) duly notes that there is no support from Y for his posited stress rule. He does try to find evidence for it in Western Syriac. Whether or not this stress rule can be posited for proto-Aramaic is questionable (but cf. Birkeland, "Syriac Phonematic Vowel Systems," p. 17), and diffusion seems out of the question because of the lack of geographical continuity between the areas of BJA and Western Syriac. Incidentally, proto-Eastern Aramaic will not do, since as I have tried to show in a forthcoming paper ("Is Syriac Eastern Aramaic," delivered at the A.O.S., March 1976, Philadelphia), there simply was no such entity.

[19] Morag seems to anticipate this difficulty by his complex account of "neutralization" of length rather than lengthening, which seems to point to a resulting phonological entity belonging neither to $a$ nor $\bar{a}$ but to both, an archiphoneme, $A$ (see N. S. Trubetzkoy, *Grundzüge der Phonologie*, 4th ed. (Göttingen, 1937), pp. 71–75. This, at least, could possibly explain the choice of the sign for the less marked vowel to indicate the suspended opposition (see Trubetzkoy, ibid., p. 73, par. b). Since, however, many of these $A$'s alternate morpho-phonemically with $\dot{a}$ and not $a$,

I would still expect the $\dot{a}$ graph to have been chosen, cf., for example, German *Land*, *Bund*, not Lant, Bunt, of course. In short, I believe even this interpretation of Morag's theory raises as many problems as it solves.

[20] See, e.g., P. Baldi, "The Latin Imperfect in *ba*," *Language* 52 (1976): 839–51, esp. 845: "It seems to me methodologically reasonable that we should invoke analogy only when all structural possibilities have been exhausted .... But it must be conceded that sound change, while less than perfectly regular, at least displays consistent tendencies; and we are always on firmer ground with phonetic explanations than with analogical ones." See also J. J. Ohala, "Phonetic Explanation in Phonology," Anthony Bruck et al., eds., *Papers from the Parasession on Natural Phonology* (Chicago, 1974), pp. 251–75, esp. 268.

[21] For (a) and (b) one could claim that the /h/ had been lost at the end rendering the ultimate syllable open, thus meeting the conditions of the shift. However, HP seems to retain final /h/, as attested by such forms as *tånah* "he teaches it," not *tånå*. Furthermore, one would have to maintain that both the stress rule and vowel shift rule were synchronically active after the loss of /h/ for this explanation to work. This solution is, of course, not impossible, but certainly uneconomical.

(c) *ləβaθar*, "after" < *\*ləβāθar* (p. 40)[22]

(d) *nəṣarif*, "he will join" < *\*nəṣārif* (p. 209)[23]

(e) *bənax*, "your sons" < *\*bənāx* (p. 219)[24]

(f) *ləmiqam*, "to stand" < *\*ləmiqām* (p. 214)[25]

For each of these forms an individual explanation can be found to solve the problem (see notes). These individual explanations represent at least a complication of the theory. Taken together with the two preceding arguments, especially the first, they lead us to search for a different explanation.

## 3. *The Present Hypothesis*

3.0 The present theory posits three stages in the development of Babylonian Jewish Aramaic vocalism: an archaic one, more or less represented by the Babylonian pointing of the Targums; a later stage of the spoken language, represented by the pointing of HP; and an archaizing tradition, represented by other Geonic fragments, HG, and perhaps best by Y, arising after the death of the spoken language in Babylonia and in Yemen. This tradition is characterized by systematic (nonrandom) interference between the TOJ system and the HP system.[25a]

3.1 On the basis of this hypothesis, a model of the history of *\*a* and *\*ā* may be constructed. At the earliest stage, when the vocalization signs of TOJ were invented, *\*a* and *\*ā* were phonemically distinct, with the opposition transmuted from a quantitative to a qualitative one. At the stage of HP, these two phonemes had unconditionally merged, but this new phoneme /a/ had an allophone [ɔ] (signified by *miqpaṣ pumma*, the Babylonian *qameṣ*, in HP). The reading of Bible and Targum, however, maintained a phonemic

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[22] Forms with short *a* in *baθar* are attested as Suraʾe variants in the Massora to TO (see Landauer, p. 19). As far as I can tell, however, these are only forms with suffixes in which the shift is predicted by Morag, e.g., *\*bāθərohi* > *baθrohi*. Perhaps Morag would explain *baθar* as back formation from such suffixed forms.

[23] For (d) one could easily assume that the vowel was never long and that /r/ was doubled in the language. This solution however creates problems for another part of Morag's hypothesis, since he claims phonemic status for the /ä/-/å/ opposition in Y on the basis of a contrast between "*pärеš*, 'is separated' ... (act. part. of the simple stem ...)-*pårеš*, 'expounds' ... (act. part. of the *qaṭṭel* stem ...)" ("Vowel System," p. 221). If we assume that the latter was *\*parreš* historically, then in any case *pårеš* is a secondary development influenced by Targumic and/or Biblical Aramaic, and we are back where we started from.

[24] Resulting from contraction of *\*bənaix*, the vowel is *\*ā* in both the *Qre* of Biblical Aramaic and in Targum. One could claim, however, that in some dialects an exceptional short vowel resulted, cf. Syriac *ʾax* from *\*ʾaix*, "how."

[25] Perhaps to be explained as owing to analogy of the Med. Gem. verbs. Syncretism of these two classes was a prevalent phenomenon in the language.

[25a] I should like to emphasize that the difference

between my view and that of Prof. Morag is one of detail. In the main, my paper is based on and accepts his description and evaluation. However, he believes that HP and Y are parallel subdialects. Although he has never expressed or implied a judgment that Y is more ancient in origin than HP, this view does seem to follow from his explanations. If certain aspects of the linguistic patterning in HP are explained as resulting from further development of diachronic processes occurring in Y, Y is in these respects at least an earlier *état de langue*. I do not wish to claim that Y is substantially different from HP and therefore unreliable. Quite the contrary, as Prof. Morag has shown, Y is nearly identical with HP. I believe, however, that they are not subdialects but rather the same dialect. I have tried to explain the differences between the two as owing to systematic interference between the Yememite reading traditions of Aramaic (or their Babylonian ancestors). This interference was originally pointed out by Prof. Morag, and I have really only extended its scope. In my view, it does not nearly approximate the extent of such interference in HG and F, but it is present and significant (see below sec. 3.5). Y is invaluable for reconstructing the grammar of BJA and indispensable in those matters for which HP provides no attestation. My feeling is that in areas where they diverge, HP should be preferred over Y as representing something closer to living speech.

opposition between these phones, at least among the learned elite. In the final stage (Y, HG, F), the HP tradition had been partially reformed after TOJ according to a coherent set of principles, and the opposition between /a/ and /å/ or /ɔ/ was rephonologized. What evidence is there for such a model?

3.2.0 Two types of evidence may be offered in support of the claim that TOJ represents an archaic form of Babylonian Aramaic vocalization. These are: (1) isoglosses which may be established between details of TOJ vocalization and known Babylonian features, and (2) the *pataḥ-segol* merger in the Babylonian vocalization system, which almost surely must be explained by the interference of the then current structure of Babylonian Aramaic vocalism.

3.2.1. The Babylonian provenience of the TOJ vocalization is by now accepted in all quarters, although many think the consonantal text to be Palestinian (see the contribution of M. Goshen-Gottstein). It is therefore perhaps somewhat surprising that virtually no attempt has been made to identify various features of that vocalization with known features of Babylonian Aramaic.

In two recent papers, I have pointed out some connecting links between TOJ and BJA.[26] These include:

(a) the forms *qətalaθ-qətaliθ* for the third person feminine singular and first person preterite of the verb, vs. *qa/itlaθ-qa/itliθ* in all other dialects;

(b) the form /-āx/ for the second person suffix on plural nouns, otherwise only attested in the *Qre* of Tiberian Biblical Aramaic;[27]

(c) the form /qåtan/ for the masculine plural participle of III Y verbs;

(d) the vocalization of the conjunction /w-/ with /i/ before consonants followed by *shwa*, e.g., /wiβnån/, "and daughters";

(e) epenthesis of /i/ after /ʿ/, e.g., /yiʿiruq/, "he will run away";[28]

(f) frequent replacement of CVCCəCV by CVCiCCV, as in e.g., /maðinḥaʾe/, "Easterners" < /maðnəhaʾe/. This epenthesis is well attested in HP by both the writing of *y* and the vocalization; cf. e.g., *ləmiqiryeh*, "to read it" (HP, p. 184);

(g) avoidance of reduced vowels after laryngeals and pharyngeals, e.g., /ʾinɔš/, "man" not */ʾənåš/ or */ʾĕnåš/.

It must be admitted that none of the above prove Babylonian origin for the vocalization tradition, as they could all be secondary impositions of Babylonian forms on a basically Palestinian text, but such a wealth of isoglosses shows, at the very least, a very heavy influence of Babylonian speech on the oldest attested TOJ vocalization.

[26] See the introduction to my edition of *Targum Onkelos*, 3–4 and my article "Studies in Babylonian Aramaic," *Lĕšonénu* 35 (1976): 172–77, esp. here 175–76. Lest there be any misunderstanding, I wish to make it clear that I have never claimed that TOJ may be used as direct evidence in the sense that Y and HP are. However, Prof. Morag suggests that the possibility of a Palestinian substratum, as it were, has not been taken seriously enough by me. The point is well taken, and I would say now that TOJ should only be used to corroborate other sources of evidence.

[27] The *Qre* of TBA shows other Eastern features as well; note for instance the shift *āye > āʾe* in the gentilic. Of course, I am not claiming to have discovered all of these correspondences, merely their systematic importance. See cited papers for reference to previous work.

[28] Since (d) and (e) occur in Babylonian Hebrew also, one could see that tradition as their source in TOJ and BJA as well. This has been pointed out to me by Professor Sokoloff. It seems much more likely, however, that these were features of native Babylonian Aramaic speech which affected the Hebrew vocalization tradition rather than the converse.

3.2.2. It is well known that the Babylonian sign *miftaḥ pumma* covers the territory of Tiberian *pataḥ* and at least some of Tiberian *segol*.[29] This by itself does not prove that the Babylonian sign indicates merger of two vowels since in many lexical items Tiberian *segol* is derived from a historical short *a* through various phonetic processes. However, there is at least one class of forms in which Babylonian *miftaḥ pumma* is equivalent to a Tiberian *segol*, not from an earlier short *\*a*, namely verbs and nouns from III Y roots which earlier had a diphthong /-ay/. An example of this would be יִרְעֶה in Tiberian vocalization < */yirʿay/, with יִרְעַּה in Babylonian.[30] There is, therefore, little doubt that Babylonian Hebrew represents in this regard a later stage than Tiberian and that there was in Babylonian Hebrew a merger of /ɛ/ and /a/. The most probable explanation for the loss of a phoneme of Hebrew in Babylonia is the lack of that phoneme in Babylonian Aramaic. It does not seem at all likely that the originators and transmitters of the Babylonian Hebrew tradition would have maintained one Palestinian phonemic distinction *not current in their speech* while losing another. It follows, therefore, that the system of vocalization signs—invented for Hebrew and adopted for Targumic Aramaic— most probably represents a Hebrew whose vocalic system had been adapted to the vocalic system of Babylonian Aramaic at the time of its invention. We may conclude with some degree of confidence, therefore, that the *miqpaṣ pumma* (= Tiberian *qameṣ-â*) and *miftaḥ pumma* (= Tiberian *pataḥ-ä*) represented distinct phonemes of Babylonian Aramaic at the time of their invention. Since in Targumic Aramaic the two signs are placed quite where we should expect them on historical grounds, we assume no significant conditioned mergers either. The opposition was no longer quantitative but qualitative as will be shown now.

### 3.3 The Phonetic Value of *miqpaṣ pumma*

3.3.0 The question at hand in this part of our discussion is one that has been treated frequently in the literature. Some scholars have maintained that the opposition of *miqpaṣ pumma* and *miftaḥ pumma* was essentially quantitative.[31] Others have maintained that the opposition was indeed qualitative, but both were front vowels of different height, *miqpaṣ pumma*, a low vowel and *miftaḥ pumma*, slightly higher, perhaps /a/ and /æ/.[32] Morag has maintained, following Klar, that in fact the *miqpaṣ pumma* was a back vowel and the *miftaḥ pumma* a front vowel, /å/ and /ä/. In my opinion, all the evidence points to the last view. Accordingly, I shall review here the evidence which has been offered so far and present some more supporting evidence.

3.3.1 Our first task is to examine the evidence for the contrary hypothesis, that *miqpaṣ pumma* was a front vowel, long or length-indifferent. Kahle presented the following arguments in favor of this view:[33]

> (*a*) the pronunciation of the Spanish Jews and others Jews who read *qameṣ* as /a/ must have been derived from Babylonian models;

[29] See G. Bergstrasser, *Hebräische Grammatik*, trans. [into Hebrew] M. Ben Asher (Jerusalem, 1972), p. 88.

[30] See I. Yeivin, "The Babylonian Vocalization and the Linguistic Tradition It Reflects," (Ph.D diss., Hebrew University, Jerusalem, 1968), p. 128.

[31] See P. Kahle, *The Cairo Geniza* (Oxford, 1959), pp. 71–72.

[32] See H. Yalon, "The Qametz in Babylonian Vocalization and in Yemen," *Pirqe Lashon* (Jerusalem, 1971), pp. 262–80, esp. 262–68.

[33] Kahle, *Cairo Geniza*, pp. 71–72.

(b) the Babylonian *naqdanim* (vocalizers) did not use the *miqpaṣ pumma* to represent short /u/ as did the Tiberians; and

(c) the Eastern Syrians read the sign paralleling *qameṣ* and *miqpaṣ pumma* as a front vowel.

Yalon already discredited the first argument very simply.[34] In the first place, it is by no means a necessary assumption that the "Spanish" pronunciation has Babylonian origins. We possess a Palestinian vocalization tradition which merges the reflexes of *a and *ā. Moreover, the structure of the Palestinian vocalization, with its merger of *segol* /ɛ/ and *ṣere* /e/, is much closer to the "Spanish" pronunciation than is the Babylonian. As a matter of fact, the "Spanish" reading cannot possibly be derived from the Babylonian since in the latter *pataḥ* and *segol* are merged and not in the former. We may sum up these relationships by the following statement.

The Tiberian seven vowel system (fig. 1) becomes five vowels in the Palestinian system by merging /a/ and /ɔ/ on the one hand and /e/ and /ɛ/ on the other (fig. 2). This, of course, fits the Spanish tradition exactly. However, in Babylonia, /a/ and /ɛ/ are merged, yielding a six vowel system quite different from the Spanish pronunciation (fig. 3).[35]

Morag has refuted Kahle's second argument.[36] Whether the *miqpaṣ pumma* was a
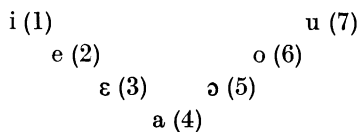
*The Tiberian Vowel System*

i (1)                              u (7)
    e (2)                    o (6)
        ɛ (3)        ɔ (5)
            a (4)

FIG. 1

*The Palestinian and Spanish Hebrew
Vowel System*

i (1)                              u (7)
    e (2, 3)          o (6)
        a (4, 5)
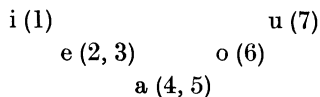
FIG. 2

*The Babylonian Hebrew Vowel System*

i (1)                              u (7)
    e (2)                    o (6)
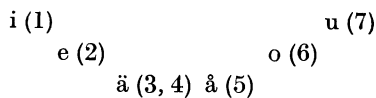        ä (3, 4)  å (5)

FIG. 3

[34] Yalon, review of *Masoreten des Westens* in *Pirqe Lashon* (Jerusalem, 1971), pp. 384–86.

[35] Cf. Morag, *Hebrew Language Tradition*, p. 103.
[36] Ibid., p. 102.

back or front vowel, the Babylonians did not use it for a lowered short /u/ because short /u/ was not lowered in their pronunciation. There is, therefore no evidence whatsoever from this nonuse of the sign.[37]

As for the third argument that in Mesopotamia, in general, historical long *ā was a front vowel, there is evidence that at an earlier period in East Syriac as well *ā had become å. Thus before /w/, the East Syrians use the sign corresponding to long *ā in morphemes where etymologically and in West Syriac short *a obtains.[38] This phenomenon is almost certainly to be explained as assimilatory labialization,[39] and the resulting vowel must have been a back round vowel at the time, proving that the sign represented such a sound then. Furthermore, Greek words with o and w are written with this sign as well.[40] All this suggests very strongly that at an earlier period this phoneme was a back round vowel å which later merged with a, precisely the development we are suggesting for Babylonian Aramaic.[41] After all, it seems much more likely that the pronunciation of Θεόδωρος as teodarus is an inner Syriac development than that they ignored their /o/ vowel and chose a front /a/ to transcribe Greek w. In fine, Kahle's arguments may be said to contribute nothing to the view that Babylonian miqpaṣ pumma was a front vowel or central vowel and may even favor the opposite view.

Yalon also claims to have proven "that the pronunciation of the Babylonian qameṣ equals Tiberian pataḥ."[42] His major proof seems to be the use of aleph as a vowel letter for qameṣ and a sign derived from aleph as its diacritic vowel sign.[43] Let us examine this argument. Aleph has a history as a vowel letter for *ā in Aramaic,[44] and a mere phonetic shift in the pronunciation of this vowel would have affected only the phonetic value of the graph, much as the English vowel signs changed their phonetic values with the great English vowel shift. With some redundancy, Yalon also argues that the same aleph spelling proves that in Babylonian Aramaic the reflex of *ā was a low front vowel, and since Qirqisani said that the Babylonians' reading of Hebrew was similar or close to Babylonian Aramaic, it follows that a similar pronunciation obtained in the former. This argument is weak for two reasons. First, the pronunciation of Babylonian Aramaic is itself the issue, and aleph spellings prove nothing. Secondly, when Qirqisani says "similar" and "close," it does not by any means imply identical (see sec. 3.3.2 below). Finally, Yalon argues from the interchanges between [ä] and [å] in the Yemenite reading of BJA, an argument already rejected by Morag[45] and further refuted below.

A stronger argument is that of Kutscher,[46] who contends that in Yemen one outlying

[37] Ibid., p. 103.

[38] See T. Nöldeke, Compendious Syriac Grammar, trans. J. A. Crichton (London, 1904; reprint ed., Jerusalem, 1970), p. 35.

[39] Cf. Morag, "Vocalization of Babylonian Talmud," p. 85, n. 75.

[40] Nöldeke, Syriac Grammar, p. 34.

[41] This view seems to be consistent with that of Nöldeke who states, "No one of these systems (i.e., Nestorian or Jacobite) carries out a distinction between long and short vowels . . .; in neither case is the quantity of the vowel considered, but merely the quality" (Syriac Grammar, p. 9). Even Birkeland, who argues for a length distinction on the grounds that the Nestorians use terms for "short" and "long" (see Syriac Phonematic Vowel Systems, pp. 18–19), reversing, however, their historically correct application, which to me, as it did to Nöldeke (Syriac

Grammar, p. 9), suggests strongly the opposite (i.e., that length was totally irrelevant) concludes, "no doubt a:ā and e:ē express qualitative differences too. And as this kind of difference is the only one that exists between the rest of the vowels, it must also be the one that is of main relevance as regards a and e." (Birkeland, Syriac Phonematic Vowel Systems, p. 14; see also Morag, Hebrew Language Tradition, p. 105, n. 2.)

[42] Yalon, "Qametz," p. 278.

[43] Ibid., pp. 265–66.

[44] See F. M. Cross, Jr. and D. N. Freedman, Early Hebrew Orthography (New Haven, 1952), pp. 33–34.

[45] Morag, Hebrew Language Tradition, pp. 103–4.

[46] E. Y. Kutscher, "Yemenite Hebrew and Ancient Pronunciation," JSS 11 (1966): 217–25.

district, Ḥabbān, can be shown to have maintained a purer Babylonian reading of Hebrew. Since that district reads *qameṣ* as *a* as against all other Yemenites who have *å*, Kutscher argues that the *å* must be the innovation under Tiberian influence. While the argument seems sound on dialect geography grounds, it is not by any means watertight and is far outweighed by evidence in the other direction.

To sum up the results of this section, it seems that it may be said that only one significant piece of evidence has been offered to support the claim of a low front realization of *miqpaṣ pumma*.[46a]

3.3.2 In this section I shall endeavor to show that there is strong evidence for a back round realization of *miqpaṣ pumma*. The evidence falls into three categories: (1) the testimony of Qirqisani, (2) naive spellings of *w* (*waw*) for *\*ā* and *qameṣ* for *o*, and (3) use of the *miqpaṣ pumma* sign to indicate labialization of *a*.

(1) Benjamin Klar seems to have been the first to recognize the significance of the passage from Qirqisani in this regard, but his interpretation requires modification in certain details.[47] In order to justify my interpretation, fairly extensive quotation is required:

What may be said in this matter (viz. the change in Babylonia from Tiberian pronunciation) is this: that the people, when they had long sojourned in Iraq, their reading became Nabatean-ized,[48] since our eyes see that the reading of the Babylonians is close to the Nabatean language. Similarly we find the reading of the people of every place becoming close to the language in which they have been brought up, e.g., the people of Hijaz and Yemen do not maintain *veth*, pronouncing in its place *beth*, and the reason is that they grew up among Arabs and became accustomed to their language, since there is no *veth* in Arabic . . . . *And similarly also the Byzantines*[49] *have come to the point where they do not retain* qameṣ *because it is not in the Byzantine language. . . . And many of the Jews of Iraq who grew up among Nabateans substitute* qadeṣ̌ *for* qadoš. *. . . And there does not remain in this generation even one philologist or grammarian of the men of Iṣfahan, Baṣrah, Tustar or anywhere else, who do not prefer the Palestinian reading, and who do not recognize that it is the true one, and who do not see that the true nature of grammar only becomes clear in accordance with it. Indeed a group of their elders, who do not read Palestinian, and who read Babylonian, and have heard about Palestinian only through rumour, when they wish to speak of matters concerning language and grammar, they speak only of the Palestinian language and none other* (italics mine).[50]

[46a] Prof. Morag informs me that in fact in the Ḥabbāni pronunciation *qameṣ* was a low back vowel (differing from the other Yemenite traditions only in that it was not rounded) and always distinct from *pataḥ*. It does not therefore truly constitute counter-evidence to Morag's (and my) view that Babylonian Aramaic had originally a low back vowel for *qameṣ*, i.e., as the reflex of *\*ā*. As Prof. Morag points out, the unrounding of this vowel would have been a likely step in the direction of the merger for which I have argued in any case.

[47] B. Klar, *Matters of Massorah and Pronunciation in Qirqisani* (Tel Aviv, 1954), pp. 320–28.

[48] I.e., closer to Babylonian Aramaic. The use of the term Nabatean for Iraqi Aramaic was very common in this period. (See Klar, *Matters of Massorah*, p. 326, n. 34).

[49] Lit., "Romans," i.e., Jews of Byzantine and perhaps Christian Europe (see ibid., p. 325, n. 31).

[50] Y. Qirqisani, *Kitab al-Anwar wal-Marāqib:*

*Code of Karaite Law*, vol. 2, ed. Leon Nemoy (New York, 1942), p. 140: wa-ka-ḏālika ʾaydan ṣāra r-rūmu lā yuqīmūna l-qāmiṣata li-annahā laysat fī luġati r-rūmiyyi . . . wa-katirun min yahūdi l-ʿirāqi l-laḏī našaʾū bayna n-nabaṭi yajʿalūna maqāma qāḏoš qāḏeš . . . wa-lam yabqa fi hāḏa l-ʿaṣri man yataʿāṭā ʿilma l-luġati wa-d-diqduq mina l-ʾiṣfahāniyyīna wa-l-baṣriyyīna wa-t-tustariyyīna wa-ġayrihim ʾillā wa-huwa yufaḍḍilu qirāʾata š-šāmiyyi wa-yuṣaḥḥiḥuhā wa-yarā ʾanna d-diqduq lā yataṣ-arraxu ḥaqīqatuhā ʾillā ʿalayhā naʿam ḥattā jamāʿatin min mašāʾixihimi l-laḏi lam yaqraʾū šāmiyyan wa-ʾinnamā yaqraʾū ʿirāqiyyan wa-ʾinnamā samiʿū bi-š-šāmiyyi ʿalā [jihati] l-xabari ʾiḏā ʾarādu yatakallamū ʿalā l-luġati wa-d-diqduq lam yatakallamū ʾillā ʿalā luġati š-šāmiyyati dūna ġayrihā.

Professor Steiner collated my translation of Klar's Hebrew with the original Arabic and made many important corrections. I checked some points with Professor Moshe Zucker also.

The implications of the first italicized passage seem clear enough. Qirqisani's main objective is to prove the secondary and corrupt nature of the Babylonian reading. Although Qirqisani quotes mispronunciation of *qameṣ* in Byzantine as an example of corruption and moreover gives a different example of corruption of Hebrew in Babylonia, he does not adduce mispronunciation of *qameṣ* in Babylonia. One may surely deduce that in Qirqisani's opinion the Babylonians had at least not obliterated the correct realization of *qameṣ*, to wit Tiberian *å*. So, indeed, deduced Klar.[51]

The second italicized passage caused the difficulty with Klar's interpretation. Klar apparently thought that the "preference" mentioned in the preceding sentence meant that they actually adopted the Palestinian reading. He therefore concluded that there was an "academic pronunciation of Hebrew" in Babylonia similar to that of Europe.[52] Consequently, he added in parentheses the word "naturally" after the words "who do not read Palestinian," taking the passage to mean that these sages *do* read Tiberian, albeit as a sort of affectation. Yalon therefore discounted the significance of the first passage, claiming that Qirqisani absolves the Babylonians of guilt in regard to the *qameṣ* by virtue of their sages.[53] The passage, however, does not require the addition of the word "naturally" because "preference" here does not imply adoption. These philologists, grammarians, and sages did not read Tiberian at all, as Qirqisani says clearly when not parenthetically embellished. The first group paid mere lip service to the superiority of the Tiberian reading, while the latter carried on their grammatical discussions following its rules. None of these groups had an "academic pronunciation," and therefore if Qirqisani does not take the Babylonians to task for mispronouncing *qameṣ*, we may safely conclude that according to his knowledge, *å* existed there as in Tiberias.[54]

(2) The second type of evidence in this matter consists of vulgar texts from Babylonia in which *w* (waw) is "miswritten" in place of historical *\*ā* and in some of which the *qameṣ* sign is used for *\*o*. There are three main sources of this type of spelling: a Hebrew incantation found in the Cairo Geniza with some vocalization, a schoolboy's copy of some Hebrew prayers with vocalization (also from the Geniza), and mixed Aramaic and Hebrew incantations written on excavated bowls. The former two, although vocalized with Tiberian signs, are proven Babylonian by *segol-pataḥ* inversions.[55]

In the Hebrew incantation published by Gottheil and Worrell,[56] *w* is used quite extensively for *\*ā* and *qameṣ* for *o*. There can be little doubt that in the Hebrew pronunciation of the scribe *\*ā* and *\*o* had merged, surely arguing for an earlier [å] or the like. Yalon tries to discount this argument claiming that "this text is no support for a Babylonian *qameṣ* equaling *ḥolam*; quite the contrary, the abundance of inversions shows the opposite."[57] If I understand Yalon's cryptic statement correctly, he wishes to say that since for this scribe *\*ā* and *\*o* were merged completely, and since there is no other evidence of such a general merger in Babylonia, we are dealing with a special case, a local dialectal or even idiolectal phenomenon. This same problem will be accounted for quite differently below (see sec. 3.4.2). Identical considerations will apply to the fragment

[51] Klar, *Matters of Massorah*, p. 327, n. 37.
[52] Ibid., p. 328, n. 44.
[53] Yalon, "Qametz," p. 262.
[54] I thank Professor Steiner for this insight.
[55] Yalon, "Qametz," p. 277 and S. Sharvit, "Lack of Contrast between Qametz and Holom, and Segol and Pataḥ in a Ms. Whose Pronunciation is Baby-

lonian," E. Y. Kutscher, S. Lieberman, and M. Z. Kaddari, eds., *Henoch Yalon Memorial Volume* (Jerusalem, 1974), pp. 553–54.
[56] R. Gottheil and W. H. Worrell, *Fragments from the Cairo Geniza in the Freer Collection* (New York, 1927), pp. 76–81.
[57] Yalon, "Qametz," p. 277.

of Hebrew liturgy published by Sharvit, in which the same inversions certainly prove that for its writer as well *qameṣ* and *ḥolam* were one.

The other type of evidence of this sort, namely the Aramaic-Hebrew incantation bowls is somewhat more difficult to interpret. There are no vocalization signs in these texts and therefore no inverse spellings of *qameṣ* for *o* to prove merger.[58] There is, however, extensive use of *w* where historically *\*ā* obtained. These spellings show that at least some reflexes of *\*ā* had merged with *o* or were phonetically close to that vowel.[59] Yalon has also tried to dismiss the evidence of these texts on the grounds that the phenomenon occurs in only a minority of them.[60] Lack of an inverted or naive spelling in a text, however, is never evidence of nonmerger of phonemes. Since there is no counter-evidence, as shown above, there seems to be no reason to posit special dialectal status for these and the above-discussed texts. They are special only in that their writers were clearly from among the less tutored members of Babylonian Jewry.

(3) We turn finally to the use of *qameṣ* to indicate labialization of an original *a* before *w*.[61] Morag already argued from such use of *miqpaṣ pumma* before *w* in HP that it must have been then a back round vowel. Morag's argument may be supported by the Babylonian biblical vocalization where the same is true. Thus *\*mawεθ* and *\*ᵓawεn* are *måwεθ* and *ᵓåwεn* in Babylonian Hebrew just as they are in Tiberian.[62] We conclude that the Babylonian Massoretes were aware of the rule of labialization and chose to show its effect by using *miqpaṣ pumma*, which must have marked therefore a labial (i.e., back round) vowel in their reading.[63]

3.3.3 I believe, therefore, that it is with some confidence that we can establish the value of *miftaḥ pumma* as a low front vowel and *miqpaṣ pumma* as a low back round vowel, in accordance with the views of Klar and Morag.[64] Since we have argued that this vocaliza-

[58] See my forthcoming article in *Israel Oriental Studies*, "Variable Rules in Philology," for the special status of inverse spellings to prove phonemic merger.

[59] It appears now that under various sociolinguistic conditions even unsophisticated speakers are consciously aware of allophonic differences and phonetic values and, therefore, that spelling can sometimes show synchronic and diachronic phonetic changes. See my article referred to in n. 58 above and references cited in that work.

[60] Specifically, Yalon claims that the corpus of texts which he examined (W. H. Rossell, *A Handbook of Aramaic Magical Texts* [Ringwood Borough, New Jersey, 1953]): "in four of them there are an abundance of examples for our matter . . . the exceptional minority, four out of thirty-two, prove the rule about the majority" (see Yalon, "Qametz," p. 276). This statement raises several problems, aside from the fact that it is based on a particularly weak argument from silence. First, the corpus examined by Yalon is not exhaustive by any means, so statistically based arguments are suspect. Secondly, these spellings appear in somewhat more than four of those texts; ten would be a more appropriate estimate (give or take one or two because of problems of reading and/or interpretation). It is just that in these additional texts there are not an "abundance" of examples. There seems therefore little reason to regard these as some sort of exceptional phenomenon.

The corpus of bowls examined for this paper include all Jewish bowls published in the twentieth century which were known to me. All have been collated with the original photographs and/or hand

copies, with the exception of five bowls from I. Jeruzalmi's book (*Les Coupes magiques araméenes de Mésopotamie* [Paris, 1974]) for which I have relied on copies in C. Isbell's *Corpus of the Aramaic Incantation Bowls* (Missoula, Montana, 1975), since I could not obtain Jeruzalmi's work.

[61] Morag, "Vocalization of the Babylonian Talmud," p. 85, n. 75.

[62] I. Yeivin, *The Tradition of the Hebrew Language Reflected in the Babylonian Vocalization* (Jerusalem, 1973), p. 209.

[63] Morag supports this view as well by the names of this vowel in Babylonia, *miqpaṣ puma* = closure of the mouth, *ᵓimṣa* = tightening, both of which seem to refer to a higher or closer vowel. My feeling is that he is on safer ground interpreting the vowel names on the basis of his identification of the phonetic value of the vowel than the reverse. Compare, for instance, the Syriac "long" for short (see above n. 41). The comparison is not strictly relevant, of course, but, nevertheless, suggests caution in deriving phonetic information from ancient terminology (see also n. 75 below).

[64] Z. Ben-Hayyim ("The System of Vowels of R. Saʿadya Geon," *Lěšonénu* 18 [1953]: 89–96, esp. 90–91) and A. Dotan ("Masorah," *Encyclopedia Judaica*, vol. 16 [Jerusalem, 1972], p. 1,443) also interpret the "Babylonian qameṣ" as *å*. However, even such recent writers as Yeivin (see "Babylonian Vocalization," p. 44) and Sharvit (see "Qametz and Holom, and Segol and Pataḥ," p. 554) have regarded the question as a standoff.

tion manifests the vocalic system of BJA at a relatively early period, we conclude that BJA had at an early date a six vowel system (fig. 4). This system did not remain stable however.

*The Archaic Babylonian Aramaic*
*Vowel System*

| | |
|---|---|
| i (1) | u (6) |
| e (2) | o (5) |
| ä (3) | å (4)[65] |

FIG. 4

### 3.4 The Merger of å and ä

3.4.1 In the manuscript of HP, *miqpaṣ pumma* and *miftaḥ pumma* are never in a position of contrast (except for one minor exception, which can, moreover, be explained phonetically, see below). In certain positions, *miqpaṣ pumma* is uniquely determined, viz. in word final accented position and in penultimate syllables followed only by /ʾ/ and a back vowel. The occurrence of /å/ in these positions seems phonetically conditioned, in the former case by word final lengthening leading to raising and rounding and in the latter case by vowel-vowel assimilation.[66]

In all other phonetic surroundings where *miqpaṣ pumma* appears, it is as a variable conditioned variant of *miftaḥ pumma*. The basic conditioning factor is that the following consonant must be a voiced continuant (or θ). As discussed at length in my forthcoming paper "Variable Rules in Philology," these consonants have a cross-linguistic tendency to lengthen preceding vowels, and phonetically longer vowels often approximate to the outside of the vowel envelope and rise. The precise effect of some of these consonants, e.g., *n* and *r* in raising *a* to *o* in Babylonian Aramaic and other Aramaic dialects is well known.[67] Morag already discussed this effect with regard to following /w/, where of course assimilatory rounding plays an even stronger role.

What is most interesting with regard to this effect in HP, however, is the fact that secondary conditioning factors can also be isolated, i.e., given the presence of the prime factor (the following consonant), other phonetic features in the word increase or decrease the frequency of å. Thus if the preceding consonant or next following vowel are labial, /m, w, β, u, o, å/, the numbers of *miqpaṣ pumma* are dramatically increased. If the next following vowel is a front vowel, however, incidence of *miqpaṣ pumma* is reduced almost to zero.[68]

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[65] This vowel chart represents to a certain extent an idealization. The /å/ may have been higher; the /ä/ may have been further back. In view of the evidence for fronting of the /o/, the relevant contrast may not have been front-back so much as round-spread (see also Morag, "The Tiberian Tradition of Biblical Hebrew: Homogeneous and Heterogeneous Features," *Peraqim* 2 [1972]: 105–44, esp. 127–28). Compare Modern Azerbaijani Jewish Aramaic where the back vowels vary "freely from back to central to centralized front in N (= the Northern dialects)" (see I. Garbell, *The Jewish Neo-Aramaic Dialects of Persian Azerbaijan* [The Hague, 1965], p. 26).

[66] See my article "Variable Rules in Philology," sec. 2.4.

[67] See Nöldeke, *Syriac Grammar*, pp. 31–32 and J. N. Epstein, "Zur Babylonisch-Aramäischen Lexicographie," *Festschrift Adolph Schwarz* (Vienna, 1917), pp. 319–22.

[68] For a full discussion, examples, and statistical tests of the significance of these effects, see my forthcoming "Variable Rules in Philology," sec. 2.3. Here suffice it to say that the confidence levels achieved by approved statistical measures of significance were never larger than .01.

The only occurrences of *miqpaṣ pumma* in the MS which do not seem to be clearly phonetically conditioned are in the so-called infinitive absolute, e.g., *mitåβ yaθβinan* = sitting we sit (p. 214), as opposed to the normal infinitive used as a verbal complement, for example, *ləmiṭbal* = to immerse (p. 214). However, this should also be explained as synchronically phonetic conditioning. First, from a historical point of view it is clear that the "infinitive absolute" arose as a special form because of phonetic conditioning. To the best of our knowledge, earlier Aramaic had only one form of the infinitive with a short *a*. The only dialects in which the lengthened *\*ā* is known are the Targum vocalization and HP (and Y). I assume, therefore, that under the special circumstances of syntactic emphasis for which the infinitive absolute was employed, the vowel came to be lengthened. There is no reason not to believe that the same phonetic conditions still obtained at the time of HP.[69]

Thus I conclude that it is reasonable to assume that in the dialect of HP *miqpaṣ pumma* and *miftaḥ pumma* represent allophones of a single phoneme. The phonemes /ä/ and /å/ of the earlier language had merged yielding a five vowel system (fig. 5).[70]

*The Later BJA Vowel System*

i (1)                    u (6)
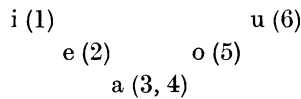    e (2)        o (5)
        a (3, 4)

FIG. 5

The plausibility of a development of this sort having taken place is much increased by comparative evidence. In the Jewish modern Aramaic dialects of Azerbaijan, described by Garbell,[71] the same five vowel system obtains, having been generated by the same *\*ā-\*a* merger hypothesized for BJA. Unfortunately, I am not in a position to prove that the reflex of *\*ā* had been *å* earlier in that language's history, but this seems at least very likely. Even more striking, however, is the fact that many of the identical allophonic rules occur. Thus the phoneme /a/, whose basic allophone is an "unrounded low front to front central a," is actualized in word final "as a rounded low back, slightly nasalized [ɒ] and by the female speakers of the U sub-dialect in N [Northern dialects] as a rounded back lower-mid [ɔ]." Furthermore, "[ɔ] is also an allophone of /a/ in the sequence /-ao-/ [bɔǫ́x]," to which compare the effect of *w* in HP. And also "/a/ has a centralized allophone [ä] . . . in S [Southern dialects] preceding /-Ci-/: jariq [järiq] . . . ,"[72] to which

[69] Lest this be regarded as a deus ex machina, I refer to Goldenberg's statement—made for purely grammatical reasons: "the front-extraposed infinitival subject [in BJA] is not marked as isolated by any specific particle, *but was in all probability made to be heard as such by dint of some characteristic intonation*" (see G. Goldenberg, "Tautological Infinitive," *Israel Oriental Studies* 1 [1971]: 36–85, esp. here p. 44 [italics mine]). It is striking how the synchronic syntactic investigation and diachronic phonetic aspects coincide.

[70] The proximate phonetic explanation for this merger is the fact that for a combination of articula-

tory and perceptual reasons, languages prefer to have more front-back distinctions at higher than at low position (see B. E. F. Lindblom, "Phonetics snd the Description of Language," *Proceedings of the Seventh International Congress of Phonetic Sciences* [The Hague 1971], pp. 86–87; I thank Ms. Malcah Yaeger for this reference). Note also that a similar merger has taken place in the Palestinian system, as well as in Eastern Syriac, as argued above (see Morag, "Hebrew Language Tradition," p. 103).

[71] Garbell, "Jewish Neo-Aramaic Dialect," p. 26.

[72] Ibid.

compare the near total absence of *miqpaṣ pumma* in precisely that environment in HP. Although Garbell claims these dialects are not direct descendants of BJA,[73] they must at very least be descended from closely related ones. These parallels, then, are more than typological and strengthen considerably the present theory.

3.4.1. This hypothesis affords a great simplification of the diachronic picture (see sec. 2 above). First, we need no longer posit an unmotivated and synchronically superfluous length distinction between *å* and *ä*. Secondly, there is no paradoxical shortening of vowels under stress. Where I have posited stress lengthening (in word final position and the infinitive absolute), the increased duration has the plausible effect of allophonically backing the vowel (i.e., increasing its peripherality vis-à-vis the vowel envelope), with concomitant rounding and perhaps raising.[74] Thirdly, there are no ad hoc analogies required (see n. 20 above), and finally, it accounts for the unexplained cases of *miftaḥ pumma* for historical *\*ā* and *miqpaṣ pumma* for historical *\*a*, e.g., *ʾəmåru*, "they said" < *\*ʾəmaru* (p. 236).

3.4.2 Assuming that my hypotheses are correct up to this point, there were two systems of vowels in use in Babylonia in the Geonic period: the archaic six vowel system used for Biblical Hebrew, Targum, and liturgy, and the colloquial five vowel system. A great deal of effort would have been required of liturgical readers and scholars and the like not to merge the /å/ with /a/ or /o/.[75]

Students and the relatively unlettered would very likely have heard the /å/ as /o/. This explains the total confusion of /å/ and /o/ manifested by the two Hebrew texts discussed above (sec. 3.3.2). Were /å/ retained as a separate phoneme in the speech of the scribes of those documents, the inverted spellings of *miqpaṣ pumma* for /o/ and *w* for /å/ would of course be inconceivable. Since there is no evidence of a general /å/-/o/ merger in BJA, the only remaining explanation is the one I have proposed—loss of /å/ in speech and its identification with /o/ in liturgical use by the nonsophisticated. Of course the allophonic [å] of BJA colloquial speech in this period, which has been argued for in the previous section, could also have been identified with /o/.

Turning, however, to the magic bowls, we find some problems. It may be fairly stated that most of the cases of *waw* for *\*ā* are where they would be predicted by my hypothesis, i.e., in words whose form or context proves them Hebrew or Targumic. Thus we find:[76]

    *a*) *ʾwdwn*, "lord"[77]
    *b*) *wlʿlwm*, "and forever"[78]

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[73] Idem, "Flat Words and Syllables in Jewish East New Aramaic of Persian Azerbaijan and the Contiguous Districts—A Problem of Multilingualism," H. B. Rosen, ed., *Studies in Egyptology and Linguistics in Honour of H. J. Polotsky* (Jerusalem, 1964), pp. 102–3.

[74] The idea that long *a*'s may be backed and raised to *å*, *ɔ*, or even *o* will come as no surprise to Northwest Semitists. See n. 72 above for a modern Aramaic parallel (i.e., the word-final raising) and my "Variable Rules in Philology," n. 13 for other examples.

[75] It might be noted that this view would tend to support Morag's explanation of another name for *miqpaṣ pumma*, namely *meṣaf pumma*. Morag explains this name as referring to the "special attention" required for the correct pronunciation of this vowel. If his etymology is correct, it would seem to be best explained if the vowel in question did not occur in the vernacular.

[76] I cite these forms in transliteration, grapheme for grapheme.

[77] C. H. Gordon, "Aramaic Magic Bowls in the Istanbul and Baghdad Museums," *ArOr* 6 (1934): text A.

[78] Ibid.

*c*) *hʾwrṣ*, "the earth"[79]

*d*) *hwrwḥwt*, "spirits"[80]

*e*) *hwrwḥ*, "spirit"[81]

*f*) *gwᶜwr*, "exorcised"[82]

*g*) *byrwšwlym*, "in Jerusalem"[83]

*h*) *bswṭwny*, "with Satans"[84]

*i*) *bwrwk*, "blessed"[85]

*j*) *hwᶜwlm*, "the world"[86]

*k*) *ᶜwlwk*, "on you"[87]

These forms are clearly Hebrew. We find also clear Targumic forms:

*l*) *hwdyn*, "this"[88]

*m*) *gdwmwhy*, "before him"[89]

*n*) *ywth*, "him"[90]

Of the forms in the last group, Gordon writes, "Ginsberg is inclined to attribute the occurrences of such official Aramaic forms to imitating the Targums," and this without reference to the *w* spelling but only morphological features.[91]

Another group of forms, occurring in one bowl, cannot be accounted for in this way however:

*o*) *rwḥyn byšwtʾ*, "evil spirits"[92]

*p*) *ʾynwšʾ* (5 ×), "man"[93]

*q*) *dśmwlʾ*, "of the left"[94]

*r*) *dsmwlʾ*, "of the left"[95]

One notices here a tendency to hyper or pseudo-correction in this bowl, as shown by the Hebraizing spelling with *ś* in (*p*) and the barbarism *rwḥyn byšwtʾ* of (*o*). (We should expect either *ruḥin bišan* or *ruḥe bišaθa*, of course).[96] Perhaps this Hebraizing or hyper-correcting tendency could explain the *w*'s here. We are still left with a residue of unexplained *w*'s however.

[79] Idem, "Aramaic Incantation Bowls," *Orientalia* 10 (1941): text 7.

[80] Ibid.

[81] Ibid.

[82] Ibid.

[83] Ibid.

[84] Ibid., text 11.

[85] Idem, "Aramaic Magic Bowls," Hyvernat's bowl.

[86] Ibid.

[87] Isbell, *Aramaic Incantation Bowls*, p. 152.

[88] Gordon, "Incantation Bowls," text g.

[89] Ibid.

[90] Ibid.

[91] Ibid., p. 346, n. 1. See also Rossell's remark: "Note also that â > ô (as shown by mater lectiones ן‎) goes with the והי‎ form (i.e., קְדָמוֹהִי‎ versus קְדָאמֵיה‎ where â remains." (W. Rossell, *Aramaic Magical Texts*. 22.) Also: "This usage of יָת‎ is a literary affectation from Biblical Aramaic or still more likely the Targumim . . ." (ibid., p. 37). See also J. Blau, *On Pseudo-Corrections in Some Semitic Languages* (Jerusalem, 1970), pp. 53–54, citing Rossell approvingly here.

[92] Gordon, "Aramaic and Mandaic Magical Bowls," *ArOr* 9 (1937): text H.

[93] Ibid.

[94] Ibid.

[95] Ibid.

[96] See Blau, *Pseudo-Corrections*, pp. 24–25 for s/ś hypercorrection in Medieval Hebrew. I interpret *rwḥyn* here as the effort of a scribe used only to the Eastern plural *ruḥe* attempting to write "correct" Aramaic and misusing the -in ending in the emphatic state—a classic case of "over-self-denial" in Blau's terminology (ibid., p. 15). For another sort of hypercorrection see below sec. 3.5, esp. the paragraph beginning "The most dramatic . . . ."

*s)* *mlʾkwʾ*, "angel" [97]

*t)* *qynywnhwn*, "their property" [98]

*u)* *lyšwn* (3 ×), "tongue" [99]

*v)* *hwmry byšwtʾ*, "evil pebble-spirits" [100]

*w)* *bwᶜwtʾ*, "request" [101]

*x)* *ᶜlmwʾ*, "the world" [102]

If I wished to maintain my explanation of all of these spellings as owing to lack of *å* in the scribe's speech and his consequent merger of the Hebrew and Targumic phoneme with *o*, I would be hard pressed to account for this last group. However, another explanation may be offered for all these spellings (including perhaps those of the previous groups). They all occur in environments where allophonic *miqpaṣ pumma* occurs in HP. They would then, nevertheless, support my general hypothesis. Such spellings of conditioned [ɔ] are well known from Geonic writings as well and even from the Talmud [103] and therefore may be plausibly supposed here. A pseudo-correcting explanation may not be completely excluded, however, even for this last group.

All in all, our conclusion of a merger of /å/ and /ä/ in the BJA of the Geonic period seems quite justified in the light of the distribution of *miqpaṣ pumma* and *miftaḥ pumma*

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[97] Gordon, "Incantation Bowls," text 1.

[98] Ibid., text 7.

[99] Ibid., text 11.

[100] Gordon, "Aramaic and Mandaic Magical Bowls," H. It is not to be excluded that this form is the abstract noun, *bišuθa*, in which case, of course, it is irrelevant here. The phrase would then be a construct-genitive construction. Likewise (*o*) *ruhin bišuθa* may be read as an error for *ruḥe bišuθa*, "spirits of evil." The noun *bišuθa* is well attested in these texts. Note also that *hwmry byš²t²*, *zdny²t²*, and *byry²t²* also occur in this text. I am inclined, therefore, to see *hwmry byšwtᵓ* as a syntactic variant of *hwmry biš²ta*, not orthographic or phonetic and therefore as irrelevant here.

Some other forms which have been cited in this regard are based on mistaken or ambiguous readings and/or interpretations. In the former category, we place such readings as *mydwᶜm*, "something" (see Gordon, "Aramaic Magic Bowls," text D), which certainly must be read *mydy²m*, yielding phonetic *miδem*, precisely the expected form. The *yod* and *waw* are quite indistinguishable in most of these texts. Likewise Myhrman's *wbwtyhyn*, "and their houses" (see D. W. Myhrman, "An Aramaic Incantation Text," *Hilprecht Anniversary Volume* [Philadelphia, 1909], pp. 342–51, esp. here 345) must be, of course, *wbyty-hwn*, as seen by Isbell, *Incantation Bowls*, p. 24. A more difficult case is posed by a series of forms in Gordon, "Incantation Bowls," text 6:

(a) *zrᶜwh* = "her seed"

(b) *bytwh* (3 ×) = "her house"

(c) *pqynynwh* (3 ×) = "and her property"

Various strategies may be adopted to explain these forms. Gordon transcribes the *w* with *qameṣ* and calls these "double matres lectionis" (see ibid., p. 126). I deduce from this designation that he considers the original consonantal /h/ as apocopated. That being the case, one could regard this phenomenon as the word final allophonic raising of /a/ which I have posited. (See also ibid., p. 358, where Gordon seems

explicitly to regard the final *h* as apocopated.) A further possibility (not very convincing) would be to regard these forms as Hebraizing. The most likely explanation in my opinion is that *w* here is to be read *y* (a possibility considered by Gordon ad loc. as palaeographically possible). The forms would then represent the substitution of masculine *-eh* for feminine *-åh*, well documented for BJA in S. Friedman, "Three Studies in Babylonian Aramaic Grammar- C. ‏ה-‎ as Feminine Possessive Suffix," *Tarbiz* 43 (1973): 64–69. The least likely alternative is that in the BJA dialect of the writer the feminine suffix was *-ah* (as claimed by Rossell). There is simply no evidence for such a form in BJA (see J. Malone, "The Isolation of Schematisierung: A Service of Linguistics to Philology," *JAOS* 94 [1974]: 396–98).

Finally the form *byšmwk*, "in your name" (see Gordon, "Aramaic Magic Bowls," text G and passim), must be dealt with. If this is to be read with *w*, it is in any case Hebrew (or Hebraizing) as the context shows: *bišmɔx ²ani ᶜośε*, " in your name I do." Although, to be sure, it does not always occur in this context, it is does so often enough that it may be regarded as always Hebrew. It is not impossible, however, that the correct reading is *byšmyk*, in which case the form would be *bišmex* or *bišmix*, by no means a surprising form in BJA.

[101] Gordon, "Aramaic and Mandaic Magical Bowls," text 19745.

[102] Isbell, *Incantation Bowls*, p. 150.

[103] See Epstein, "Gloses Babylo-Arameenes," *REJ* 73 [1921]: 49 and ibid., pt. 2 in *REJ* 74 [1922]: 50–51) has gathered examples of *waw* for *²å* from Montgomery's texts and explicitly connected them with the conditioned shift before continuants discussed above and in his earlier work (*Babylonisch-Aramäischen Lexicographie*). The form *swpryy²*, "scribes," which he cites ("Gloses," pt. 2, p. 51) should be explained as assimilation to /f/, as likewise the form *²wpykh*, "overturned" (see Gordon, "Incantation Bowls," text 9726), where the vowel was originally short *a*, of course.

in HP. The conclusion seems well supported in addition by the /å/-/o/ confusions of certain uneducated scribes in writing Hebrew and "high" Aramaic. According to my hypothesis, the scribe of HP himself identified the allophonic [å] of his dialect with the phonemic /å/ of Targum and Hebrew and thereby adopted *miqpaṣ pumma* to spell his allophone. Thus in Babylonia at that time there was a kind of Aramaic diglossia, with *a* and *å* as allophones in colloquial speech and in reading the living literary language but phonemically distributed in Targumic reading. This would have been the situation in the last centuries of living Aramaic speech and literary productivity among Babylonian Jewry.

## 3.5  Yemenite Re-creation of the Opposition

The Yemenite Jews received their literary and linguistic traditions from Babylonia at just about this time. This readily explains their realization of *qameṣ* as *å*, as well as the closeness of their Talmudic reading to many aspects of *Halakhot Pəsuqot*. However, in their reading of the Talmud, *ä* and *å* are differently distributed in part from the situation in HP. All of the differences consist of incidences of *å* where HP has *a*.[104] The opposition is phonemic as shown by Morag's minimal pair /pärеš/ "he leaves,"-/påreš/, "he explained."[105] In my opinion the most satisfactory explanation of this phenomenon is to assume interference between the liturgical reading tradition of the Targum and that of the Talmud.

Morag himself allows for a certain degree of interference between Targumic and Talmudic phonology in Y.[106] I believe that he underestimates the extent of interference and that precisely in this area of /å/-/ä/ patterning it can be demonstrated. Examining the environments in which Y consistently shows /å/ but HP has *miftaḥ pumma*, we find that they may be categorized grammatically rather than phonetically. In short, they are all in situations where merger of the two phonemes resulted in the loss of a morphological opposition, otherwise well established in the language. Thus, for instance, the merger of /å/ and /ä/ in the feminine plural suffix led to the loss of contrast between that morpheme and the first person plural, *haðran* meaning both "they (fem.) return" and "we returned." The hypothesized restoration of /å/ in the feminine form (i.e., its reimportation from TOJ) re-created the morphological opposition. It seems to me that the assumption of analogical restoration of iconicity is much more satisfying than that of analogical destruction thereof.

The most dramatic confirmation of this thesis comes, however, when we consider the forms of the participle. In HP, of course, all forms of the participle have only *miftaḥ pumma*. In Y all participial forms in which there would be homophony with other verb forms if /ä/ were retained have /å/ *and only in those*. Where no loss of grammatical contrast was present, the original /a/ = [ä] resulting from the merger has been retained. Thus the Yemenites restored /å/ in the feminine participle *qåṭəlå* to distinguish it from the past tense form, which is *qaṭlå* in their tradition. It is perhaps superfluous to note that these are a minimal pair, since *shwa* is an allophone of Ø conditioned by the /å/. In the participle with actor suffixes, however, where no merger of grammatical categories resulted, they did not restore /å/, e.g., *qaṭlinan* not *\*qåṭəlinan*. The clinching argument

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[104] See Morag, "Vocalization of the Babylonian Talmud," pp. 76–77.

[105] See idem, "Vowel System," p. 221, as well as others.

[106] See idem, "On the Yemenite Tradition of Babylonian Aramaic" [in Hebrew], *Tarbiz* 30 (1960): 120–19, here esp. 120–21 and n. 2.

for this *schematisierung*[107] is the extension of this morphophonological opposition to an area where it demonstrably never existed in the language. The Yemenite tradition shows two variants of the plural participle *qatle* and *qåtəle*, differentiated semantically. The first is used when the context requires a past tense and the second in more properly participial contexts.[108] This distinction—paralleling the distinction in the feminine singular—can have no historical basis. The old past tense form was *qətalu*, and of course, there are no phonetic conditions that would lead to such a split. Unless we adopt a completely new set of assumptions about the nature of sound change, I believe we are forced to conclude that the Yemenite sages restored the *qåtəle* participle as well as the *qåtəlå* form for the feminine, following the Targumic model.

In nouns of the form *qətālā, where the /å/-/ä/ merger had no semantic consequences, the two vowels were assigned more or less arbitrarily; /ä/ was retained in nouns which never had allophonic [å] owing to their phonetic shape; and /å/ was lexicalized in some nouns which often had [å] in the spoken Babylonian language.[109] Even here a semantic principle seems to have played a part as illustrated by the difference between the noun /šəlåmå/, "peace" and the adverb derived therefrom /bišlämå/, "well and good." In masculine singular participles where [å] was extremely rare because of the front vowel in the second syllable and moreover no grammatical confusion resulted, /ä/ was lexicalized invariably. As far as I know, this criterion explains virtually all, if not all, cases where HP has *miftaḥ pumma* but Y has å, and therefore it is with a certain degree of confidence that we may characterize Y as a mixed tradition. It has a foundation of spoken Babylonian Aramaic similar to that of *Halakhot Pəsuqot*, with important archaizing overlays derived from the Targumic tradition.

## 3.6 Less Important Geonic Traditions

The scope of this paper does not allow full analysis of the *å-a* patterning of the less important Geonic texts, i.e., *Halakhot Gədolot* and the Geniza material. I should like, however, to cite Morag's conclusion:

The vocalization of HP and that of HG are not identical in the full meaning of the word. In the vocalizations of these two sources (and in that of the Geniza fragments) two layers are recognized in certain matters of phonology and morphology: one matching the general pattern of Aramaic and one different from it. In the first layer the influence of literary vocalization traditions which were known to the vocalizer (Biblical and Targumic Aramaic) reveals itself, whereas the second layer represents the reality of the spoken language of Babylonia in the Geonic period. In the vocalization of HP the scope of the second layer is much broader than in HG.[110]

This (at least) typological parallel lends credence to my interpretation of the Yemenite system. It is not to be excluded even that there is a genetic connection between such late Geonic traditions of BJA and Y.

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[107] For the term and concept, see Malone, "Isolation of Schematisierung."

[108] See Morag, "Babylonian Aramaic in the Tradition of Yemen," p. 193.

[109] See Morag's list of forms with å in Y ("Notes on the Vowel System of Babylonian Aramaic as Preserved in the Yemenite Tradition," *Phonetica* 7 [1962]: 217–39, here esp. 223–24), e.g., *qəråva*, *qəhåla*, etc. All the examples have the expected conditioning consonants.

[110] Idem, "Vocalization of the Babylonian Talmud," p. 93.

*Conclusions*

The hypothesis which has been offered here represents a simplification of the history of Babylonian Jewish Aramaic from a linguistic point of view. Instead of conditioned mergers extended by complex analogies, we are now faced with an unconditioned merger of low vowels—a straightforward phonetic development. The linguistic simplification is at the cost of complication of the historical or socio-linguistic explanations. The concepts of "variable rules," "diglossia," and "languages in contact" have been introduced. I believe that this cost is in fact a gain for the theory, for all of these complexities are the well-known facts of language use today and in communities very similar to Geonic Babylonia.[111]

In the words of Nöldeke: ". . . ja so kann es gewesen sein, aber vielleicht war es doch ganz anders."[112] While I believe that the evidence points in the direction of the hypothesis proposed here, there is no evidence which proves the view of Morag wrong. The (at least) typological phonetic parallel from Modern Aramaic (see above) lends considerable plausibility to the reconstruction of the phonetics of the late BJA /a/ as attested in HP. In any case, the strong possibility that there is no linear relationship between a more archaic BJA behind the Yemenite tradition and a later development in *Halakhot Pǝsuqot* but rather that Y is a later archaizing tradition, should give us pause. For the present, the safest approach would seem to be the conservative one of regarding *Halakhot Pǝsuqot* as the closest we can come to the vocalism of a living dialect of Babylonian Jewish Aramaic.[113]

[111] See idem, "Tiberian Tradition of Biblical Hebrew," esp. pp. 105–8.

[112] Nöldeke as cited in F. Rosenthal, *Die Aramaistische Forschung seit Th. Nöldeke's Veröffentlichungen* (Leiden, 1939), p. 238.

[113] My student, Mr. Lee Paskind, is presently preparing a description of the vocalized BJA verb in the *Halakhot Pǝsuqot* MS.