Tiberian Hebrew Pause and the Past Tense: 
A Lexico-Semantic Contrast Revealed 
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I am by turns amused and frustrated by the grammars, especially the teaching grammars, and specifically those grammars that cook up their own Hebrew and English sentences for translation, because inevitably the authors offer impossible forms. For example, there are sentences instantiating a syntax that is simply not early or standard or classical Hebrew, and systematically so, because of defective traditional analyses. Similarly and more relevantly, impossible Tiberian readings are offered, and this is obviously and surprisingly the case at the end of the cooked-up examples: the forms are not pausal. How can that be? No Tiberian pause? How can that be? If there is one big fact about Tiberian Hebrew it is that all words are subject always and everywhere to variation conditioned by relative prominence or stress. In fact, it is only in pause that fundamental contrasts are maintained, and thus contrasts are lost when pausal phonology is lost. There can be no doubt that native speakers of the Tiberian dialect—and I assume there were such speakers at one point—would produce pausal forms in isolation if prompted, and that their paradigms and dictionary entries would directly reflect this.

When I first began to construct Tiberian nominal and verbal paradigms from first phonological principles, from formal or generative principles, I was stymied in all directions by unexplained variation. Instructors who shall remain nameless gave of shrug of the shoulders. While grammars do note the extensive variation among forms, this is always an exercise in taxonomy, not in explanation. Accordingly, one would think that the variation revealed is random, hence lacking in interest, but the variation is not only not random, but it is relevant to the syntax and semantics. My paper today begins to explain the variation in only one but highly significant verbal paradigm, the Tiberian third-person past tense of all the *binyanim*.

<S 2> The variation here seems intractable, but I have an original solution—at least I hope it is in part original. My conclusion is that there are at least four Tiberian vowels, not the conventional three *i, a, u*, and that there is revealed an unexpected but robust lexico-semantic contrast encoded in the additional contrasts.

<S3> Let’s make sure we understand the question I am posing. What exactly do I mean when I say that Tiberian Hebrew has at least four vowels? Let us consider basic data from English. Unconditioned variation reflects different consonants and vowels. If we control for all sources of variation, any contrasts reflect different underlying segments. Thus, we safely conclude that the vowels of *bid, bed, and bad* are contrastive—we say they are separate phonemes: the variation in vowel is unconditioned and there are three separate lexical entries.

We can also turn this around. The reverse is also natural: we may observe the same vowel, the same vocalic phoneme, varying in different contexts. Analysis will show that the underlying vowel in *bide* and *bight* is the same, yet the realization of the vowel varies, and in systematic ways. In my Canadian pronunciation, a vowel before the voiced stop is noticeably longer, indicated by the colon, but a vowel before the voiceless stop is quite short. Moreover, in this case there is also a distinctive Canadian raising of the vowel: [ʌɪ] for [ai]. And finally, the final *i* is reduced to the simple glottal stop.

Let us see how this approach handles variation in a non-Hebrew context. Take a simple example from Akkadian. One of the most interesting properties of cuneiform writing is the original fourfold contrast among the vowels of Sumerian. High and low, front and back, refer to the relative tongue position when pronouncing the vowels. It turns out that Akkadian in fact introduced a low front vowel conditioned by lost gutturals. In other words, low front /e/ is contrastive. And so, it is not surprising to find the contrast made elsewhere. Consider a very simple example. The verb form *tapqīd* ‘you entrusted’ has the corresponding imperative *piqīd* ‘entrust!’, and similarly *taprūs* ‘you separated’ and *purūs* ‘separate!’, *tasbat* ‘you seized’ and
stressed ‘seize!’ The correct generalization in this case is that the stem-vowel is carried over to the secondarily opened initial syllable. Except we find a class of exceptions: *talmad* ‘you learned’ but *limad* ‘learn!’ with i instead of the expected a. This is not one odd, lone exception: there is also *pilah*! ‘fear!’, *rikab* ‘ride!’,* tikal ‘trust!’ , and so on. We might rest content with noting the class of exceptions, but this is to miss significant linguistic generalizations. By insisting on one simple copying rule, by insisting on the strong claim, we force ourselves to take a closer look. Either way we will learn something about the language, but without the strong claim of regularity we would have no cause to look. Furthermore, we make predictions. We expect any variation elsewhere to be conditioned by the same syllable structure, for example. And again, since the cuneiform script makes a fourfold distinction, we predict that the proposed contrast is reflected in the writing. And so on.

That is Akkadian. The same problem arises in Tiberian Hebrew giving rise to a similar analysis. My mentor and thesis advisor—actually one of two—spent a great deal of time and effort in understanding the bewildering variation of the historical and underlying i-vowel. He was moving away from simple taxonomy and towards identifying environments that might condition such variation.

Consider two observations that inspired this particular study. *Yovad yom ivaled bo!* An uplifting sentiment: ‘Let the day perish wherein I was born’ as the King James has it. The problem is the pair reflexes of the assumed i-vowel. Crucially they appear in the same context: a final unstressed syllable ending with the *dalet*. Which is expected …? The *seghol* of course, the front vowel. But then, why the unconditioned *patah*?

Take another observation in Gesenius. It is noted that based both on the putative history of Hebrew and the typical reflexes of the vowel, it would be better to call the binyan the *pasil* instead of the *piel*. The insight can be extended. For *binyanim* corresponding to the *piel*—that is, the *pial*!—the only reflexes are those of the historical *a*-vowel. The only analysis available is that related stems are *qatal*, *qitlal* and *qilqal*. More relevant to the present study is that the analysis should be extended to the *hitpael*, or rather, the *hitpael*. How does that make any sense?

That is all by way of background.

Let us proceed with a formal or generative analysis of the Tiberian Hebrew variation that is found in the third person past tense. *<Sn>* There is no doubt that we can isolate a system of rules, patterns and correspondences with reference to the three vowels inherited from proto-Semitic *i*, *a*, *u*. The Tiberian *qal* and *nifal* of the non-past tense e.g. exhibit the inherited high vowels in pristine glory. The fullest form, the most prominent reflex, appears in the open syllable of the third masculine plural and second feminine singular: *yiqtolu, tiqtoli* in the *qal*, and *yiqquatelu, tiqqateli* in the *nifal*. In the third masculine singular, it does not matter whether the closed syllable is in pause or not: we will say that the vowel is *invariant under stress: tzere is tzere, xolem is xolem*. When unstressed, the vowel lowers, and it is not a coincidence that these are the corresponding schwa vowels: *qametz and seghol*.

But then, notice the contrast with low back vowel of the *qal* past tense. In the tonic open syllable, *qametz* obtains, but in the third masculine singular with the closed syllable, the vowel varies under stress: it remains *qametz* in pause but lowers to *patax* elsewhere. This contrast is fundamental: whereas the high vowels are invariant under stress, the low vowel is *variant under stress*. 

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Finally, notice how a high vowel may be conditioned by the guttural, in effect producing reflexes of a low vowel. The vowel in this case is also variant under stress as expected of the low vowel. The pausal [ea] with the furtive patax is distinctive but is eliminated elsewhere.

I make the strong claim that this is it for Tiberian Hebrew. These are the reflexes, the patterns, the phonemes. I may be wrong, but at least I will learn something either way. Making a strong claim that there is no other variation forces me to take a closer look at the actual Tiberian data, not to pass over seemingly random variation.

<Sn> Let us then take the easiest case first: the hitpa’el or hitqattel in the third person past tense. Unfortunately, the data has gaps, but we can work with the tokens that we have. If we insist on our strong claim, the attested forms force us to posit two separate vowels, thus separate sub-binyanim, as it were. It’s really that simple. What’s more interesting is what we can predict on this basis. First, that the patterns are consistent for individual roots e.g. the root qadash ‘holy’ always shows the reflexes of one or the other vowel. Second, the sorting of roots into two classes itself is not random but independently motivated. Further, one class is marked, is special in some way, the other class is unmarked, neutral, the default. And given what we know about the markedness of vowels cross-linguistically, we are assured that the low vowel is unmarked. We are correct on all counts.

<Sn> On one side, we find the regular syntax and lexico-semantics of the hitpa’el as described in the grammars—what we are now going to refer to as the hitpa’al sub-binyan! Take the root qadash ‘holy’ as the paradigm: adjective qadosh ‘holy’, stative qadéshu ‘they are holy’, piel qiddash ‘he consecrates’ with the causative hitqdish, and finally the regular reflexive of the piel hitqaddashu ‘they consecrated themselves’. Thus, also tahor ‘clean, pure’, xazaq ‘strong’; hitgallax ‘shave self’, hitxabar ‘join self to’. And we would predict, gadol would follow the pattern if we had the tokens.

<Sn> There are also the reflexives of the qal: hit’azzar ‘gird self’, hit’appaq ‘restrain self’. <Sn> Curiously, there are two examples of working oneself up into an emotional state: hit’annaf ‘to get angry’ and hit’abbabar ‘to fly into a fury’.

<Sn> What is on the other side of the ledger? What will we now call the marked hitpa’el sub-binyan: the contrasting lexical class? Take the root halax as the paradigm here. It has been universally understood that hithallex is not the lawful reflexive of the piel, not really much of a reflexive at all, perhaps the middle voice. The value is so at variance that Speiser suggested that this is not even the reflexive infix .articles but rather a continuation of the Semitic durative-iterative infix tan as found in Akkadian. Thus, also according to Speiser hitabbel ‘he mourned’ and hit’allei ‘he dealt wantonly’, among others. <Sn> We can easily add hitpallel ‘he prayed’ and hit’mmer ‘he dealt tyrannically with’ as obviously falling outside of the regular syntax and lexico-semantics of the reflexive.

In short, we discover a phonological bifurcation that corresponds to a lexical bifurcation that we can explore. The regular and unmarked of the pair is the hitpa’al sub-binyan, and we find something else with the hitpa’el sub-binyan. You have to stand in awe of the Masoretes who can systematically make this distinction across all the tokens that is presumably not even active distinction for them.

<Sn> Let us move to the opposite situation in the simple qal: we already recognize here the bifurcation into stative and non-stative lexical classes, but do we really understand the phonology? Right off the top we can note that traditional grammars have it backwards: the pausal forms are basic, and the contextual forms are derived from them by regular rules. It cannot be otherwise, since the correct pausal forms cannot be predicted from the contextual
forms, a point I’ve made several times elsewhere. We are right to create actual Tiberian paradigms and lexical entries based on the pausal forms.

In addition, there is the glaring problem with the reflexes of the stative: in the third person singular, the vowel varies under stress. Only in major pause do we find tzere, or tzere-furtive-patax for the gutturals for which I’ve provided tokens of shama ‘hear’; elsewhere a patax obtains. If we are stubborn and stick to the strong claim, we should posit a low front vowel, which I represent with Greek epsilon. At which point you should push back: it is wildly excessive to posit another vowel, when all we need is to maintain the binary contrast.

What I must show for the argument to go through is a contrast between a high front vowel, call it tzere, and a low front vowel, call it seghol. What would that contrast even look like? In pause there would be no contrast, but elsewhere the high vowel would remain invariant under stress, but the low vowel will vary under stress, in fact lower to patax. We expect the contrast to be consistent for a given root, systematically creating two lexical classes, dividing the lexicon right down the middle, one unmarked class with a predictably low vowel, the other class not, and with some regularity across the binyanim. And our expectations are met.

It would be a Master’s thesis to work through the data, but I will review the highlights. First, note the overlap with the hitpa‘al marked in red. If you think about it, a root with a final guttural will end up here automatically, those marked in blue, lending weight to the idea of a default. On the other side of the fence, what is so striking is the number of denominatives: ear, word, xevel pain, sin, five, priest, cover, writer, stringed instrument, a bronze snake, zeal or jealousy, and finally root. Another group of atypical piel can be added, here in green. Based on what we’ve seen so far, we would predict that Jenni’s proto-typical piel would all be on one side of the ledger with the unmarked low vowel. And we would be wrong! Oh, well! Maybe it is all just random.

Or we have to look harder, and in fact look harder specifically on the marked side of the ledger. What is so special about those roots specifically? There is one obvious case: medial aleph and ayin. Do they make a natural class? Yes, indeed. I mark blue for the class, and purple as the mix of red and blue! It’s not just the medial consonant, but also the final consonant. A final nun is exclusive to this side of the ledger. A final aleph (sort of), but we can save dikka for another time. Even double lamed, which as dental sonorant can be compared with the dental sonorant nun as a natural class. What’s curious about double lamed is that we’ve seen that before. Recall where we started. Now, would you say that that is just one big coincidence? Maybe, maybe not.

Finally, add in the denominatives and oddballs in green, and we’ve already accounted for most of the roots.

Do these phonological classes make sense as conjointly keeping a vowel higher? Yes, I think so, but we can’t get into the details today. What I claim is simply that both phonological conditioning and lexical conditioning are at work, indeed overdetermining the marked class, and note that the phonology trumps the lexico-semantics.

Tiberian Hebrew is not Arabic with a bad accent. Tiberian Hebrew phonology cannot be dismissed for not being easily derived from Arabic as underlying representations. Tiberian Hebrew cannot be swept aside for being late or derivative, since I see signs of a long and faithful transmission over generations, over centuries.

Tiberian Hebrew data must be taken seriously. Tiberian pausal phonology must be taken seriously. Tiberian Hebrew is assumed to reflect the phonology of a natural, spoken language. We must assume that Tiberian variation is not random variation. The Masoretes are not sitting
around throwing darts to determine the vowel. <acting> A: What’s the vowel here? B: Just wait! <throwing dart> B: tzere! <writing down carefully> A: Okay, tzeereee. No variation is not random if you take the variation seriously.

And that is what I am doing. If you take Tiberian phonology seriously, and you approach the data from first theoretical principles, surprising facts keep popping up. Today we find systematic bifurcation within the non-passive binyanim, we find what I’m calling sub-binyanim. And the dichotomies revealed correspond to plausible lexical and/or phonological conditioning. There is necessarily a split within the hitpa’el, into hitpa’el aaaaand hitpa’al, from first principles. The latter is the unmarked lexically and phonologically. The split within the qal into stative and non-stative is clear, but the phonological contrast is not. While we might dodge the odd reflexes of the stative, we cannot wiggle out of the problem in the pi’el: there is a systematic contrast, there must be separate vowels, and they seem conditioned lexically and phonologically, and as we’ve seen, the phonology gets the first pass, and the remaining stems are distinguished by semantics. Not only that, we find the contrast across the binyanim.

We predict—and in fact find—that the fourfold contrast appears elsewhere with the same sort of conditioning. Recall our minimal pair ending in the voiced dental /d/: yovad yom ivalled bo. I claim that the unstressed ed of ivalled is the lawful reflex of the Semitic high front *i. But the ad of yovad is clearly not. I claim rather that the latter reflects the Tiberian low front vowel /e/.

Let’s take a step back and look at the bigger picture. We see that lowly, late Tiberian Hebrew has direct consequences for Semitic studies in general. My sense is that the revealed Tiberian fourfold contrast is not derivative but rather an inheritance of pre-Hebrew. That suggests that we look harder at the Semitic phonologies in this light: we might learn something. We can also see the diachronic pathway for losing this Tiberian distinction among low vowels. Once pausal phonology is lost, the contrast is lost, the system collapses, and this is also true across the nominal paradigms. Thus, instead of a Canaanite shift, i.e. the raising of the low vowel a to o, but crucially without obvious motivation, we should consider an Arabic and cognate collapse with a collapse of prosodic conditioning.

But it is not just phonology that must question assumptions. The Tiberian vowels have reopened the comparative study of the Semitic binyanim. We saw that the bifurcation into hitpa’al and hitpa’el makes contact with contrasts made within the Akkadian verbal paradigms. In short, several questions of syntax now hang on the Tiberian contrast.

And for the ambitious, there is a complete overhaul of Ernst Jenni’s 1968 Das hebräische Pi’el: Syntaktisch-semasiologische Untersuchung einer Verbalform im Alten Testament. Is there anyone here looking for a thesis topic?

Stand in awe.