A New Dialect is Born:

Conjunction Variation in Hebrew

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0. Introduction

The Biblical Hebrew (BH) conjunctive clitic /w+/ 'and' forms an initial syllable with the following word, normally [wə]. However, well-formedness phonological constraints trigger clitic form alternation within certain environments, in a way similar to other word-initial clitics (*l+* 'to, for', *k+* 'like', *b+* 'in, using').

In Common (low stratum) Modern Hebrew (MH), since the triggering environments have long gone, speakers do not express clitic alternation. However, a higher stratum does exist ("Radio Hebrew", RH) where a paradigm influenced by the Biblical one is followed. RH mainly serves as a formal variant for speakers who normally use common MH, however some exclusive RH speakers do exist.

I propose a third stratum exists in today's Hebrew-speaking sphere: a **hypercorrective stratum** ("Teachers' Hebrew", TH), an attempt to use the high stratum which tends towards the outstanding clitic forms, even when they are not necessary. This is due to speakers' unfamiliarity with the original Biblical Hebrew phonological constraints. This stratum is used exclusively by people who normally use the low stratum, when in social contexts that require formality (ceremonies, literature recitation, etc.).

My goal is to find a grammar which explains each of these strata, within Optimality Theory's methodologies of Multiple Grammar analysis.

1. PRELIMINARIES – BRIDGING THE MILLENNIA GAP

First, a note: Biblical Hebrew will be analyzed in this paper according to the Tiberian script. Occasional simplifications may occur, as most nuances are unrelated to the matter at hand: most notably the metrics of the mishkalim system. For example, vowel length and gemination will generally be ignored.

Other notational shortcuts are: /c/ for / $\widehat{ts}^{?}$/ (צ); /ṭ/ for /t$^{?}$/ (ט); /q/ for ק; underlined [g̱], [ḏ], [ṯ] for [γ], [ð] and [θ] (spirantized ג, ד, ת respectively); and /r/ for the rhotic of both Biblical and modern-day Hebrew variants, ר.

Before we get to the data regarding the conjunctive /w+/ and its modern successors, a broader introduction of the relationship between Biblical Hebrew and the modern variants is required. Much has been written on this subject, and theories range from renouncing all but lexical connections between the two (Horvath and Wexler 1997), through a multi-sourced hybridization model (Zuckermann 2006), to the most widely-accepted opinion that modern-day spoken Hebrew is indeed a proper continuation (or a "revival") of the Biblical language (Blau 1981 inter alia). Under either of the latter views, it is acceptable to hold (as I will hereafter) that Modern Hebrew has been significantly influenced by Biblical Hebrew, and has adopted the bulk of its grammatical system.

The main phonological difference from Biblical Hebrew that all three modern variants share is the **dwindled phonetic inventory**. While new consonants have been added to Modern Hebrew over the last few years (such as the dʒ in *pidʒama* 'pajamas'), these are traced to newly acquired loanwords and not to the belated revival of Biblical phonemes. Many Biblical phonemes have been eliminated or substituted, and where they appear in a form (or template) of Biblical origin they are "merged" into phonemes which do exist in the modern phonetic inventory: thus Biblical [β] and /w/ are both represented by Modern /v/; [g̱], [ṯ] and [ḏ] coalesce with their non-spirantized equivalents which do not alternate in the modern variants; pharyngealized consonants are no longer so; long vowels and shortened vowels (*ħăṭṭapim*) are pronounced with the same length as the short vowels; the *schwa mobile* [ə] (hereafter simply "schwa") merges into [e];

and more[1]. It is important to note that this merger is a well-defined function, meaning a given Biblical segment always surfaces in the same way in Modern / Radio / Teachers' Hebrew pronunciation.

This major difference has led to the complete disappearance of phonetic environments which trigger variation in Biblical Hebrew; however, their consequences (i.e. the emerging forms) are accessible to modern-day speakers via the Biblical script. Since many of the triggering and affected forms have been merged in modern usage, the result is "constraints" which are not phonetically well-formed. For example, a /k/ originating from Biblical /k/ undergoes spirantization to [x] when between vowels, but a /k/ originating from Biblical /q/ remains [k] in the same environment (compare *raxuv* 'situated in a vehicle' with *rakuv* 'rotten')[2].

Seeing as the issue of modern-day Hebrew Underlying Representation (UR) is not yet resolved, I will start by taking the written scripture forms as the Biblical UR, and suggest a merged-segment form of these as a UR for the modern variants.

2. THE CASE OF CONJUNCTION: /W+/

The conjunction alternates under inspection will be the following: [wə+], merged as [ve+], which is undoubtedly the default form; [u+], which is triggered by labials and onset clusters; and [wa+] / [va+] as a case study for guttural triggers. Two alternates are negligible and will be ignored – [wi+] / [vi+] (as the syllabification of a /y/ nucleus); and [wa+] / [va+], when triggered by some stressed syllables, e.g. *basar vadam* 'flesh and blood'. This last form is idiomatic, extremely rare, and unproductive, so it may be assumed to be lexical in nature.

I will now provide the data, with the modern tokens personally collected from TV, radio, webcasts, official ceremonies, poetry readings and day-to-day situations. Biblical tokens were built in a way consistent with the script. Notice the phonetic environments in which the various alternates occur, as well as the stem-initial segments, in cases where spirantization may occur (/b/ => [β] or [v], /k/ =>

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[1] Some phonemes, most notably /ħ/ and /ʕ/, are not in most modern speakers' inventories but surface at others' speech. As this is sometimes register-dependent, I will include these two phonemes in the Radio Hebrew phonetic representation, while noting that not all Radio Hebrew speech surfaces them.

[2] And indeed, spirantization is being redefined by Modern Hebrew speakers, as observed by Adam 2002.

[x], /p/ => [φ] or [f]). Primary stress is indicated by an acute accent only to show it is irrelevant.

(1) Data:

 a. Biblical Hebrew

UR (script)	Gloss	Biblical Hebrew[3]
/w+nahar/	'and a river'	wənahár
/w+ʕaxšaw/	'and now'	wəʕaxšáw
/w+matay/	'and when'	**u**maṯáy
/w+beṯħ/	'and surely'	**u**βéṯaħ
/w+pitʔom/	'and suddenly'	**u**φitʔóm
/w+šlaħ/	'and send'	**u**šláħ
/w+ldabber/	'and to talk'	**u**ldabér
/w+lilmod/	'and to learn'	wəlilmód
/w+lipʕamim/	'and sometimes'	wəliφʕamím
/w+laken/	'thus'	wəlaxén
/w+lamrot/	'and in spite of'	wəlamróṯ
/w+laʔmito/	'and actually'	wəlaʔamiṯó
/w+kamuban/[4]	'and of course'	wə**x**amuβán
/w+ħlonot/	'and windows'	**wa**ħălonóṯ[5]

 b. Modern-day Hebrew UR (merged Biblical UR)

UR	Modern	Radio	Teachers'
/ve+nahar/	venahár	venahár	venahár
/ve+axšav/	veaxšáv	veʕaxšáv	veaxšáv
/ve+matay/	vematáy	**u**matáy	**u**matáy
/ve+betax/	vebétax	**uv**étaħ	**uv**étax ~ **ub**étax
/ve+pitʔom/	vepitʔóm	**uf**itʔóm	**uf**itʔóm ~ **u**pitʔóm
/ve+šlax/	vešláx	**u**šláħ	**u**šláx
/ve+ldaber/	veledabér	**u**ldabér	**u**ldabér ~ **u**ledabér
/ve+lilmod/	velilmód	velilmód	**u**lilmód
/ve+lifʔamim/	velifamím	velifʕamím	**u**lifamím
/ve+laxen/	velaxén	velaxén	**u**laxén
/ve+lamrot/	velamrót	velamrót	**u**lamrót
/ve+laʔamito/	velaamitó	velaʔamitó	**u**laamitó
/ve+kamuvan/	vekamuván	ve**x**amuván	**ux**amuván ~ vexamuvan
/ve+xlonot/	vexalonót	**va**ħalonót	vexalonót

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[3] Whether or not the actual lexical items are traceable to the Bible is irrelevant. The aim is to show, using the script-reconstructed grammar, how a "native Biblical Hebrew speaker" would pronounce these words.

[4] Some may argue this is a more morphologically-complex /w+k+ha+muban/, which I find unnecessary, seeing as 'kamuban' is a lexical item well-rooted into the language.

[5] [ă] indicates a *ħaṭṭap*, a shortened vowel used as an alternate for schwa following most gutturals.

An initial observation from the data above is that Biblical Hebrew and Radio Hebrew differ only with respect to segment quality, due to modern-day reduction of the phonetic inventory and the subsequent merger of some Biblical Hebrew segments into sufficiently-close Radio Hebrew segments (like [t̯] => [t], [ə] => [e]). In addition, Modern Hebrew (in 1.b) shows absolutely zero alternation. The Teachers' variant behaves in a rather odd way, as it seems to have devised a yet unseen set of constraints.

I will now thoroughly examine each of the four variants, and for each attempt an Optimality Theoretic account of the data, while keeping in mind that Radio and Teachers' Hebrew serve (mainly and only, respectively) as a high-register option for common Modern Hebrew speakers.

2.1. BIBLICAL HEBREW

I'll soon address the constraint ranking Biblical Hebrew implements to achieve the /w+/ alternation seen in the data above. But first a brief account of spirantization is needed: as nonback fricatives occur in coda and postvocalic onset positions, and corresponding nonback stops elsewhere (the data in (1) is in line with this generalization, and consider *laβan* 'white (masc. sing.)' vs. *malbin* 'whiten (part.)')), Adam 2002 proposes the following constraints and their ranking (which I adopt):

(2) Spirantization constraints:

    a. ***$_\sigma$[CONT**

A fricative does not appear in an onset position.

    b. ***STOP]$_\sigma$**

A stop does not appear in a coda position.

    c. **IDENT$_{[STOP]}$**

Corresponding segments S_1 and S_2 have identical values for the feature [STOP] (i.e. a stop in the input is realized as a stop in the output).

    d. **IDENT$_{[CONT]}$**

Corresponding segments S_1 and S_2 have identical values for the feature [CONT] (i.e. a fricative in the input is realized as a fricative in the output).

(3) Spirantization crucial rankings:

    a. *$_\sigma$[CONT » IDENT$_{[CONT]}$

    b. *STOP]$_\sigma$ » IDENT$_{[STOP]}$

The dominant spirantization constraints, both Markedness constraints, are assumed high in the Biblical Hebrew ranking, at least wherever conjunctive /w+/ is concerned, and the dominated Faithfulness constraints are ranked very low. So this issue will no longer be discussed. **MAX** ("no deletion") also dominates all constraints relevant to the matter at hand.

It will be sound to assume /w+/ as the underlying form of the conjunctive, rather than the default surface form [wə+]: Biblical Hebrew analysis does not require underlying schwas, segments which Bat-El 1994 identifies as empty moras. So the default surface formation for /w+/ is schwa epenthesis: easily accounted for by a ranking of ***[$_\sigma$CC** ("no complex onset") dominating **DEP** ("no epenthesis"). This ranking, too, is applicable throughout Biblical Hebrew (e.g. *ləβana* 'white (fem. sing.)'), regardless of sonority (compare Biblical *šəħorim* with Modern *šxorim* 'black (masc. pl.)'). Since schwa is the unmarked, and so preferred, epenthetic vowel (as noted by Bat-El 1994), other epentheses need to be blocked by a dominant constraint: **DEP$_{[+]}$** ("no epenthesis of features"), for which the neutrality of schwa allows its epenthesis.

Next we have two cases where /w+/ is syllabified and realized as [u+]: preceding a labial consonant and preceding a consonant cluster. The former seems connected to the fact that [w] itself is labial. First, an explanation is needed as to why [u+] is not the default form (as epenthesis is avoided). This can be secured by a high ranking of **ONSET** ("a syllable must have an onset"), a constraint which is violated by a [u+]-initial surface form. It is clear that in the labial and cluster cases ONSET is violated, so three dominant constraints are necessary: **OCP$_{[LAB]}$** ("no two successive labial consonants[6]") and ***əC$_\sigma$]** ("no schwa in a heavy syllable") prevent the default schwa-epenthesis. A third constraint is needed for prevention of double epenthesis: ***LL** ("no two consecutive light syllables") will soon do harm by preventing *waħălonóṯ* (attested) and so I introduce **OCP$_{[ə]}$** ("no two successive schwas"), a constraint which is not violated in any Biblical Hebrew token[7].

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[6] The Obligatory Contour Principle (OCP) has been integrated by McCarthy 1986 into the Melodic framework, so that two adjacent segments **on the same melodic tier** may not share certain features. I use this observation for adding the consonantal requirement to the constraint, as it is crucial in order to allow the attested forms.

[7] Bat-El 1995 suggests a (non-OT) system where the Maximality Principle and the Vowel Weakening constraint conspire to this cause.

(4) Tableaux for cases:

   a. Default

	Input: /w+nahar/	DEP$_{[+]}$	*[$_\sigma$CC	*əC$_\sigma$]	OCP$_{[LAB]}$	ONSET	DEP
	wnahar		*!				
☞	wənahar						*
	unahar					*!	
	wanahar	*!					*

   b. Pre-labial

	Input: /w+matay/	DEP$_{[+]}$	*[$_\sigma$CC	*əC$_\sigma$]	OCP$_{[LAB]}$	ONSET	DEP
	wmat̲ay		*!		*		
	wəmat̲ay				*!		*
☞	umat̲ay					*	

   c. Pre-cluster

	Input: /w+šlaħ/	DEP$_{[+]}$	*[$_\sigma$CC	*əC$_\sigma$]	OCP$_{[ə]}$	ONSET	DEP
	wašlaħ	*!					*
	wšlaħ		*!*				
	wəšlaħ			*!			*
	wəšəlaħ				*!		**
☞	ušlaħ					*	

Next we have the issue of epenthetic schwa harmonizing with following shortened vowels (*ḥăṭṭapim*). First, to allow the epenthesis of these vowels at all, the new constraint ***C$_{[+b]}$ə** ("no schwa after gutturals") needs to dominate DEP$_{[+]}$. Next, while harmony can be attributed to **FAITH$_{[VGV]}$** ("vowels surrounding gutturals share quality") and aforementioned OCP$_{[ə]}$ (to insure it is the schwa that changes), regular UR vowels need to be protected from it by dominant IDENT-V ("corresponding input and output vowels are the same"). In addition, Biblical Hebrew's attested preference of no gutturals in mid-word coda (***C$_{[+back]\sigma}$][$_\sigma$**)[8] rids us of two other candidates.

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[8] Consider, for example, *ḥăṭṭap-segol* epenthesis in *neʔelac* ('was forced to').

(5) Pre-guttural: (IDENT-V, OCP omitted)

	Input: /w+ħlonot/	*C[+b]ə	*C[+b]σ][	*[σCC	FAITH[VGV]	DEP[+]	ONSET	DEP
	wħlonot			*!*				
	wħalonot			*!		*		*
	uħlonot		*!				*	
	uħalonot				*!	*	*	*
	waħlonot		*!			*		*
	waħəlonot	*!			*	*		**
	wəħalonot				*!	*		**
	wəħəlonot	*!						**
☞	waħalonot					**		**

2.2. MODERN HEBREW

Now we turn to the other strata, presented with the same words in (1)b. The common Modern Hebrew stratum is a no-brainer: with no alternation, the UR may be assumed to be /ve+/, and all relevant Faithfulness constraints dominate this paradigm.

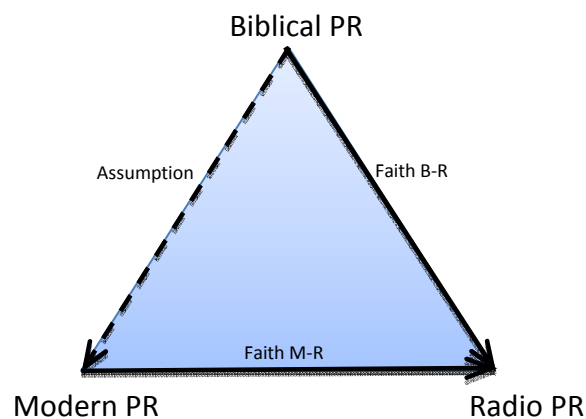## 2.3. RADIO HEBREW

2.3.1 CORRESPONDENCE

Radio Hebrew is trickier: as already noted, this variant conjunction paradigm is consistent when considering Biblical Hebrew to be its "inspiration": Mergers, the processes where Biblical segments that do not exist in modern-day Hebrew as phonemes (like ə and q) were turned into other phonemes which do occur today (e and k, respectively), have rendered some of the Biblical constraints stated above inapplicable: some gutturals were merged into non-gutturals ([ħ] into [x]), and the basic form itself has merged into [v], which is not as labial as [w] and should not take [u] as a syllabified alternate. However, the alternations in the conjunctive form survive in Radio Hebrew.

The pure input-output Optimality approach wouldn't work now, so a different one is needed. Consider Multiple Correspondence (Burzio 1998 inter alia), where two underlying forms participate in determining the phonetic outcome.

This model is represented graphically by a triangular diagram which shows the Radio Hebrew surface form influenced by two contributors: Biblical Hebrew PR (via orthography available to speakers) and the Modern Hebrew PR (available

as auditory input or in most cases as the default, low-register personal grammar). Since the Biblical forms obviously served as a basis for the Modern forms (a matter already discussed in the introduction), the two are also linked, however in a different manner than the two source-output relations feeding Radio Hebrew.

(6) Correspondence of Radio Hebrew:

2.3.2 REGISTER VARIATION

Since for most relevant speakers, Radio Hebrew is merely an option exercised on formal occasions alone, these speakers hold both grammars concurrently and choose one per discourse (or even per utterance).

I use the Optimality-Theoretic Indexed Constraints approach of Ito and Mester 2003 to model this. This approach assumes that speakers only hold a single set of constraint ranking as a unified grammar, and deals with multiple grammars by introducing constraints which are only active within certain contexts, such as different registers or strata (either across a community or within individual grammars). These constraints carry indices that indicate when the constraints are active.

Another tool I use is Graded Constraints (McClelland & Vander Wyk 2006 inter alia), constraints which may be violated in more than one degree of severity. A "severe" violation may be counted as two "lesser" violations.

In the Radio-Modern Hebrew case, I will treat the informal context (and its common linguistic variant) as unmarked, and so the indexed constraints will be those demanding Biblical-Radio segment Faithfulness. These constraints are graded such that a simple segment merger counts as a single violation, and any other discrepancies counts as two. This constraint, "Identical Biblical correspondents, Graded", will be abbreviated as **IDENT-B-GR**.

The unindexed constraints will demand Modern-Radio Faithfulness and will relate to segment inventory and to input faithfulness: Segment constraints – ***w**, ***ə**, ***q**, ***ṭ**, ***d̲**, (***ħ**); and Modern form input-related constraints which will be represented as **IDENT-M**. Undominated **MAX** is assumed, particularly over the various **IDENT**s, to exclude all candidates where non-modern segments are simply deleted. Also undominated are the segment inventory constraints, to insure segment merging, and the input-related constraint IDENT-M acts as the normative Modern Hebrew constraint ranking, allowing normative speech when the indexed constraints are disregarded.

The importance of all three correspondences is illustrated in the minimal pair (clitic-wise) [vexamuvan] vs. [vaxalonot], in non-guttural (= active *ħ, see footnote 1) Radio Hebrew speakers: if it were not for the Biblically-available form of /ħlonot/, together with the dominant modern segment inventory constraints, the alternation between (7.a) and (7.b) could not be explained. [9]

(7) Radio Hebrew phonology, Indexed Constraints approach.

    a. No change: [vexamuvan]

	Inputs: B: /wəxamuβan/ M: /vekamuvan/	*w, *ə, *β	IDENT-B-GR (segments violating)				IDENT-M (segments violating)
	wəxamuβan	*!**					wəxβ
	vekamuvan		v	e	k!	v	
	uxamuvan			u	v		ux!
☞	vexamuvan		v	e	v		x

    b. Change: [vaxalonot]

	Inputs: B: /waħalonoṭ/ M: /vexalonot/	*w, *ħ, *ṭ	IDENT-B-GR (segments violating)				IDENT-M (segments violating)
	waħalonoṭ	*!**					waħṭ̲
	vexalonot		v	e	x	t!	
	uxalonot			u	x	t!	ux
	vaħalonot	*!	v	t			aħ
☞	vaxalonot		v	x	t		a

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[9] Another approach altogether will be to mirror the Biblical Hebrew Markedness constraints. This will necessitate a different model, in which Underlying forms of Biblical Hebrew are considered, thus assuming more linguistic knowledge than is available to the average modern speaker. Also, this fails to cover new additions to the language such as [u+**p**ariz] 'and Paris', since [p] cannot occur in this position under a Biblical grammar.

c. Change: [umatay]

	Inputs: B: /uma̲tay/ M: /vematay/	*w, *t, *ə	IDENT-B-GR (segments violating)				IDENT-M (segments violating)
	uma̲tay	*!					uu̲t
☞	umatay		t				uu
	wəma̲tay	*!**	w	ə!	t		wə̲t
	vematay		v	e!	t		
	vamatay		v	a!	t		a

In informal speech, the indexed IDENT-B-GR is inactive and a Modern Hebrew grammar emerges: notice how *vexalonot* and *vematay* indeed triumph without this constraint.

Note this analysis also accounts for the existing variation **within** Radio Hebrew speakers: those who retain their [ħ]s simply lack the dominating *ħ in tableau (b), and the rest of the ranking still produces the same output, giving *vaħalonot* the victory, while not harming the informal usage where /ħ/ is never part of the input).

2.4. TEACHERS' HEBREW: A NEW DIALECT

Teachers' Hebrew is the most problematic of all modern variants: first we notice that only [ve+] and [u+] are attested forms (e.g. *venahar*, *umatay*, *uldaber*, *ulifamim*, *uxamuvan*, *vexalonot*), moving the guttural-related constraints out of the way. Our attention will now be focused on these two alternates, which appear to be much less predictable than in the two Biblical-based grammars. However, some observations may be made:

- (Already noted) only [ve+] and [u+] are output forms in Teachers' Hebrew.
- In all cases where Biblical Hebrew and Radio Hebrew conjunction surfaces as [u+], so does Teachers' Hebrew.
- [u+] always surfaces when followed by /l/.
- [u+] may surface when followed by [x] that has underlying /k/ (which is still noticeable when in word-first position).

The last two generalizations may be explained, in my opinion, by means of lexical frequency:
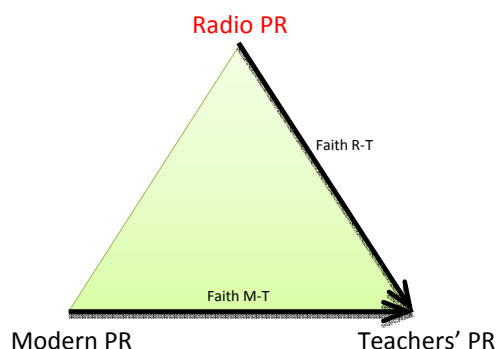
[u+lC] enjoys a high frequency in Biblical and Radio Hebrew, since /l/ is the infinitival prefix which is often followed by another consonant, forming a stem-initial cluster (e.g. *ldaber* 'to talk', *lmasper* 'to number', *lcayer* 'to draw', etc.), which calls for the [u+] alternate. This results in many cases where the original Biblical / Radio Hebrew constraints call for [u+] prior to /l/ in regular speech, and so a false generalization leads Teachers' Hebrew speakers to believe that /l/ is a segment which triggers [u+]-change (together with /b/, /m/, /p/, a group which seems arbitrary to the unsuspecting speaker, as Modern Hebrew does not single out labials in any noticeable form).

Regarding the latter: in Radio Hebrew and Modern Hebrew, only /b/, /p/ and /k/ vary in some paradigms, i.e. spirantize into [v], [f] and [x] respectively (see Adam 2002 inter alia). Both /b/ and /p/ are labial, and so trigger [u+] in Biblical and Radio Hebrew. A false generalization may lead to assume that the [u+] is triggered by the fact that these segments undergo spirantization – and so, since /k/ undergoes spirantization it must also trigger [u+] change. In other words, the new rule is "a spirantized consonant is preceded by [u+]". This generalization is a bit more far fetched than the first one, and indeed the [u+x] (underlying /k/) phenomenon is less common than the quite rampant [u+l].

Notice that for these pseudo-rules to emerge, no knowledge of Biblical Hebrew is needed. Added to the fact that Radio Hebrew predates Teachers' Hebrew and is very accessible to its speakers, I suggest that **the forms of Teachers' Hebrew are based on the phonetic representations of Radio Hebrew**. Teachers' Hebrew phonology adds generalizing "constraints" which are unexplained by the actual Radio Hebrew form, except by frequency, and so alter the inconsistent forms to what we hear. In other words, while I suggest a similar model to that of Radio Hebrew, with Radio Hebrew being the "top" correspondent rather than Biblical Hebrew, the Faithfulness relationship between the top form and the output is different: while Biblical-Radio correspondence is orthography-based and thus very accurate, the Radio-Teachers' correspondence is auditory-based[10], differs between listeners (who use what they hear as input) and provides less data for generalizations, leading to inconsistent ones.

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[10] This stems from the fact that very few modern scripts are pointed (contain nikkud), and in unpointed script the difference between the forms does not surface, thus eliminating script as a possible source of consistent input rules for Teachers' Hebrew.

(8) Correspondence of Teachers' Hebrew:

(9) Teachers' Hebrew:[11]

    a. Tableau for /ve+xalonot/:

	Inputs: R: /vaxalonot/ M: /vexalonot/	GENERALIZING CONSTRAINTS: *ve+b, *ve+m, *ve+p, *ve+v, *ve+l, *ve+k	IDENT-M
☞	vexalonot		
	uxalonot		*!*

    b. Tableau for /ve+laxen/:

	Inputs: R: /velaxen/ M: /velaxen/	GENERALIZING CONSTRAINTS: *ve+b, *ve+m, *ve+p, *ve+v, *ve+l, *ve+x$_{[/k/]}$	IDENT-M
	velaxen	*!	
☞	ulaxen		**

In fact, data I have encountered since I started writing this paper shows Teachers' Hebrew shows more variation of its own: *ukax*, *ukol*, *utipulei*, *ulacud*[12] – where the first three do not fall under the generalizations noted above. However, the model I suggest predicts them nicely: these speakers added their own generalizations, as they had less Radio Hebrew data to generalize from. The last two, taken from the same source, demonstrate that any new generalizing constraint is **added** to the others, providing a textbook implicational typology for

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[11] Note that the behavior of Radio Hebrew and Teachers' Hebrew negates the claim made by van Oostendrop (1997): "The more formal the style level, the higher ranked the faithfulness constraints". The facts are that the higher strata defer from the underlying forms of the clitics and turn to Markedness constraints which do not hold in Modern Hebrew and whose well-formedness is questionable.

[12] The last two are taken from audio at: http://www.ynet.co.il/articles/0,7340,L-3755513,00.html

these constraints: all Teachers' Hebrew's speakers use [u] before [b], [p], [m]; a subset of them also use it before [l] as well; a subset of them – before [x] (underlying k); a subset of them – before [k]; a subset of them – before [t]. No attested form of [u+h…], for example, exists, and I have yet to encounter a speaker who uses [u+t] and [u+l], but not [u+x$_{/k/}$].

(10)   Teachers' Hebrew, hierarchy of generalizations:

      *ve+b, *ve+m, *ve+p, *ve+v, *ve+l » *ve+x$_{[/k/]}$ » *ve+k » *ve+t
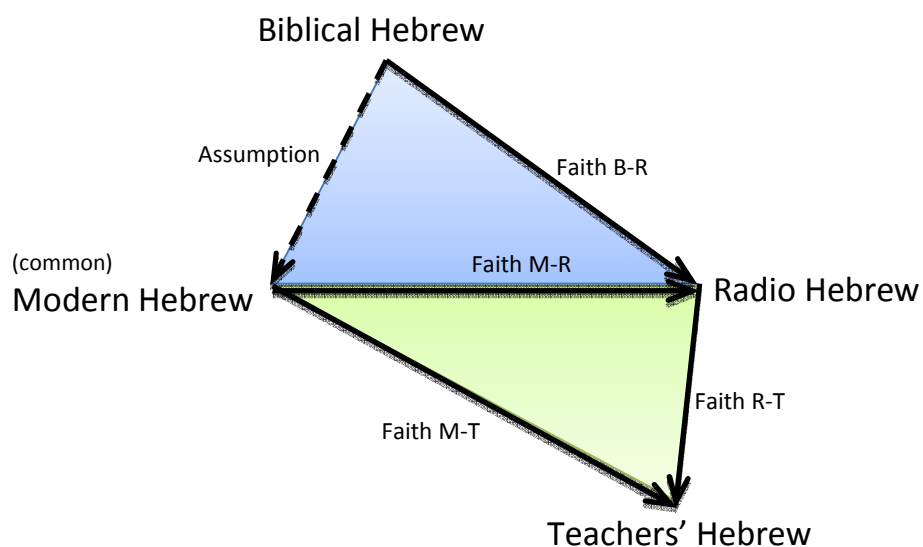
The inconsistencies of Teachers' Hebrew and the wide variations within it may be traced to the fact, mentioned in the introduction, that no speaker uses exclusively this variant of Hebrew. As a social phenomenon, it is more free to base constraints on loosely-captured generalizations rather than on phonetic well-formedness or on faithfulness to widespread underlying forms.

3. SUMMARY

In conclusion, the conjunction 'and' can be used to show how contemporary Hebrew deals with its intricate history, revival, and change of style: while the most common stratum of the language has picked up a thin, easy-to-master phonologic system, formality sometimes dictates usage of so-called "correct" Hebrew, the language of the prophets. Those who derive their formal language from Biblical resources, or have somehow acquired the correct forms of Biblical Hebrew, are Radio Hebrew speakers who blend the Biblical and the Modern forms into a consistent and fairly faithful variant of Biblical Hebrew tied into Modern segment inventory. In contrast, those who use these Radio Hebrew speakers as the only source of formal language knowledge, create the new Teachers' Hebrew variants which tend to over-generalize the use of forms which are not in Modern Hebrew use and are not the default Biblical or Radio forms, apparently from a frequency-based model, resulting in a hierarchical set of varying idiolects.

The overall relationship between the four forms of Hebrew discussed is shown in the following diagram. Notice how remotely Teachers' Hebrew is related to Biblical Hebrew:

(11)   Correspondence of four Hebrew variants:

4. REFERENCES

Adam, Galit. 2002. From variable to optimal grammar: Evidence from language acquisition and language change. Ph.D. dissertation, Tel-Aviv University.

Bat-El, Outi. 1994. Onset Violation in Tiberian Hebrew. In Merchant, J. Padgett and R. Walker (eds). *Phonology at Santa Cruz* v.3. The Linguistic Research Center, UCSC. 1-12.

Bat-El, Outi. 1995. On the apparent ambiguity of the schwa symbol in Tiberian Hebrew. In *Langues Orientales Anciennes Philologie et Linguistique* 5-6:79-96.

Blau, Joshua. 1981. The Renaissance of Modern Hebrew and Modern Standard Arabic: Parallels and Differences in the Revival of Two Semitic Languages. In *Near Eastern Studies* vol. xviii. Berkeley and Los Angeles: University of California Press.

Burzio, Luigi. 1998. Multiple Correspondence. In *Lingua,* vol. 104, 1-2:79-109.

Horvath, Julia and Paul Wexler (eds). 1997. Relexification in Creole and Non-Creole Languages – With Special Attention to Haitian Creole, Modern Hebrew, Romani, and Rumanian (Mediterranean Language and Culture Monograph Series, vol. xiii). Wiesbaden: Otto Harrassowitz.

Ito, Junko and Armin Mester. 2003. Japanese Morphophonemics: Markedness and Word Structure. Cambridge, MA: The MIT Press.

McCarthy, John J. 1986. OCP Effects: Gemination and Antigemination. In *Linguistic Inquiry* 17:207-263. The MIT Press.

McClelland, James L. and Brent C. Vander Wyk. Graded Constraints on English Word Forms. www.cnbc.cmu.edu/~jlm/papers/GCEWFs_2_18_for_comments.pdf.

Van Oostendrop, Marc. Style Levels in Conflict Resolution. In *Variation, Change and Phonological Theory*, F Hinskens (ed.), 1997.

Zuckermann, Ghil'ad. 2006. A New Vision for "Israeli Hebrew": Theoretical and Practical Implications of Analysing Israel's Main Language as a Semi-Engineered Semito-European Hybrid Language. In *Journal of Modern Jewish Studies* 5.1: 57-71.

APPENDIX. MORE EVIDENCE SUPPORTING TEACHERS' HEBREW'S ORIGINS

Consider the following data.

(12)   More Teachers' Hebrew. Post-/w+/ spirantization:

Input (BH, MH)	Gloss	Biblical	Modern	Radio	Teachers'
/w+klabim/, /ve+klavim/	'and dogs'	**ux**lavim	veklavim	**ux**lavim	**ux**lavim
/w+qmaṭim/, /ve+kmatim/	'and wrinkles'	u**q**maṭim	vekmatim	u**k**matim	**ux**matim

Notice how Radio Hebrew follows Biblical Hebrew in both cases correctly, where spirantization is concerned. This suggests the true UR value of the first segments in "wrinkles" is seen by Radio Hebrew as /q/, normalized into [k] by dominant *q. Teachers' Hebrew, on the other hand, fails to distinguish between the underlying /q/ and /k/, turning both into [x] where spirantization needs apply only to /k/. This can be explained by either reforming the spirantization rule to include all stops (unmotivated and unlikely), or a (statistically based) merger of both segments into /k/ **in the UR**. This is what happens in both Modern Hebrew and Radio Hebrew PR, consistent with the model I presented.