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Here are some more forms of the same Hebrew verbs we've been looking at. We will be focusing on the future tense.

Note: We will not be dealing with those varieties in which the first person singular form is the same as the third person masculine, nor those varieties in which there are separate second- and third-person feminine plural forms ending in *-na*.

		'dance'	'sing'	'enter'	'speak'	'start'
		קל-שלמים	קל-ע"י	נָפַעַל	פָּעַל	הִפְעִיל
past	(3msg)	rakad	šar	nixnas	diber	hitxil
present	(m sg)	roked	šar	nixnas	medaber	matxil
future	1sg	erkod	ašir	ekanes	adaber	atxil
	2msg	tirkod	tašir	tikanes	tedaber	tatxil
	2fsg	tirkedi	taširi	tikansi	tedabri	tatxili
	3msg	yirkod	yašir	yikanes	yedaber	yatxil
	3fsg	tirkod	tašir	tikanes	tedaber	tatxil
	1pl	nirkod	našir	nikanes	nedaber	natxil
	2mpl	tirkedu	taširu	tikansu	tedabru	tatxilu
	2fpl	tirkedu	taširu	tikansu	tedabru	tatxilu
	3mpl	yirkedu	yaširu	yikansu	yedabru	yatxilu
	3fpl	yirkedu	yaširu	yikansu	yedabru	yatxilu
infinitive		lirkod	lašir	l(eh)ikanes	ledaber	l(eh)atxil

(Four assumptions: ① The first person singular prefix is /ʔ/; ② The [e] at the beginning of *erkod* and *ekanes* is the phonological result of underlying /ʔ+i/; ③ The vowel deletion/reduction in some of the suffixed forms is the consequence of phonological rules; ④ The first vowel in non-past forms of 'speak' are inserted phonologically, and not part of the morphology.)

The future tense and infinitive are based on a different pattern than either the past or the present, and (for these inflectional classes) the same as each other. This can be described in one of two ways. One approach would be to hypothesize an abstract future/infinitive stem:

irkod
ašir
(h)ikanes
daber
(h)atxil

We can then add prefixes (ʔ-, t-, y-, n-, l-) and suffixes (-i, -u). This is the usual way of doing things in morphological analysis. The disadvantage is that the stem is not an actually occurring form. An alternative, with a tradition in Latin grammar and pedagogy, is the **Priscianic formation**, which would say that, say, the 3msg future is taken as the basis, and the other forms are derived by deleting the /y/ and adding the other prefixes. But the stem-based approach is the usual one taken by morphologists.

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The future/infinitive stem has no meaning (or features) of its own. It is merely a formal component of the future and infinitive forms. The morpheme that forms it is a meaningless or **empty**, morpheme.

In the following paradigm rules, X refers to the future/infinitive stem and Y to a tense-inflected form. We begin with the paradigm rule for the unsuffixed forms.

$$\{[/\text{?X}/_{\text{FUT1SG}}, [/n\text{X}/_{\text{FUT1PL}}, [/t\text{X}/_{\text{FUT2}}, [y\text{X}]_{\text{FUT3}}, [l\text{X}]_{\text{INF}}\}$$

We now add a paradigm rule for the suffixed forms. Note that *-i* indicates feminine singular only in the future tense while *-u* indicates plural also in the past.

$$\{[/Y/], [/Yi/_{\text{FUT.FSG}}, [/Yu/_{\text{PL}}]\}$$

Let's see how this works for some examples of the verb 'sing' (phonologically the easiest one).

Suppose we want to realize the form:

[VFORM INFINITIVE]

The first paradigm rule tells us to prefix *l* to the future/infinitive stem. Note that the fact that the infinitive is not a future tense form is irrelevant; the stem itself is not associated with the future tense feature (or with future meaning).

Now consider:

TENSE	FUTURE
PERS	2
NUM	SG
GEND	FEM

The first paradigm rule tells us that to make a second person future form, we have to prefix a *t* to the future/infinitive stem, giving us *tašir*. This form does not have all the features we need, though. To get a future feminine, we have to suffix *i* to this form resulting, correctly, in *taširi*.

Now suppose that we want to realize the features:

TENSE	FUTURE
PERS	2
NUM	SG
GEND	MASC

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The first stage works the same as with *taširi*: we derive the second person future form *tašir*. Now, however, there is no way to make this masculine. So we are left with *tašir*, which does not formally express the feature [GEND MASC], as the only way to say it.

Now suppose we want to express:

TENSE	FUTURE
PERS	2
NUM	PL
GEND	FEM

After we have gotten as far as *tašir*, we have to make the form feminine plural. But in the variety of Hebrew that we are discussing, there is no separate feminine plural form. Instead, the same form is used to express both masculine plural and feminine plural. This is an example of **syncretism**: two forms in the paradigm that are expressed by the same form. More specifically, it is an example of **natural syncretism**: two forms that are almost the same in features (forming a natural class) are expressed the same. Our paradigm rules already give us the correct result: the suffix *u* expresses plural, without mentioning masculine or feminine. The form *taširu* thus expresses future second person plural, without regard for gender.

The first person forms are different from the second person forms in two respects. In the first place, there is no expression of gender. Since this is generally true for all first person forms in Hebrew, we assume that there is some constraint on feature co-occurrence in Hebrew which prevents the feature GENDER from cooccurring with [PERSON 1]. The second difference is that there are already separate forms for singular and plural.

The third person forms present a different problem. The paradigm rules result in the following forms:

3(M)SG	<i>yašir</i>
3FSG	* <i>yaširi</i>
3(M/F)PL	<i>yaširu</i>

The third person feminine singular form is, of course, incorrect. We could limit the *i* suffix to second person (in fact, this might be the correct analysis), but that would not really help us, because then we would have syncretism of the masculine and feminine forms, and both would come out as *yašir*. One might think that the prefix *y* should be limited to masculine, but the fact that the plural *yaširu* serves for both masculine and feminine shows that this would not be the correct analysis.

The actual feminine singular form is *tašir*, which is **homonymous** with the second person masculine singular. It is possible that this homonymy is accidental; that there is an additional prefix for third person feminine singular which just happens to look like the second person

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singular. The textbook discusses ways to distinguish accidental homonymy from syncretism, but unfortunately none of the tests discussed really works for this case. We will assume, for the sake of an analysis, that this is real syncretism; i.e. that the grammar of Hebrew realizes the future third person feminine singular the same way as the second person (masculine) singular.

Unlike our previous example of syncretism, this is not a case of natural syncretism. Second person (masculine) singular and third person feminine singular do not form a natural class. Instead, we must hypothesize that the grammar of Hebrew includes the following rule of inflectional morphology:

To realize FUT3FSG, use the form for FUT2SG.

Such a rule is called a **rule of referral**, because it refers you from one paradigm position to another. It requires a realizational approach to inflectional morphology, since an incremental system would not be able to derive the correct representation. Formally, we can express the rule of referral as follows:

$$\left[\begin{array}{cc} /X/_{\text{v}} & \\ \text{TENSE} & \text{FUT} \\ \text{NUM} & \text{SG} \\ \text{PERS} & 3 \\ \text{GEND} & \text{FEM} \end{array} \right] \Rightarrow \left[\begin{array}{cc} /X/_{\text{v}} & \\ \text{TENSE} & \text{FUT} \\ \text{PERS} & 2 \end{array} \right]$$

Note: The textbook notation is wrong, as it doesn't distinguish between rules of referral, which are mono-directional, and ordinary morphological rules, which are bi-directional.

With the addition of this rule, we have a complete description of the Hebrew future tense.