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m sg f sg m pl f pl	'dance' roked rokedet rok(e)dim rok(e)dot	ʻsing' šar šara šarim šarot	'enter' nixnas nixneset nixnasim nixnasot	'speak' medaber medaberet medab(e)rim medab(e)rot	'start' matxil matxila matxilim matxilot
root	rkd	šr	${k \\ x}$ ns	dbr	txl
traditional name	קל—שלמים	קל—ע״י	נִפְעַל	פַּעֵל	הִפְּעִיל

Consider the following present tense paradigms in Hebrew.

(Note: We are assuming that the vowels in parentheses are deleted by a phonological rule, and that they are therefore present as far as the morphology is concerned.)

As recognized by traditional Hebrew grammar, each of these paradigms represents a different pattern; the traditional name is given in the chart.

The Hebrew lexicon does not need to specify the present tense paradigm for, e.g., *roked*, *kotev*, *oxel*, etc., separately. Instead, we say that each of these patterns, is a different **inflectional class**: a *group* of lexemes to which the same set of rules of inflectional morphology apply. These rules are a multilateral set of related morphological forms, of the kind that we have already seen. We can express the rules in question as follows:

$\{[/C_1 \circ C_2 e C_3/_{M,SG}], [/C_1 \circ C_2 e C_3 e t/_{F,SG}], [/C_1 \circ C_2 e C_3 i m/_{M,PL}], [/C_1 \circ C_2 e C_3 o t/_{F,PL}]\}$	קל—שלנ
$\{[/C_1 a C_2/_{M.SG}], [/C_1 a C_2 a/_{F.SG}], [/C_1 a C_2 i m/_{M.PL}], [/C_1 a C_2 o t/_{F.PL}]\}$	קל—ע״י
$\{[/niC_1C_2aC_3/_{M.SG}], [/niC_1C_2eC_3et/_{F.SG}], [/niC_1C_2aC_3im/_{M.PL}], [/niC_1C_2aC_3ot/_{F.PL}]\}$	נִפְעַל
$\{[/meC_1aC_2eC_3/_{M.SG}], [/meC_1aC_2eC_3et/_{F.SG}], [/meC_1aC_2eC_3im/_{M.PL}], [/meC_1aC_2eC_3ot/_{F.PL}]\}$	פּעֵל
$\{[/maC_{1}C_{2}iC_{3}/_{M,SG}], [/maC_{1}C_{2}iC_{3}a/_{F,SG}], [/maC_{1}C_{2}iC_{3}im/_{M,PL}], [/maC_{1}C_{2}iC_{3}ot/_{F,PL}]\}$	הִפְעִיל

An alternative notation, which is easier to read, is traditional paradigm notation:

	קל—שלמים		קל—ע״י)		נִפְעַל
C ₁ oC ₂ eC ₃	$C_1 O C_2 e C_3 im$	$C_1 a C_2$	$C_1 a C_2 im$	r	$niC_1C_2aC_3$	niC ₁ C ₂ aC ₃ im
C ₁ oC ₂ eC ₃ et	$C_1 O C_2 e C_3 O t$	$C_1 a C_2 a$	$C_1 a C_2 ot$	r	niC ₁ C ₂ eC ₃ et	$niC_1C_2aC_3ot$
	על	ė				הַפְעִיל
$meC_1aC_2eC_3$	meC ₁ aC ₂ eC ₃ im]			$maC_1C_2iC_3$	maC ₁ C ₂ iC ₃ im
meC ₁ aC ₂ eC ₃ et	$meC_1aC_2eC_3ot$				maC ₁ C ₂ iC ₃ a	$maC_1C_2iC_3ot$

Whatever notation one uses, these rules, which generalize over inflectional classes, are the formal expression of the basic generalizations of present-tense inflection in Hebrew. They are

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fully specified phonological rules: the exact forms of all members of the paradigm can be determined from any one of the forms. They can be called **paradigm rules**.

Closer examination reveals that these paradigm rules are not completely distinct from each other. Rather, these classes can themselves be grouped into higher-level classes. For example:

- For all classes, the masculine plural is formed by adding *im* and the feminine plural by adding *ot*.
- The feminine singular is formed by adding something: *et* for some classes, *a* for others.
- Classes in which *et* is added for the feminine singular display one of two sets of vowels in the last syllable before the suffix:
 - The vowel is /e/ in all forms.
 - The vowel is /e/ in the feminine singular form and /a/ in all the other forms.
- In some classes, the present tense has the prefix /m/; in others, it has no prefix.

We can call the basic inflectional classes **microclasses** and the higher-level classes **macroclass-es**. Just as inflectional classes (morphological rules) are expressed in terms of word schemas, the higher level classes are expressed in terms of rule schemas. Unlike the microclasses, the macroclasses do not always provide all of the phonological information necessary to build a full paradigm.

The (micro)classes and macroclasses form a hierarchy in which properties of higher-level classes are said to be **inherited** by lower-level classes: this hierarchy can be referred to as an **inheritance hierarchy**. The inheritance hierarchy for all the classes discussed above except for the last can be represented graphically as follows. (To save space, the microclasses are represented by binyan names. The full paradigm rules, above, should be substituted.)

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Inflectional Classes, 1 3 Xim Х YΖ Xot XVC XVCim Χ Xim XeCet XVCot Ха Xot XeCim XeC XaC XaCim י״ע`` הפעיל קל– XeCet XeCot XeCet XaCot פעל קל-שלמים נְפִעַל . . .

The presence or absence of a prefix is not part of this inheritance hierarchy. The macroclasses involved here are unrelated to the macroclasses above.



This sort of cross-classification is common.