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	作成者: Matisoff, James A.
	メールアドレス:
	所属:
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James A. MATISOFF University of California Berkeley

It is interesting to explore the category of aspect by comparing languages with widely divergent morphosyntactic typologies. While the basic aspectual notions (e.g. progressive, completive, inceptive, repetitive, punctual, etc.) are somehow expressible in every human language, and indeed seem to reflect universal patterns of thought, there is a tremendous variety of ways in which these notions receive formal expression. Languages differ greatly in the 'fuss' they make about aspectual categories, in the degree to which they are grammaticalized or generalized, in their salience or autonomy in the grammar, in how closely they are bound up with tense, voice, and mood.

1. Tense, Voice, Mood, Aspect

1.01 TENSE

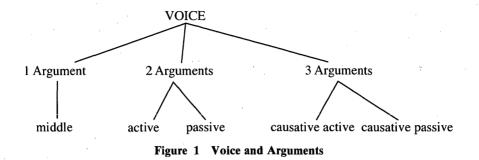
Tense relates the time of the verbal event/state to some other time, usually to the moment of speaking, but sometimes relative to the time of some other situation. Typical tense categories include *present*, *past*, *future*, *non-past*, as well as such 'periphrastic' tenses (requiring more than one word in the verb, typically a finite auxiliary and a participle)¹⁾ as *pluperfect*, *future perfect*, *present perfect*, which indicate the time of the verbal event relative to some time other than the moment of utterance.²⁾ (These perfect tenses are different from the *aspectual* category of 'perfective', which views the verbal situation as a single whole; below 1.042; Comrie 1976:12). The concept of 'present relevance' is now generally accepted as the main semantic feature differentiating the simple past from the past perfect tense, as in English:

(1) I brought in the paper.

(2) I've brought in the paper.

Although these utterances are often pragmatically interchangeable, especially in American English (below 1.2), many speakers would claim that with (2) there is an implication like 'now that the paper is here, we can read it', while (1) is neutral in

J.A. Matisoff



this respect.

The category of tense is alien to Sino-Tibetan and other 'Sinospheric' languages like Thai, Vietnamese, and Hmong-Mien.³⁾

1.02 VOICE

Voice relates the verbal action to the saliency of its principal nominal arguments (subject, object). Besides the traditional active, passive, and middle,⁴⁾ I would like to include *causative* as a voice category, since causation also involves the interrelationship of the entities initiating and those receiving the effects of the verbal activity. With active voice scenarios, there is a salient agent/subject; in passive ones, the salient actant is the patient/object; in causative sentences, the causee plays a dual participant role, being simultaneously the patient of the higher clause and the agent of the lower one. Furthermore, the extra argument present in a threeparticipant causative construction (i.e. comprising prime mover, causee, object), makes it possible to introduce a further voice distinction between active causative and passive causative, either analytically as in English (Mrs. Simpson forced him to put the knife away vs. He was forced to put the knife away by Mrs. Simpson), or inflectionally as in Hebrew (Hif'il vs. Huf'al; below 3.35, 3.36), Turkish (-dir- vs. -dir-il-; below 3.4), or Japanese (-sase- vs. sase-rare-; below, ibid.). See Figure 1. In fact, however, I believe the category of causative to partake of the nature of both aspect and voice simultaneously (see below 3.4).

1.03 MOOD

Mood refers to the ensemble of grammatical categories that indicate attitudes of the speaker toward the reality of the verbal event/state: whether it is conceived of as a fact, or as doubtful, or possible, or desired, or commanded to occur. Categories of mood include *indicative, conditional, potential, irrealis, conative, imperative, hortatory, jussive.* ('Subjunctive' is a traditional term for various non-indicative moods, but is not very revealing semantically, since it refers merely to the syntactic fact that in many languages non-indicative clauses are subordinate

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to main clauses containing verbs of cognition or utterance.) 'Evidentials', which refer to the nature of the speaker's knowledge of the verbal event/state, and which play a significant role in the grammars of many Asian, Amerindian, and other languages, are more like mood than any other of the categories we are dealing with.

1.04 ASPECT

In his influential little book, *Aspect*, Comrie (1976:3) defines aspect as 'different ways of viewing the internal temporal constituency of a situation'. This is not so clear, because later (p. 24) he characterizes 'imperfectivity' (i.e. a particular aspectual notion) in nearly identical terms, as 'explicit reference to the internal temporal structure of a situation'. My own favorite brief definition of aspect is 'the grammatical category that refers to the internal dynamics of the verbal event'.⁵⁾ Typical aspectual categories include such paired/oppositional concepts as: imperfective/perfective; durative/punctual; iterative/semelfactive⁶; stative/ dynamic; inceptive (inchoative; prospective)/completive. Some of these are discussed in this paper, along with a couple of less widespread types (exemplified in Hebrew) to which we give the labels *intensitive* and *crescitive*. The most important pair of categories we shall consider is imperfective/perfective.⁷

1.041 Imperfective family of aspectual concepts

What we might call the 'imperfective family' includes such categories as *progressive*, *habitual*, *generic*, *continuous*, *durative*, *stative*. What they all have in common is their not viewing the verbal event as a single whole, but rather as something which is unbounded, in the process of unfolding. Their interrelationship may be diagrammed as in Figure 2 (slightly elaborated from Comrie, p. 25):

There is an interesting connection between imperfective and *locatives*, notably in Celtic (e.g. Irish tá sé ag teacht, lit. "he's in/at/on his coming"; tá sé ag dúnadh an dorais, lit. "he's in/at/on his closing of the door"). So also in archaic/dialectical English, as in he's a-going (< "He's at (his) going"), Italian sto

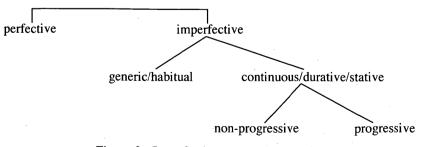


Figure 2 Imperfective aspectual categories

cantando 'I'm singing' (lit. "I stand singing"); Dutch **hij is aan het tuinieren** 'He's (at) gardening', or Icelandic **jeg er a**ð lesa 'I'm (at) reading' (Comrie, pp. 98–101). From the imperfective point of view, one is, as it were, standing in the middle of the action and watching it unfold.

1.042 Perfective family of aspectual concepts

These include such overlapping grammatical concepts as *perfective*, *punctual*, *semelfactive*, *completive*. As noted above (1.01), there is an unfortunate terminological resemblance between *perfect* as applied to tenses (where it refers to relational time), and *perfective* (which refers to aspectual notions of boundedness and completion). Thus Russian has no contrast between simple past vs. present (or past) perfect tenses, but maintains an extremely thorough distinction between imperfective and perfective aspects for virtually all verbs (see below 3.511).

Several semantic subtypes of the perfective category may be distinguished (see Comrie, pp. 56-61), including: (a) perfective of result (for Asian languages I prefer the term 'change of state'); (b) the experiential perfect (exemplified by English have (n)ever V'ed, and in Asian languages by Mandarin V + guò, Thai $d\hat{a}j + V$, Japanese V + koto ga aru, Lahu V + jo, etc.); (c) perfective of persistent situation (i.e. 'present relevance'); and (d) perfective of the recent past (e.g. English have just V'ed, French venir de V, Mandarin $g\bar{a}ng(c\hat{a}i) + V$).

1.1 Phenotypic vs. Cryptotypic Expression of Grammatical Concepts

Greatly complicating any attempt to give neat overall rules for the instantiation of aspectual categories in actual language use are the intractably idiosyncratic lexicosemantic properties of individual verbs. These properties are covert or 'cryptotypic' (in the sense of Whorf 1959), and only reveal themselves indirectly (if at all) by their morphosyntactic repercussions.⁸⁾ Attempts to classify verbs according to features like activity, stativity, or processuality are interesting, but require much hedging and recourse to contextual refinement, and do not seem to have much cross-linguistic validity. Comrie uses the neutral term *situation* to subsume states, events, and processes. Recasting his discussion (p. 13) in terms of binary features, the relationship among these types of situations may be crudely summarized as follows:

	static	progressive
states	+	
events	—	
processes	-	+

Sometimes explanations for the impermissibility of certain utterances in terms

of features like these seem plausible enough. Thus we cannot say in English *I'mbeing able to do that very well, since be able is inherently stative, so that the progressive suffix -ing is perniciously redundant. (I have had recourse to a similar explanation for the fact that Lahu adjectival verbs may not take the durative particle tā, and still feel that this is one of the best criteria for distinguishing Lahu action verbs from adjectives.⁹) In English we can say He's realizing it for the first time, but not *He's knowing it for the first time. Realize has a punctual/change of state meaning (marking the sudden change from ignorance to knowledge), and is thus consistent with a precise time-adverbial and compatibly non-redundant with the progressive marker *-ing*; whereas *know* (like *be able*) is inherently In fact neither pole of the imperfective/perfective or durative/stative. progressive/non-progressive opposition is really applicable to stative verbs. Remaining in a state (e.g. knowing, being able) requires no effort (so why insist on its ongoing nature?), while remaining in a dynamic situation (e.g. running) does (Comrie, p. 49-51).¹⁰⁾

The trouble is, most verbs can belong to more than one category, according to context. Let us take the telic/atelic¹¹ parameter as an example. Comrie cites John is singing as a paradigm example of an English atelic utterance, as opposed to John is making a chair or John is drowning (telic). The difference is apparent with respect to the imperfect/perfect past tense opposition: with atelic events, the imperfect implies the perfect (he was singing implies he has sung); with telic events this does not hold true (he was drowning / he was making a chair do not imply he has drowned / he has made a chair) (Comrie, pp. 44-45). But this changes, for example, the minute you add an object to sing: He was singing a song is telic, since it does not imply He has sung a song (i.e. he might not have sung it through to the end). Context is all. The telic/atelic opposition is covert in English, not at all highly grammaticalized.

1.2 Syncretism and Seepage within and across Categories

In fact the categories of tense, voice, mood, and aspect tend to be mixed up or syncretized in the grammatical systems of particular languages, and their interrelationshps are highly subject to change through time.

Tense and voice

Many Indo-European languages use the same auxiliary verbs (especially verbs meaning *have* or *be*) to express both *perfect tenses* and the *passive voice*. Comrie (pp. 84–86) neatly characterizes this relationship for English in terms of the 'change of state' of a particular argument of the verb:

(3) John has arrived.

(perfect of an intransitive verb: shows changed state of semantic *agent*) (4) The city has been destroyed.

(passive of a transitive verb: shows changed state of semantic *object*)

Similarly for French être 'be':

(5) Il est arrivé.	('He has arrived': present perfect)
(6) Il était arrivé.	('He had arrived': pluperfect)
(7) Il est détruit.	('He is destroyed': present passive)
(8) Il a été détruit.	('He has been destroyed': perfect passive)

Tense and aspect

Tense and aspect are inextricably intertwined in, e.g. the English and Japanese verb systems. Pairs of forms like *he sits/he is sitting* and *he sat/he was sitting* illustrate how the categories cross-cut each other:

		past tense	progressive aspect
sit	suwaru		
is sitting	suwatte iru	-	. +
sat	suwatta	+	-
was sitting	suwatte ita	+	+

Aspect and voice

As we shall see (below 3.2), similar cross-cutting relationships hold between aspect and voice in the seven subconjugations (*binyanim*) of the Hebrew verb.

1.21 Synchronic variation

As always, the seeds of diachronic change are to be found in synchronic variation. There are, e.g. pronounced differences in usage with respect to the simple past/present perfect contrast between British and American English, with British speakers tending to make greater use of the present perfect. Yet it is easy to envision situations where either member of pairs like the following would be appropriate even for the same speaker:

(9) I emptied the garbage./I've emptied the garbage.

(10) Did you empty the garbage?/Have you emptied the garbage?

1.22 Diachronic change within a category

Other Indo-European languages have gone even further than English in obliterating the distinction between the simple past and present perfect tenses. In both French and German there has been a 'gradual relaxation of the requirement of present relevance in the use of the perfect to refer to a past situation' (Comrie, pp. 11, 61). In the case of French, the *passé simple* (also called the *passé défini*) has died out altogether in the spoken language,¹²⁾ where it has been replaced throughout by the periphrastic present perfect (the *passé composé*). This is in curious contrast to other Romance languages like Spanish and Italian, where the simple past is still in good health.

There is even a tendency in written French narrative style to blur the progressive/non-progressive distinction in the past, by using the so-called vivid imperfect (or *imparfait pittoresque*) to express punctual, non-progressive events, thus giving the reader the feeling that s/he is right in the midst of an action in progress, as it were.¹³⁾

1.23 Diachronic change from one grammatical category to another

Even more striking (and much more gradual) are diachronic changes in the relative salience of a language's major grammatical categories themselves, e.g. a development from an aspect-dominant system to a tense-prominent one. Something of this sort has happened in both Russian and (especially) in Hebrew, where original aspect-dominant systems have witnessed the development of participles into finite tenses, a past tense in the case of Russian, and a present tense in the case of Hebrew. See below 3.5.

1.3 Languages looked at in this paper

The relative proportions of the constituents of the categorial mix among tense, aspect, voice, and mood are a good way of categorizing or typologizing languages (along with morphosyntactic concepts like isolating, inflectional, agglutinative, verb-final, SVO, etc.).

This paper considers how aspectual concepts are conveyed in two typologically dissimilar languages: *Lahu*, an isolating, verb-final language of the Lolo-Burmese subgroup of Tibeto-Burman; and *Modern Hebrew*, a non-verb-final Semitic language with a complex 'interdigitating' verbal morphology. Incidental comparisons are made along the way with other languages like English, Russian, and Japanese.

2. Lahu

Lahu, like the other Sinospheric languages, entirely lacks the category of tense. (The ubiquitous particle ve, which occurs at the end of a high percentage of Lahu clauses, has nothing to do with tense, but is rather a nominalizer/relativizer, and the marker of genitive case relationships within NP's. See Matisoff 1972.).

2.1 Inapplicability of Active vs. Passive or Transitive vs. Intransitive in Lahu¹⁴)

Just as Lahu has no tense category, such distinctions as transitive/intransitive or active/passive are basically alien to Lahu grammar. It is true that the meanings of some action verbs (as opposed to adjectival/stative verbs) are such that they are likely to be preceded by a noun referring to the thing impinged upon (e.g. d3?

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'beat', tâ? 'climb', jû? 'pierce', bà 'throw', chî lift up', kô? 'fear', mò? 'be hungry for'). This preceding 'object' may, but need not, be followed by the accusative particle thà? (for all the reservations connected with the quite sparing use of this particle, see GL pp. 155-8), so that we may informally assign the label 'transitive' to those verbs which typically occur after NP's with thà?, or after NP's where thà? may be inserted 'naturally' and with no discernible difference in meaning. Yet these so-called transitive verbs differ widely among themselves in the degree of naturalness of this thà?-insertion. Most significantly, any 'transitive' verb may be used intransitively in sentences whose topic-focus is on the thing affected rather than on the initiator of the action. The English translations of such sentences will have passive verbs, yet the impersonal or intransitive nature of the Lahu sentence is signalled by nothing in the verbal nucleus itself, but is inferred from the sentence as a whole. The transitive verb kə 'put into; insert' is translated differently in the following two sentences:

(11) lì? chi mí-chə qhə hâ? kə mē

'Hurry and put these books into the shoulderbag.'

(12) lì? chi mí-cho qho ko tā ve yò

'The books have already been put into the shoulderbag.'

Senetence (11) is imperative, containing the hortatory final particle $m\bar{e}$, as well as the adverb **hâ?** 'quickly', whch typically occurs in commands. Since **li? chi** 'these books' is inanimate, it can only be interpreted as the goal of the action, and **k** \bar{a} is naturally translated by an active verb. The VP of (12) contains the aspectual verb particle t \bar{a} , indicating previously completed action. The act of insertion is thus regarded as already accomplished, and **li? chi** is taken as the topic, not the object, so that the English translation appropriately has a passive verb.

2.2 Expression of Aspectual Notions in Lahu

Given its almost total lack of inflectional morphology, Lahu relies on a variety of particles, adverbs, and auxiliary verbs to express aspectual concepts:

2.21 Via "versatile verbs" (grammaticalized verbs used as auxiliaries) [see GL:237]

Verb Meaning	as Main Verb	Meaning as Grammaticalized Auxiliary
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chê C l	dwell; be in a place send on an errand	progressive causative ¹⁵⁾
qay	go	(a) continuative (b) inchoative
mə	be a long time	durative
ni	look at	tentative
pà	finish	(a) completive (b) exhaustive

pî	give	(a) 3rd person benefactive (b) permisso-
		causative
153	be enough	sufficitive

Taking the main verb và? 'put on clothing; wear', we get the following combinations:

vəJ	chê	'is wearing'
vò?	Cł	'make/let someone wear'
vý?	qay	'goes on wearing; keeps on wearing'
və?	mə	'has worn for a long time'
və?	ni	'wear and see; try on'
vò?	e pà	(a) 'has already put on/worn' (b)
		'everybody wears'
và?	pî	(a) 'dress someone' (b) 'let someone wear'
và?	195	'enough to wear; wear enough'

Six of these versatiles also occur after adjectival/stative verbs:

chu chê	'is still fat'
chu c i	'cause to be fat; fatten up'
chu qay	'become fat; get fatter and fatter'
chu pà	'all are fat'
chu pî	'fatten for someone'
chu lờ?	'fat enough'

These auxiliaries are not mutually exclusive, and can cooccur in the same VP:

(13) 3-e yâ-é thà? 3-pa ve khí-nô? jè?-nê? cí ā ve thà? ší? bà ci pî chê ve¹⁶ 'The mother is making her son wipe off the mud stuck on his father's shoes for him.'

Occasionally these aspectual auxiliary verbs can occur in more than one relative order, with a concomitant semantic difference:

tháy cɨ phè? ve 'to be able to make (someone) plow' tháy phè? cɨ ve 'to make (someone) be able to plow'

2.211 Aspectual auxiliaries in English and Japanese

By way of comparison, English also uses several auxiliaries for aspectual purposes (in addition to the highly salient affix -ing):

inceptive	going to V	(rapidly becoming an unanalyzable "gonna")
habitual	used to V	(rapidly becoming an unanalyzable "useta")
perseverative	keep (on) V-ing	

English also permits combinations of such auxiliaries in the same VP, though this is rare and perhaps a bit forced:

(14) He used to keep on reading whenever I tried to catch his attention.

(habitual perseverative)

Most such combinations are clearly impossible, however, e.g. the non-existent *habitual progressive:

(15) *He was using to read novels last time I saw him.

Japanese also makes extensive use of auxiliary verbs to express aspectual notions, with the preceding main verb appearing in the so-called *gerund* or '-TE form':

progressive: V-TE+iru

itte iru 'is going'; akete iru 'is opening'; shitte iru 'is knowing'¹⁷) stative: V-TE + aru/iru

aite iru 'is open'; akete aru 'is open'

completive: V-TE+shimau

sutete shimau 'throw away'; katazukete shimau 'clear away'; yonde shimau 'read through'

tentative: V-TE+*miru*

akete miru 'try opening; open and see'; kite miru 'try on (clothes)'; notte miru 'try riding'; mite miru 'try looking, take a look'

preservative: V-TE + oku

totte oku 'keep'; kangaete oku 'think over'; oite oku 'put away'

2.22 Via verb-particles (Pv)

Lahu has a rich variety of post-verbal particles available for aspectual duty. For convenience of exposition we may divide them into several groups:

2.221 šē 'anticipatory inchoative'; š5 'durative'; ò 'completed action; change of state' [GL:336-350]

šē 'anticipatory inchoative'

This particle indicates that the verbal event has not yet come to pass, but is anticipated to occur before long. The implication may be that the event is only the first in a projected or contemplated series of actions. Sometimes the best English translation is 'still (for the moment)':

(16) ŋâ? chi pò ve ô pē-pâ ši kà? nâ šē

'This bird has flown so that it's still perching over there near the net-trap' [but any minute now it might get careless and fly right into the trap].

Often the English word that best fits the sense is 'first':

(17) cho-nà thà? mi ci šẽ le 5 ga cā pî ve yò 'First you make the sick man sit down, and then you have to feed him.'

With this same shade of meaning, \tilde{se} frequently occurs in imperative sentences, where it is suggested or commanded that an action be performed as a prerequisite for some further event:

(18) **i-kâ? hé šē** 'Take a bath first [and then we'll eat].'

(19) yè-mí hô? tā šē 'Shut the door tight first [and then we can talk frankly].'

Perhaps the commonest use of \tilde{se} is after verbs that have been negated by the adverbs $m\hat{a}$ 'not' or $t\hat{a}$ 'negative imperative', yielding structures that mean 'not V yet' or 'don't V yet!':

(20) $\overline{\mathbf{5}}$ mâ câ pà šē 'The rice hasn't been eaten up yet'

(21) tâ qò? e š \bar{e} 'Don't go home yet!'

When the construction $\mathbf{m}\hat{\mathbf{a}} + \mathbf{V} + \check{\mathbf{s}}\bar{\mathbf{e}}$ is followed by the temporal particle **th** $\hat{\mathbf{a}}$ 'when', we get the usual way of expressing 'before V'ing; before one has V'ed' (literally "when not yet V"):

(22) nà yâ-mî mâ po šē thâ 'before my daughter was born'.

š**5** 'durative'

This particle is also usually translatable by 'still', though its meaning is quite distinct from that of $\tilde{s}\bar{e}$. While $\tilde{s}\bar{e}$ is directed toward future developments, $\tilde{s}\bar{\mathfrak{s}}$ is used to indicate that the state or action expressed by the preceding verb is still going on. $\tilde{s}\bar{\mathfrak{s}}$ insists on this continuity, rather than anticipating any future state of affairs:

(23) mû-yè là š 5	'It's still raining.'
(24) `-yâ c` mâ šī	'There's still lots of time.'

ò 'completed action; change of state'

This is one of the most important of all the verb-particles. It indicates that the verbal event has already taken place; or that the fact of its having eventuated marks a change from the previous state of affairs. This is an aspectual notion that plays a key role in the grammars of Sinospheric languages (cf. Mandarin le, Thai léew, etc.).¹⁸⁾ Some typical sentences where the 'completed action' sense is called for:

(25) 5 câ ò lâ	'Have you eaten?' (often used as a greeting)
(26) câ ò	'(Yes,) I've eaten.' (response to the greeting)
(27) šī ò, šī ò	'I know it, I know it!' [you don't have to tell me, I knew it
	already]

(28) qha-pà-è tò? e ò 'It's all burnt up already.'

Some verbs have meanings which intrinsically contain the notion of action carried through to its conclusion, so that they have a special affinity for \hat{o} : $g\hat{a}$ 'reach, arrive at' ($g\hat{a} \hat{o}$ 'We've arrived'); $p\hat{a}$ 'be finished' ($p\hat{a} \hat{o}$ 'It's all done'); $b\hat{i}$ 'be full' ($b\hat{i} \hat{o}$ 'It's

all full'); **bû?** 'be satiated' (**bû?** \dot{o} 'I'm full'); **p** ϵ 'be enough' (**p** ϵ \dot{o} 'That's plenty'), etc.

Some sentences illustrating the 'change of state' interpretation:

(29) mû phờ? ò	'It's dark now.'
(30) yô chi-bà? phu a–cí cò la ò	'He's got a little more money now.'

Note that $\mathbf{m}\hat{\mathbf{a}} + \mathbf{V} + \hat{\mathbf{o}}$ translates 'not V anymore':

(31) **ŋà ò-chô mâ cò ò** 'I don't have any friends anymore.'

(32) yô cho-mô le chi qhe ve kán mâ qò? te pí ò

'He's an old man so he can't do that kind of work anymore.'

Although sentences with $\hat{\mathbf{o}}$ usually get translated with English present or present perfect verbs, it is not hard to find examples where the reference is distinctly to future time:

(33) Lâhū-yâ chê jɔ mì qhe cε chê a qo ɔ̄ pε ò è? 'If we just celebrate it the way the Lahu used to, it will be enough!'

2.222 Diagrammatic illustration of the interrelationship among \tilde{se} , \tilde{so} , and \tilde{o} , and the effect of combining them with the negative adverb m \hat{a} [GL:343–4]:

Suppose we are walking along a road toward a distant destination, X. At the starting point, A, we are 'far' (vî) from our goal. After going a short way, up to point B, we are 'still far' from X (vî šō). Somewhere past the halfway point, at C, we are still relatively far away, though this farness is about to change to relative nearness: we are still far, but already looking forward to the time and place when we will be quite near (vî šē). As X is closely approached, at point D, we might say 'It's not far anymore' (mâ vî ô). Somewhat less than halfway back, at point E, anticipating the time and place when X will again be far behind us, we would say mâ vî šē 'It's not far yet (but soon it will be)'. Finally, at F, as we approach our starting point A, we may say, thinking back on X, vî ô 'It's far (from X) now'. See Figure 3:

We may further clarify the relationship among these verb-particles as they interact with the negative adverb $\mathbf{m}\hat{\mathbf{a}}$ by using the rough-and-ready semantic features [\pm change], [\pm negative result], and [\pm persistence]. As a model sentence we take yô he qho ga chê... 'He has to stay in the swidden':

1. yô he qho ga chê šō

'He still has to stay in the swidden.' [-change, -neg.res., +persist.]

2. yô he qho ga chê šē

'He has to stay in the swidden first (before doing something else).'

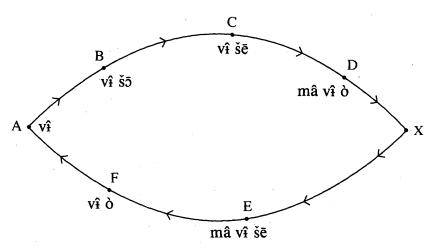


Figure 3 The Lahu aspectual verb-particles in action

[-change, -neg.res., -persist.]

3. yô he qho mâ ga chê ò

'He doesn't have to stay in the swidden anymore.' [+change, +neg.res.]

4. yô he qho mâ ga chê šē

'He doesn't have to stay in the swidden yet.' [-change, +neg.res., -persist.]

5. yô he qho ga chê ò

'Now he has to stay in the swidden.' [+change, -neg.res.]

Putting the matter another way, if we symbolize 'having to be in the swidden' by YES, 'not having to be in the swidden' by NO, 'non-persistence' or 'imminence of change' by BUT, and the passage of time by an arrow, the aspectual dynamics of these six sentences are as follows:

- 1. YES \rightarrow YES
- 2. YES \rightarrow YES-BUT
- 3. YES \rightarrow NO
- 4. NO \rightarrow NO-BUT
- 5. NO \rightarrow YES

Note that the only impossible combination is $m\hat{a}...\hat{s}\bar{\sigma}$:¹⁹ (34) $m\hat{a} \hat{v}\hat{s}\bar{\sigma}$ (It's still not far.'

(35) *yô he qho mâ ga chê šõ

'He still doesn't have to stay in the swidden.'

That is, even though it is possible to conceive *a priori* of a distinction corresponding to English *still not V* vs. *not V yet*, this is felt to be far-fetched in Lahu. The constellation of semantic features [-change, +neg.res., +persist.], i.e. NO \rightarrow NO, is apparently a Lahu "no-no"!

2.223 jo 'experiential perfect' and tā 'perfective; permanence; later relevance'

The particle jo [see GL:332] indicates that the speaker has at some time experienced the verbal event referred to in its clause:

(36) n ò Lâhū 5-chî câ j o ò lâ	'Have you ever eaten a Lahu curry?'	
(37) mâ ġa câ jɔ šē	'I've never gotten to eat one yet.'	
(38) chi tí qo, mâ te jo, mâ mò jo, mâ kâ jo, mâ šī 'As for that, I've never done it,		
never seen it, never heard of it, so I don't know!'		

Experiential perfect constructions are widely found in East and Southeast Asian languages. Corresponding, e.g. to Lahu câ jo 'have ever eaten', are Mandarin chī guo, Japanese tabeta koto ga aru, Thai dâj kin (see above 1.042).

The important particle $t\bar{a}$ [see GL 322-4] signals that the action of the preceding verb is performed in a lasting or permanent manner, such that its effects are still visible or significant in the present or future, or at a later time in the past:

(39) šɨ tā ve yò	'It's quite dead.'
(40) hε qhɔ ġa jòʔ kə tā ve yò	'We have to thresh it and leave it in the
	swidden.'
(41) qhò-lô ô-ve yô te tā ve yò	'He's the one who made that basket.'

This particle frequently appears in relative clauses, indicating that the head of the clause has undergone some previous action:

(42) jè?-mù?-qu qhɔ khá tā ve là?-chî?-pi

	'the fist that had got stuck in the earthen pot'
(43) cô tā ve và?-ó-qō	'a pig's head that has been boiled'

Significantly, $t\bar{a}$ never occurs after adjectival verbs; adjectives already refer to more or less permanent states, and the addition of $t\bar{a}$ would be otiose.²⁰⁾

 $t\bar{a}$ can occur in combination with all the particles presented in 2.221-2.222, as well as with the irrealis particle $t\dot{u}$ (next section). For a discussion of such particle sequences within a single VP, see below 2.225.

2.224 The mood particle tù 'non-realized action; futurity; purpose'

The best overall semantic characterization of this particle is *irrealis*. Sometimes it is best translated by the English future tense [GL 335-6]:

(44) n ì ô-ve câ qo nà tù yò	'If you eat that you will get sick.'
(45) nò kà? qay tù lâ	'Will you go too?'

This particle is often used to mark a purpose-clause embedded in a larger sentence [GL 461-3]:

(46) É hồ ga tù mồ?-qo qho á-phè?-šĩ jû? pî ve yồ 'In order to get the [newborn]		
	baby to cry, we stick hot peppers into its	
	mouth.'	
(47) chɔ-dà? phè? tù ga lâ mē	'Please help us to be good people!'	
(48) ŋà Lâhū-khô ca hê tù là ve yò	'I have come in order to study Lahu.'	

Another important function of $t\dot{u}$ is to nominalize a preceding verb or clause in a purposive sense, forming structures that mean 'something to Verb/Clause with; something for Verb/Clause'ing' (GL 460-1):

(49) câ tù	'something to eat; food'	(câ 'eat')
(50) chî-mu tù	'something to be praised'	(chî-mu 'praise')
(51) ğâ?-mu dô? tù	'badminton racquet'	(ğâ?-mu dô? 'hit chicken
		feathers')
(52) gá-yə ò-šá kə tù	'tire-pump'	(gá-yə)-šá kə 'put air in tires')

tù can coocur with $\tilde{s}\bar{s}$ or \tilde{o} within a single VP (below 2.225). For contrary-tofact uses of tù see below 2.226.

2.225 Combinations of mood/aspect particles within a single verb-phrase [GL 346-8]

When semantically appropriate certain sequences of the particles we have been discussing may cooccur in the same VP:

tù + šī

This combination of particles indicates that a verbal event will still $(\tilde{s}\bar{3})$ be the case in the future $(t\hat{u})$:

(53) ŋà né-qhò? kà? chò kà? chê tù šõ

'I'll still be living here next year.'

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tù + ò

This sequence sometimes implies that a verbal event will in the future $(t\dot{u})$ already have been realized (\dot{o}) by a certain time. Often the English future perfect provides a good translation:

(54) Thây-mì-gì 5 chi mo-mo chê qo, Thây-khô šĩ tù ò hé

'If you stay in Thailand such a long time, you probably will have learned Thai.'

tā + tù

The meaning here is that an action in the future $(t\hat{u})$ can only be performed after another, prerequisite action $(t\bar{a})$ has been accomplished:

(55) he thu tā tù ve ò-ti lo šá-lâ ti tù yò

'Once a swidden has been cleared, we'll plant cotton there'/'We'll plant cotton where a swidden will have been cleared.'

tā + šē

After a non-negated verb, this sequence occurs in commands that something be done that has a lasting effect $(t\bar{a})$, before a further anticipated action $(\check{s}\bar{e})$ is performed:

(56) yè-mí phə tā šē

'Open the door first.' [and leave it open so that, e.g. we may leave at any time]

After a negated verb, the $t\bar{a} + s\bar{e}$ sequence means that a long-lasting state ($t\bar{a}$) has not yet ($m\hat{a}...s\bar{e}$) set in:

(57) mû mâ phô? tā šē 'Night hasn't fallen yet.'

tā + šī

These particles in combination mean that a permanent state $(t\bar{a})$ is still $(s\bar{s})$ in force:

(58) ô thâ ti tā ve yè-khí-do tu tā šo lâ

'Are the houseposts we drove in that time still standing?'

tā + ò

This sequence indicates the completion (\dot{o}) of an action whose effects are lasting or bear upon a later time (tā):

(59) ô ve yâ-mî ŋà a-ló gî tā ò ve-5

'I'm the one who paid court to that girl first.' [and I still have priority] 2.226 Use of mood and aspectual particles in counterfactual conditionals: the interaction of qo 'conditional', tù 'irrealis', \dot{o} 'change of state', $t\bar{a}$ 'perfective'

The most general conditional morpheme in Lahu is the "unrestricted particle" qo,²¹⁾ which occurs at the end of the protases of conditional sentences:²²⁾ (60) mê? mâ mò qo, tī thè? hā ve-5

'If it's too dark to see, it's sure hard to play the guitar!'

In itself qo is neutral both with respect to time-reference and to the degree of remoteness or likelihood of the condition in question. Such nuances are conveyed by temporal nouns in the protasis and/or particles in the apodosis:

...qo...tù [GL:336]

In certain non-future contexts, especially when the non-final clause of a compound sentence ends in the conditional qo and contains an expression referring to past time, tù shows non-realized action in the past, i.e. an action that is contrary to fact:

(61) á-ni thâ mû-yè mâ là qo nà-hi bó-šī vâ tù ve

'If it hadn't rained yesterday, we would have played ball.'

Occasionally tù is used in a contrary-to-fact sense in simple sentences as well: (62) nò ŋà-hi thà? á-šî? thâ tê pô? 5 tho lâ cô tù ve

'You should have told us that before.'

...qo...ò [GL:342, 412-3]

When $\dot{\mathbf{o}}$ appears in the final clause of a compound sentence where the non-final clause ends in \mathbf{qo} 'if', it is to be interpreted in a contrary-to-fact sense:

(63) nò e chi chê a lâ qo, dà? ò qô?-ma

'If that mother of yours were only here, it would be all right.'

Often the non-final clause is the set expression **a-cí mâ hê? qo** 'if things had been a little different' (lit. "if it were not [that way by] a little bit"):

(64) a-cí mâ hê? qo qay ò 'He very nearly went.'
(65) a-cí mâ hê? qo ši e ò 'He came within an ace of dy

â hê? qo ši e ò 'He came within an ace of dying.' ("If it weren't by a little bit he would have died.")

...qo...tā [GL:412-3]

A similar counterfactual interpretation is appropriate when the final clause contains tā:

(66) á-ni thâ nò qa-mì qo, ŋà kà? qa-mì tā ve yò hé

'If you had sung yesterday, I would probably have sung too.' (67) gà?-hò a-lâ qo, ŋà chi-pí-qwè? ô tê khe ga tù šō tā ve yâ

'If you had only driven it toward me by shouting at it, I would have figured out a way to catch that barking-deer!'

3. Hebrew

3.1 Triconsonantality of the Hebrew Verb

The Semitic languages are known for their unique 'interdigitating' verbal morphophonemics. Virtually all verb-roots consist of three consonants,²³⁾ which are held constant throughout the complex paradigm; the individual forms in the paradigm are created by adding prefixes and suffixes, and by systematically varying the vowels that are inserted around the root-consonants according to the particular person, number, aspect, and *binyan* (see below) of the form in question.

Nouns—many of which are deverbal anyway—also have more-or-less predictable vocalism,²⁴⁾ to native speakers at any rate, so that most printed books in Modern Hebrew consist entirely of consonants. There is a system of indicating the vowels overtly, via dots and dashes above, below, and beside the consonants, but these "pointed texts" are confined to certain particular genres: children's books, the Bible (where it is essential to get every sound exactly right), and some modern poetry. Unfamiliar foreign words or proper names are usually pointed on their first occurrence in a novel or newspaper article, but left unpointed thereafter.

There are 22 consonants in the Hebrew alphabet, so that if there were no restrictions on which consonant could occur in which position in the root, there would be 22³ possible verb roots, i.e. 10,648. The letters of the alphabet, with their Classical and Modern pronunciations, are as follows:

Name of Letter ²⁵⁾	Classical Pronunciation	Modern Pronunciation	Transcription
?aleph	ץ	?∼Ø	?
beth/bheth	b∕v	b∕v	b∕bh
gimel	g/γ	g	g
daleth	d/ð	d	d

he	h	h	h
waw	W	v	v
zayin	Z	Z	Z
xeth	X	Х	х
teth	ţ.	t	th
yodh	y	у	у
kaf/khaf	k/x	k/x	k/kh
lamedh	1	1	1
mem	m	m	m
nun	n .	n .	n .
samekh	S	S	S
'ayin	٢	?~Ø	•
pe/fe	p/f	p/f	p/f
șade	Ş	ts	ts
qoph	q	k	q
resh	r	r	r
shin/hsin ²⁶⁾	š/ś	š/s	sh/hs
taw/thaw	t/θ	t (Seph.)/s (Ashk.)	t

In Classical Hebrew there was a thoroughgoing contrast between single and geminate consonants, indicated in the writing system by inserting a dot (called *dagesh*) into the letter to indicate gemination. The single stops /p t k b d g/ were lenited or spirantized postvocalically to [f $\theta x v \delta y$]. In Modern Hebrew /d/ and /g/ no longer spirantize, but [p f], [k x] and [b v] still stand in morphophonemic alternation in verbal and nominal inflections, even though the contrasts are now phonemic.²⁷⁾ In modern 'Sephardic' Hebrew (now standard in Israel), *taw* does not spirantize, but in the 'Ashkenazic' pronunciation traditional in Europe, it is pronounced /s/ in lenitable environments (thus merging with *samekh*).

Classical Hebrew had a system of eleven vowels, with contrastive length: $/a \bar{a} i \bar{i} u \bar{u} e \bar{e} o \bar{o}/$, plus the famous unstressed or 'zero-grade' vowel *schwa* [ə], whose name has entered standard linguistic terminology. Modern Israeli Hebrew has a six-vowel system /i e u o a/ plus /ə/. The phonemic status of schwa poses analytical problems rather similar to those involving the French 'mute e'. In this paper we mostly leave it untranscribed except, e.g. where it breaks up a three-consonant cluster²⁸ (e.g. yirdəfu), or occurs before a laryngeal (e.g. yəhi, mə?od), or occurs in a prefix or clitic (lə-, bə-, və-).

We cite roots by capital letters, separated by hyphens, e.g. **K-T-B**, **TS-D-Q**. In order to avoid having to put diacritics under or over capitals, digraphs are used for *teth (TH), sade* (TS), *shin* (SH), and *hsin* (HS).

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3.2 Imperfective vs. Perfective in Hebrew and Arabic

Historically speaking, the basic inflectional dichotomy in Semitic verbs is between two categories usually called *imperfective* and *perfective*,²⁹⁾ with the perfective forms referring to completed actions and/or relative time in the past, and the imperfective ones indicating 'everything else', i.e. non-completed actions and/or relative non-past time. These categories thus partake of both aspect and tense, but mostly the former.³⁰⁾ Before discussing Hebrew verb morphology in some detail, let us compare the Hebrew and Arabic imperfective/perfective forms in the semantically simplest subconjugation (*binyan*) of the verb **K-T-B** 'write':

Person	Hebrew	Arabic	
1	ekhtobh	?aktubu	'I will write'
2 (M)	tikhtobh	taktubu	'you (m.) will write'
(F)	tikhtəbhi	taktubīna	'you (f.) will write'
3 (M)	yikhtobh	yaktubu	'he will write'
(F)	tikhtobh	taktubu ³¹⁾	'she will write'
	Dual		
2		taktubāni	'you will both write'
3 (M)		yaktubāni	'they (m.) will both w.'
(F)		taktubāni	'they (f.) will both w.'
	Plural		
1	nikhtobh	naktubu	'we will write'
2 (M)	tikhtəbhu	taktubūna	'you (m.pl.) will w.'
(F)	tikhtobhna ³²⁾	taktubna	'you (f.pl.) will w.'
3 (M)	yikhtəbhu	yaktubūna	'they (m.pl.) will w.'
(F)	tikhtobhna	yaktubna	'they (f.pl.) will w.'
	PERFECTI Singular	VE	
Person	Hebrew	Arabic	
1	katabhti	katabtu	'I wrote'
2 (M)	katabhta	katabta	'you (m.) wrote'

IMPERFECTIVE Singular

(F)	katabht	katabti	'you (f.) wrote'
3 (M)	katabh	kataba	'he wrote'
(F)	katbha	katabat	'she wrote'
. *	Dua	al	
2		katabtumā	'you both wrote'
3 (M)		katabā	'they (m.) both wrote'
(F)		katabatā	'they (f.) both wrote'
	Plur	al	
1	katabhnu	katabnā	'we wrote'
2 (M)	ktabhtem	katabtum	'you (m.pl.) wrote'
(F)	ktabhten	katabtunna	'you (f.pl.) wrote'
3 (M)	katbhu	katabū	'they (m.) wrote'
(F)	katbhu ³³⁾	katabna	'they (f.) wrote'

3.21 The 'overturning waw': waw ha-mahapekhet

Biblical Hebrew had a very curious aspect-reversing morphosyntactic device, by which imperfective verb-forms could be converted into the corresponding perfective ones, and vice versa. This device was the conjunction va-va- 'and', spelled with the sixth letter of the alphabet, waw. When used before a verb with this function this letter has been called waw ha-mahapekhet, literally 'the overturning (or conversive)waw'.

Imperfective > Perfective:

?-M-R 'say'; H-Y-H 'be'

(68) Va-yomer ?Adonai: "yəhi ?or!" Va-yəhi ?or.

'And God said, "Let there be light!" And there was light.' Perfective paraphrases in Modern Hebrew:

?Adonai ?omar 'God said'; ?or haya 'light was'

N-T-N 'give'

(69) Va-titen ³⁴⁾ lanu ?et ha-Tora...

'And Thou gavest us the Torah...'

Perfective paraphrase in Modern Hebrew:

natata lanu 'you gave us'

R-?-H 'see'

(70) Va-yar? ?Adonai ki thobh.

'And God saw that it was good.' Perfective paraphrase in Modern Hebrew: **?Adonai** ra?a 'God saw'

Perfective > *Imperfective*:

?-H-B 'love'

(71) Və-ahabhta ?et ?Adonai ?elohekha bə-khol lvavkha...

'And thou shalt love the Lord thy God with all thy heart...' Imperfective paraphrase in Modern Hebrew:

Rata telehabh Ret RAdonai 'you will love God'

'-HS-H 'do'

(72) Sheshet yamim ta'abhod, və-'ahsita kol mla?khtekha...

'Six days shalt thou work, and do all thy tasks...' [Exodus 20:9]

Imperfective paraphrase in Modern Hebrew:

ta'ahse kol mla?khtekha 'you will do all your tasks'

N-G-D 'tell'; D-B-R 'speak'

(73) Və-higadəta lə-beynekha, və-dibarta bam...

'And thou shalt tell it to thy children, and shalt speak with them...'

Imperfective paraphrases in Modern Hebrew:

tagid lə-beynekha 'you will tell your children'; tədaber bam 'you will speak with them'

H-Y-H 'be'

(74) Ha-'od li bhonim bə-me'ay, və-hayu lakhem la?anashim?

'Are there yet any more sons in my womb, that they may be your husbands?' [Ruth 1:11]

Imperfective paraphrase in Modern Hebrew:

yihyu lakhem la?anashim 'they will be your husbands'

This polarity reversability implies that the conceptual opposition was truly a binary one, and thus much more like an aspectual opposition than one of tense (which need not be a binary category). Furthermore, it will be noticed that the use of the 'overturning waw' before a perfective verb is usually not interpreted as producing a simple future, but rather as a command or other 'irrealis' type of verbal event. The use of the paratactic conjunction 'and' before an imperfective verb seems to have been a way of anticipating the event's imminent occurrence—regarding it as being already as good as done the moment it is contemplated. And such aspectual fluidity is of course especially suitable for describing divine acts,

since God exists in an eternal present, and His very thoughts are instant reality.³⁵

3.3 Voice/Aspect Syncretism: the binyanim

What we have seen so far does not begin to do justice to the complexity of Hebrew verb morphology. Crosscutting the imperfective/perfective opposition is a system of seven subconjugations which encode other notions of voice and aspect, and which sometimes introduce unpredictable increments of meaning.³⁶⁾ These subconjugations are called *binyanim* (singular *binyan* 'building; construction'). Semantically and morphologically, the simplest of them is called *Qal* 'easy; simple',³⁷⁾ which encodes the plain basic meaning of the verb in the active voice. Grammarians have given the other six binyanim mnemonically suggestive names based on the triliteral root P-'-L 'to act', which underlies the derived nominal po'al 'a verb'.³⁸⁾ Each of these names illustrates the vocalism and affixational pattern of the third person masculine perfective form in that particular binyan.³⁹ Thus the name of the simple passive binyan corresponding to the Qal is Nif'al, because the 3rd person masculine perfective of regular verbs has the **ni**- prefix, zero vowel between C¹ and C², and -a- between C² and C³, i.e. the shape $niC^1C^2aC^3$. So for G-M-R 'finish' we get nigmar 'it was finished'; for K-T-B 'write', we have nikhtav 'it was written'; for L-M-D 'learn' we get nilmad 'it was learned', etc. Three of the binyanim are active, each with a corresponding passive; the seventh is a reflexive/middle conjugation, where the active/passive distinction is neutralized. The full set is as follows:40)

	ACTIVE		PASSIVE
SIMPLE	Qal	· .	Nif'al
INTENSITIVE	Pi'el		Pu'al
CAUSATIVE	Hif'il		Huf'al
REFLEXIVE		Hitpa'el	

The English characterizations of the semantic content of these *binyanim* (especially 'Intensitive' and 'Causative') are very rough, since almost every verb acquires some idiosyncratic increment of meaning along its various inflectional paths. Before going into 'binyanic semantics' in a bit more detail (below 3.4), let us first lay out the morphology of the *binyanim* by putting a regular⁴¹ verb through all its paces: **R-D-F** (underlyingly **R-D-P**) 'to chase; pursue' (sections 3.31-3.37).

3.31 QAL

Infinitive

lirdof 'to chase; pursue'

Imperative

(MS) rdof

(FS) ridfi

(MP) ridfu

(FP) rdofna

Present (Active Participle) ⁴	²⁾ (MS) rodef	(FS) rodefet	(MP) rodfim	(FP) rodfot
Present Passive Participle	(MS) roduf	(FS) rdufa	(MP) rdufim	(FP) rdufot
Imperfective (Future)				
	Singular		Plural	
1	erdof		nirdof	•
2 (M)	tirdof		tirdəfu	
(F)	tirdəfi		tirdofna	
3 (M)	yirdof		yirdəfu	
(F)	tirdof		tirdofna	
Perfective (Past)				
1	radafti		radafnu	
2 (M)	radafta		rdaftem	
(F)	radaft		rdaften	
3 (M)	radaf		radfu	
(F)	radfa		radfu	
3.32 NIF'AL				
Infinitive	ləherodef 'to	be chased; to	be persecuted	,
Imperative	(MS) herodef	(FS) herodfi	(MP) herodfu	(FP) herodafna
Present (Active Participle)	(MS) nirdof	(FS) nirdefet	(MP) nirdofim	(FP) nirdofot
Imperfective (Future)				
	Singular		Plural	
1	<i>Singular</i> erodef		<i>Plural</i> nerodef	
1 2 (M)	-			
	erodef		nerodef	
2 (M)	erodef terodef		nerodef terodfu	
2 (M) (F)	erodef terodef terodfi		nerodef terodfu terodafna	•
2 (M) (F) 3 (M)	erodef terodef terodfi yerodef		nerodef terodfu terodafna yerodfu	· · · · · · · · · · · · · · · · · · ·
2 (M) (F) 3 (M) (F)	erodef terodef terodfi yerodef		nerodef terodfu terodafna yerodfu	· · · · · · · · · · · · · · · · · · ·
2 (M) (F) 3 (M) (F)	erodef terodef terodfi yerodef terodef		nerodef terodfu terodafna yerodfu terodafna	
2 (M) (F) 3 (M) (F) Perfective (Past)	erodef terodef terodfi yerodef terodef		nerodef terodfu terodafna yerodfu terodafna	
2 (M) (F) 3 (M) (F) Perfective (Past)	erodef terodef terodfi yerodef terodef Singular nirdafti		nerodef terodfu terodafna yerodfu terodafna <i>Plural</i> nirdafnu	
2 (M) (F) 3 (M) (F) Perfective (Past) 1 2 (M)	erodef terodef terodef terodef <i>Singular</i> nirdafti nirdafta		nerodef terodfu terodafna yerodfu terodafna <i>Plural</i> nirdafnu nirdaftem	

3.33 PI'EL						
Infinitive laradef 'to pursue ardently; to strive for'						
Imperative	(MS) radef	(FS) radfi	(MP) radfu	(FP) radefna		
Present (Active Participle	e)(MS) mradef	(FS) mradefet	(MP) mradfim	(FP) mradfot		
Imperfective (Future)						
- , , ,	Singular		Plural			
1	aradef		nradef			
2 (M)	tradef		tradfu			
(F)	tradfi		tradefna			
3 (M)	yradef		yradfu			
(F)	tradef		tradefna			
Perfective (Past)						
	Singular		Plural			
1	ridafti		ridafnu			
2 (M)	ridafta		ridaftem			
(F)	ridaft		ridaften			
3 (M)	ridef		ridfu			
(F)	ridfa		ridfu			
3.34 PU'AL						
	'be drive	n; be chased'				
Present (Active Participle)	(MS) mrudof	(FS) mrudefet	(MP) mrudofim	(FP) mrudofot		
Imperfective (Future)						
	Singular		Plural			
1	arudaf		nrudaf			
2 (M)	trudaf	,	trudfu			
(F)	trudfi		trudafna			
3 (M)	yrudaf		yrudfu			
(F)	trudaf		trudafna			
Perfective (Past)						
	Singular		Plural			
1	rudafti		rudafnu			
2 (M)	rudafta		rudaftem			
(F)	rudaft		rudaften			

3 (M) (F)	rudaf rudfa		rudfu rudfu	
3.35 HIFʻIL		* .		
Infinitive	ləhardif 'to d	cause to chase;	to pursue'	
Imperative	(MS) hardef	(FS) hardifi	(MP) hardifu	(FP) hardefna
Present (Active Participle)	(MS) mardif	(FS) mardefet	(MP) mardifim	(FP) mardifot
Imperfective (Future)			· .	
	Singular		Plural	
1	ardif		nardif	
2 (M)	tardif		tardifu	
(F)	tardifi		tardefna	
3 (M)	yardif		yardifu	
(F)	tardif		tardefna	
Perfective (Past)				
	Singular		Plural	
1	hirdafti		hirdafnu	-
2 (M)	hirdafta		hirdaftem	
(F)	hirdaft		hirdaften	
3 (M)	hirdif		hirdifu	
(F)	hirdifa		hirdifu	
3.36 HUF'AL				

'to be pursued'

Present (Active Participle)

	(MS)	murdaf	(FS)	murdefet
--	------	--------	------	----------

(MP) murdofim

(FP) murdofot

Imperfective (Future)

	Singular	Plural
	urdaf	nurdaf
2 (M)	turdaf	turdəfu
(F)	turdəfi	turdafna
3 (M)	yurdaf	yurdəfu
(F)	turdaf	turdafna

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Perfective (Past)

	Singular	Plural
1	hurdafti	hurdafnu
2 (M)	hurdafta	hurdaftem
(F)	hurdaft	hurdaften
3 (M)	hurdaf	hurdəfu
(F)	hurdfa	hurdəfu

3.37 HITPA'EL

Infinitive	lahitradef 'to scatter; to disperse'			
Imperative	(MS) hitradef	(FS) hitradfi	(MP) hitradfu	(FP) hitradefna
Present (Active Participle)	(MS) mitradef	(FS) mitradefet	(MP) mitradfim	(FP) mitradfot

Imperfective (Future)

	Singular	Plural
1	etradef	nitradef
2 (M)	titradef	titradfu
(F)	titradfi	titradefna
3 (M)	yitradef	yitradfu
(F)	titradef	titradefna

Perfective (Past)

	Singular	Plural
1	hitradafti	hitradafnu
2 (M)	hitradafta	hitradaftem
(F)	hitradaft	hitradaften
3 (M)	hitradef	hitradfu
(F)	hitradfa	hitradfu

3.371 Morphophonemics of the Hitpa'el

The usual prefixes in this *binyan* are **hit**- throughout the perfective, **mit**throughout the present (participles), and **et**-, **tit**-, **yit**-, **nit**- (according to person) in the imperfective. If, however, the root begins with a dental stop, spirant, or affricate, special rules apply:

(a) If C¹ is S (samekh), SH (shin), or TS (sade):

Here the -t- of the prefix metathesizes with the C^1 : S-G-R 'close, shut' //hit-sager// 'he shut himself up' \rightarrow histager

SH-B-R	'break'	//hit-shaber//	'it was fragile'	→hishtaber
TS-X-Q	'laugh'	//hit-tsadeq//	'he laughed to himself'	→hitsthadeq ⁴³⁾

(b) If C^1 is Z (zayin), the metathesized dental of the prefix is voiced to -d-: Z-K-R 'remember' //hit-zaker// 'he reminisced' \rightarrow hizdaker

(c) If C^1 is TH (*teth*) or D (*daleth*), the final dental of the prefix is dropped altogether, with compensatory gemination of C^1 in classical Hebrew, still reflected by a *dagesh* (internal dot in the letter) in conservative orthography:

TH-P-L	'be subordinate'	//hit-thapel//	'he joined himself'	→hithapel
				(spelled "hiththappel") ⁴⁴⁾
D-Y-N	'judge'	//hit-dayen//	'he litigated'	→hidayen
				(spelled "hiddayyen")

(d) If C^1 is T (*tau*), the verb never develops a Hitpa'el at all.

3.4 Binyanic Semantics

As indicated above, the *binyanim* encode various notions of aspect and voice. The simple or unmarked aspect (Qal [active] and Nif'al [passive]) presents no particular semantic problem, nor does the Hitpa'el, which consistently expresses such mutually relatable voice-concepts as *reflexive*, *middle*, and *reciprocal*. The Pi'el ('intensitive') is a more elusive category, apparently unique to Hebrew and other Semitic languages. It expresses a higher degree of intensity or directed purpose to the verbal action than does the simple Qal. To some extent the Pi'el seems to overlap semantically with the Hif'il ('causative'), though this is often an artifact of the English gloss: the Pi'el is more inner-directed, while the Hif'il directs the verbal action more toward an outside person or object. What both these *binyanim* have in common is the semantic increment of *directedness*, as opposed to mere general, diffuse activity.

In general I feel that the category of causative partakes of the nature of both voice and aspect (see above 1.02). Causative is like a complex voice category in that it encodes the relative salience of the (three) parties to an action or event: the causee is simultaneously passive with respect to the prime mover and active with respect to the object s/he is caused to affect. In fact, the active/passive distinction is frequently applied to the prime mover/causee relationship itself, either analytically as in English (*The guard made the prisoner eat the slop/The prisoner was made to eat the slop by the guard*) or inflectionally, as in Japanese or Turkish (Jse. *Haha wa kodomo ni iya na mono wo tabesaseta/Kodomo wa haha ni iya na mono wo tabesaseta/Kodomo wa hah*

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Causative (the classical Hif'il vs. Huf'al distinction); (b) semantically the Hif'il is often not strictly speaking "causative" so much as it is *strongly outer-directed*, which seems to me to involve the "internal dynamics of the verbal event".

The semantic increments conveyed by the various *binyanim* differ subtly from verb to verb. Usually they are quite predictable in terms of the general characterizations of the binyanic categories themselves; but in many cases they involve obscure or idiomatic leaps of semantic association. In the following sections we offer generous samples of each type, without going into too much detail.

For each verb listed in 3.41 and 3.42, four inflected forms are given: the third person masculine singular perfective of the Qal, Pi'el, Hif'il, and Hitpa'el.⁴⁶

Root	Qal	Pi'el	Hifʻil	Hitpa'el
H-L-K	halakh	hillekh	holikh	hit-hallekh ⁴⁷⁾
'go; walk'	walked	walked along	led; brought	walked about
X-Z-Q	xazaq	xizzeq	hexeziq	hitxazzeq
'be strong, firm'	was strong	strengthened	took hold of	exerted oneself
X-M-D	xamad	ximmed	hexmid	hitxammed
'desire'	desired	desired greatly	made lovely	conceived a desire
Y-D-' 'know'	yada' knew	yidda' appointed; assigned	hodia ⁴⁸⁾ informed; announced	hitvadda' made oneself known; became acquainted
Y-L-D	yalad	yilled	holid	hityalled
'bear; bring forth'	bore	acted as midwife	begat	was produced
K-B-D	kabhad	kibbed	hikhbid	hitkabbed
'be heavy'	was heavy	honored	made heavy	exalted oneself
K-T-B	katabh	kittebh	hikhtibh	hitkattebh
'write'	wrote	wrote busily/much	dictated	corresponded with
L-Q-TH	laqath	liqqeth	hilqith	hitlaqqeth
'pick up'	picked up	gathered; collected	strewed	came together
N-G-' 'touch'	naga' touched	nigga' afflicted; struck	higgia ⁽⁴⁹⁾ reached; arrived	hitnagga' was afflicted by (esp. leprosy)

3.41 Easily predictable inter-binyanic semantic relationships

N-SH-Q	nashaq	nishsheq	hishshiq	hitnashsheq
'kiss'	kissed	kissed intensely	touched gently	kissed one another
SH-K-X 'forget'	shakhax forgot	shikkakh clean forgot	hishkiax caused to forget	hishtakkakh became forgotten
SH-P-'	shafa'	shippa'	hishpia'	hishtappa'
'flow; bestow'	flowed	set at an incline	influenced	was slanting

3.42 Striking or idiomatic semantic relationships among the binyanim

Root	Qal	Pi'el	Hifʻil	Hitpa 'el
B-R-?	bara?	bere?	hibhri?	[lacking]
'create; form'	created	cut down	recovered;fatt	ened
G-'-G-'	[lacking]	giʻagaʻ pecked; cackled	[lacking]	hitgaʻagaʻ longed for; yearned
G-R-M	garam	gerem	higrim	[lacking]
'cause; bring about'	caused	broke; broke bones	make knives sli	de
X-TH-? 'sin; miss'	xatha? sinned	xiththe? cleansed	hexethi? cause to sin; miss the mark	hitxaththe? cleanse oneself
X-P-HS	xafahs	xippehs	[lacking]	hitxappehs
'search'	searched	investigated		disguised oneself
Y-D-H	yadah	yiddah	hodah	hitvaddah
'throw; shoot'	threw; shot	cast down	thanked; prais	ed confessed
M-H-R	mahar	miher	[lacking]	hitmaher
'buy a wife'	bought a wife	hastened; hurried		be accelerated
N-B-TH 'sprout'	nabhat sprouted	[lacking]	 hinbit to seed; to sow hibbit to look; to vie 	
N-G-D	nagad	nigged	higgid	hitnagged

'oppose; contradict'

nagad opposed nigged flogged; stretched higgid hitnagged told; announced was opposed to

	nikkar ecognizable; vident	nikker showed partiality; delivered	hikkir recognized; got to know	hitnakker acted as a stranger; showed hostility
N-HS-? 'lift; marry; carry'	nahsa? carried; married	nihshse? exalted; elevated	hihshsi? cause to bear; give in marria;	hitnahshse? exalted oneself; ge boasted
'-B-R 'pass; cross'	'abhar passed; crossed	'ibber impregnated; proclaimed a leapyear	he'ebhir took across; removed	hit'abber became angry; became pregnant

3.5 From Aspect to Tense in Modern Hebrew: Active Participle to Present Tense

Modern Hebrew can no longer be considered an 'aspect-prominent' language, but rather a tense-prominent one, where there is a standard three-way opposition between past, present, and future. What has made this possible was the development of the active participle (in all the *binyanim*) into a kind of present tense, thus leaving the way clear for a reinterpretation of the perfective aspect as a past tense category, and the imperfective aspect as a future tense.^{50/51}

There remains something special about the new present tense, however, which betrays its participial origin: the inflectional categories of gender, person, and number are realized quite differently in the present from the way they are in the perfective/past and imperfective/future. It will be remembered that neither the perfective nor the imperfective paradigms has a gender distinction in the 1st person, but there is a gender distinction in both the 2nd and 3rd persons (except for the 3rd pl. perfective). Furthermore, both the perfective and imperfective paradigms have distinct forms for the 1st, 2nd, and 3rd persons (except for identical forms in the 2nd and 3rd fem. pl. in the imperfective). Thus the imperfective paradigm contains 10 distinct forms, and the perfective one has 9 (see above 3.2, 3.3). In sharp contrast to these, the present tense contains only 4 forms, and these are distinguished only by gender and number, not by person: i.e. masculine singular, masculine plural, feminine singular, feminine plural.

On the other hand, since these gender and number distinctions apply in the present to all three persons, a distinction is made here even in the first person between masculine and feminine. This is despite the fact that there are no distinct masculine vs. feminine pronouns for the 1st person, though such gender distinctions are made in 2nd and 3rd person pronouns in both the singular and plural. In other words, the gender distinction is covert in first person pronouns, but overt in first person verbs in the present tense. Note the following chart, which gives the personal pronouns along with the present tense of the regular verb H-L-K 'go':

MASCULINE SINGULAR

FEMININE SINGULAR

	Pronoun	Verb	Gloss	Pronoun	Verb	Gloss
1st	Pani	holekh	'I (m.) go'	7ani	holekhet	'I (f.) go'
2nd	Pata	holekh	'you (m.) go'	7at	holekhet	'you (f.) go'
3rd	hu	holekh	'he goes'	hi	holekhet	'she goes' ⁵²⁾

MASCULINE PLURAL

FEMININE PLURAL⁵³

1st	?anakhnu	holkhim	'we (m.) go'	?anakhnu	holkhot	'we (f.) go'
2nd	?atem	holkhim	'you (m.) go'	?aten	holkhot	'you (f.) go'
3rd	hem	holkhim	'they (m.) go'	hen	holkhot	'they (f.) go'

Native speakers must still retain some feeling for the participial nature of these forms, especially in the case of the plurals, since true adjectives are inflected in a nearly identical manner. True adjectives also have four inflected forms (MS, FS, MP, FP), and the plural endings are **-im** (MP) and **-ot** (FP):⁵⁴⁾

	MS	FS	MP	FP
'big'	gadol	gdola	gdolim	gdolot
'nice'	yafe	yafa	yafim	yafot
'small'	qathan	qthana	qthanim	qthanot

3.51 Russian: from past participle to past tense

Russian is still a language which is overwhelmingly 'aspect-prominent'. Virtually every verb has both an imperfective and a perfective conjugation, with different, asymmetrical tense distinctions in each aspect. Imperfective verbs have three tense possibilities (present, past, and future), but the morphophonemic status of each tense is quite different. The only full-blown imperfective tense is the present, which has a complete array of six personal endings (1st, 2nd, 3rd persons; singular and plural; no gender distinctions in the verb):

ja delaju	'I do/make'	my delajem	'we do/make'
ty delaješ	'you do/make'	vy delajete	'you do/make'
on/ona delajet	'he/she does/makes'	oni delajut	'they do/make'

The imperfective future is formed periphrastically by means of the inflected future tense of the auxiliary 'be' plus the infinitive:

ja budu delatj	'I'll do'	my budem delatj	'we'll do'
ty budeš delatj	'you'll do'	vy budete delatj	'you'll do'
on/ona budet delatj	'he/she will do'	oni budut delatj	'they'll do'

Let us leave the imperfective past aside for the moment.

Perfective verbs are conjugated in only two tenses. The only full-blown perfective tense is the future, which corresponds morphologically to the imperfective present, with a full set of six personal endings:

ja sdelaju	'I'll do'	my sdelajem	'we'll do'
ty sdelaješ	'you'll do'	vy sdelajete	ʻyou'll do'
on/ona sdelajet	'he/she will do'	oni sdelajut	'they'll do'

Both the imperfective past and the perfect past, like the Hebrew present, are participial in origin, with only three forms each. As in the Hebrew present, the Russian past tenses only distinguish number and gender (not person), and the gender distinction is also made in the first person. Unlike Hebrew, however, there is no gender distinction in the second person pronouns. The three forms in the Russian past tenses are Masculine Singular, Feminine Singular, and Plural (both genders):⁵⁵⁾

IMPERFECTIVE

PERFECTIVE

Masc. Sg.	(ja, ty, on)	delal	'I/you/he did'	sdelal	'I you/he/did'
Fem. Sg.	(ja, ty, ona)	delala	'I/you/she did'	sdelala	'I/you/she did'
Plural	(my, vy, oni)	delali	'we/you/they did'	sdelali	'we/you/they did'

We may sum up the role of participles in the context of Hebrew and Russian tense and aspect as follows. Both languages have exploited participles to create tenses: a present tense in Hebrew, and a past tense in Russian. Among other interesting effects, this has led to an obligatory first person gender distinction for verbs in these tenses, e.g. Hebrew **?ani yode'a 'I** know' (male speaking)/**?ani yoda'at 'I** know' (female speaking); Russian **ja (po)jexal 'I** went' (male speaking)/**ja (po)jexala 'I** went' (female speaking). Yet the systemic consequences of this participial integration into the tense system have been quite different in the two languages. Whereas in Hebrew it has led to the reinterpretation of an earlier aspect-based system into a tense-based one, in Russian the basic aspectual dichotomy has simply been generalized to accommodate the new participial tense: i.e. the perfective/imperfective distinction also holds in the past tense.

3.511 Some further remarks on the Russian imperfective/perfective distinction

We cannot begin to go into the complexities of the morphophonemic and semantic differences between the imperfective and perfective conjugations, but will just mention a few basic points. The members of Russian imperfective/perfective verb-pairs may stand in several types of morphophonemic relationship to each other, e.g.:

(a) Suppletive

In a few cases, they are completely different roots: 'say' govoritj (impv.) / skazatj (perfv.)

(b) Prefixed perfective

In the vast majority of verbs, the perfective stem is formed by adding a prefix to the imperfective stem (cf. delatj/sdelatj, above). There are about a dozen prefixes available for this purpose, the most general (and semantically colorless) of which is **po**; most of these prefixes also exist as independent prepositions. They include s-, u-, v-, vy-, pere-, do-, na-, o(b)-, ot-, za-, pod-, and correspond closely in function to similar prefix/prepositions in older Indo-European languages like Latin, Greek, and Sanskrit (cf. Latin admittere, committere, submittere, permittere, promittere, etc.), and to Germanic morphemes like German auf-, aus-, vor-, unter-, über-, etc. or English *up*, down, out, in, over, etc. (as in drink *up*, sit down, turn out, break in, think over, etc.). Often a given imperfective stem may be perfectivized by more than one Russian prefix, with one of them usually semantically neutral while the others contribute some special increment of meaning: e.g. **pisatj** 'write' (impv.)/napisatj 'write' (perfv.), podpisatj 'sign' (lit. "write under"), perepisatj 'write back and forth; correspond', etc.

(c) Infixed imperfective

When the perfective form already has a meaningful prefix, the imperfective may be formed from it by adding an infix like **-yva**-:

podpisatj	'sign' (perfv.)	podpisyvatj 'sign' (impv.)
otkrytj	'open' (perfv.)	otkryvatj 'open' (impv.)
sprositj	'ask' (perfv.)	sprašyvatj 'ask' (impv.)

(d) Change of stem-vowel (if already prefixed)

Sometimes when both stems have the same prefix, the aspectual difference is signalled by a change in stem vowel; e.g. many imperfectives in -a- form their perfectives with -i-:

spešatj	'hurry' (impv.)	spešitj (perfv.)
polučatj	'receive' (impv.)	polučitj (perfv.)

Semantically, Russian imperfective verbs express the typical imperfective notions of genericness, habituality, non-boundedness, iterativity, continuousness, progressivity, durativity; while perfective verbs express concepts like completion, boundedness, semelfactivity, punctuality. The difference may be neatly summed

up by a sentence like:

(75) On mnogo delal, no malo sdelal. 'He did a lot, but accomplished little.'⁵⁶) (delal imperfv. past masc.)/sdelal perfv. past masc.)

By contrast to its elaboration of the category of aspect, the Russian tense system is less rich than in a language like English. The Russian past perfective, e.g., corresponds to the English simple past, present perfect, and pluperfect tenses; the Russian future perfective translates both the English simple future and future perfect.

3.6 Expression of Aspectual Notions in Modern Hebrew

As we have seen, the inflectional imperfective/perfective aspectual distinction has been reanalyzed as an opposition between future/past tense in Modern Hebrew. Nevertheless the language has developed new analytic ways of drawing certain aspectual distinctions:

(a) Past habitual ('used to V') and counterfactual conditional

Past habitual concepts may be expressed by combining the past tense of the auxiliary verb **H-Y-H** 'be' with the (present) participle:

(76) Hayiti nose'a la-Mitsrayim kol shana. 'I used to travel to Egypt every year' (male speaking).

(77) Ka?asher garti ba-?Arets, hayiti ?okhelet falafel kol yom.

'When I lived in Israel I used to eat *falafel* every day' (female speaking).

(78) Haya korekh matsa u-moror və-okhel bə-yaxad 'He used to layer matzo and bitter herbs and eat them together.'

This same construction may be used to express a *counterfactual conditional*, so that often only the linguistic (or extralinguistic) context can disambiguate the two interpretations:

(79) Ya'aqobh, hayita harbe yoter yafe bli ha-zaqan. 'Jim, you'd be much better looking without the beard.'⁵⁷⁾

This interpretation is mandatory if a conditional conjunction (**?im** 'if' or **lu** 'if only') appears in the sentence:

- (80) **?im hayiti dati, hayiti qore ba-Tanakh kol yom.** 'If I were religious, I would read the Bible every day.'
- (81) Hayiti nose'a la-Mitsrayim ?im haya li day kesef. 'I would travel/would have

travelled to Egypt if I had/had had enough money.'

(82) ?im/lu hayta maxləqat Tsarfatit ba-?unibhersita, hayita nish?ar ba-?Arets ? 'If there were/had been a French Department at the University, would you stay/have stayed in Israel?'

(b) *Experiential past* ('have [n]ever V'ed')

This category, which is usually well-defined in East and Southeast Asian languages, is quite marginal in Hebrew. The idea of 'ever having V'ed' may be conveyed by using the noun **pa'am** 'time; one time; once' as an adverb, optionally reinforcing it by the adverb **kbhar** 'already', with the verb in the past tense:

(83) (Kbhar) hayita pa'am bə-?Artsot ha-Brit? 'Have you ever been to the United States?'

To express the negative experiential 'never + Verb', one uses **?af pa'am** 'even (one) time' plus a verb negated by lo 'not':

(84) **?af pa'am lo dibbarti ?eleha** 'I've never spoken to her.'

(c) Change of state/completive

Again, this is a major aspectual category in East and Southeast Asia, but all Hebrew has to offer is the adverb kbhar 'already':

(85) Hu kbhar sipper et ha-sippur. 'He has already told the story.'

One could also use **G-M-R** 'finish' as an auxiliary verb along with the infinitive of the main verb:

(86) Hu gamar la-sapper et ha-sippur. 'He finished telling the story.'

Or both kbhar and G-M-R together:

(87) Hu kbhar gamar la-sapper et ha-sippur. 'He has already finished telling the story.'

The corresponding negative ('not V anymore') is expressed by 'kbhar +lo+V': (88) Hu kbhar lo yakhol lə-dabber ?arabhit. 'He can't speak Arabic anymore.'

(d) Crescitive

Here is something fairly unusual which Hebrew does have in the way of aspect (though it is rather literary or Biblical): by using the verb **H-L-K** 'go; walk' as a main verb before the conjunction vo- 'and' plus an adjective, one can express the

progressively greater realization of the state described by the adjective. To this I am giving the name 'crescitive':

holekh və-gadol	'get bigger and bigger'
halakh va-thobh	'got better and better'

(e) Present progressive and past perfect: aspectual distinctions not made in Hebrew

As in Russian, there is no way of specifically expressing a *present progressive* in Hebrew. One reason why this construction has not developed is undoubtedly because the copula **H-Y-H** lacks an ordinary present tense, and is thus unavailable to serve as an auxiliary. Although the participial forms of this verb do exist (hove [MS], hova [FS], hovim [MP], hovot [FP]), they are very restricted in use.⁵⁸⁾ Again like Russian, Hebrew has a zero copula in the present: **Hu məhandes** 'He's an engineer.' (Cf. Russ. **On mexanik** 'He's a mechanic.') There is thus no contrast in Hebrew between simple present/habitual and progressive present:

(89) ?ani qore ba-Tanakh kol yom.

'I read the Bible every day.' (habitual)

(90) ?ani qore ba-Tanakh 'akhshav—?al tafriya li.

'I'm reading the Bible now-don't bother me!' (progressive)

Hebrew also lacks a contrast between simple past and present/past perfect:

- (91) Hu hitnappel 'al ha-?okhel kmo kelebh ra'ebh. 'He fell upon the food like a hungry dog.'
- (92) Hu kbhar hibhtiyax li harbe pə'amim she-yabho⁵⁹⁾ maxar. 'He has already promised me many times that he would come tomorrow.'

(f) How to express the past imperfect in Hebrew

There is no single highly grammaticalized way to express an imperfect past in Hebrew, though such a meaning is usually deducible from the context:

(93) ?akhalti ka?asher hu higi'a, ?akh lo hifsaqti le?ekhol.

'I was eating when he arrived, but I didn't stop eating.' (Starets 1982:14) Here the second clause makes it clear that the action of the first clause had not been completed, i.e. was imperfective.

In isolation the first clause of the following sentence is ambiguous between a simple past and an imperfect interpretation:

(94) 'amadnu ka?asher ha-more nikhnas. (Starets 1982:14)

(a) We stood up when the teacher came in.

(b) We were standing when the teacher came in.

Starets (1982), who is concerned with comparing the French and Hebrew verb systems from the point of view of the durative/punctual distinction, gives (pp. 51–55) a couple of ad hoc ways in which the French *imparfait* may be rendered in Hebrew,⁶⁰ including the use of a present (participle) in a clause following a past tense verb (95), and the use of the auxiliary verb **N-H-G** 'to do habitually; have the custom of' (96):

(95) ?abba matsa ?et ?ima meykhina ?arukhat boqer.

'Dad found mother making breakfast.'

(96) lo nahagu lish?ol ?otanu shə?ela zo ba-tqufa she-?axeynu hotsiyu ?atsmam... 'They didn't use to ask us that question when our brothers withdrew...'

4. Typological Summary and Conclusions

The categories of aspect, tense, voice, and mood tend to be mixed up or syncretized in the grammatical systems of particular languages. The relative proportions of the constituents of this mix may provide a helpful way of categorizing or typologizing languages (along with morphosyntactic concepts like isolating, inflectional, agglutinative, verb-final, SVO, etc.).

In an admittedly crude and impressionistic way, I have ranked the five principal languages discussed in this paper with respect to various parameters, starting with certain general typological features and proceeding to specific points about their systems of tense, voice, mood, and aspect. The languages are ranked on a scale of 1-5 according to the saliency of the feature in question ("1" represents the highest degree). If a feature is quite irrelevant to the particular language, it is not ranked at all with respect to it.

Degree of inflection:

1) Russian 2) Hebrew 3) Japanese 4) English 5) Lahu

Topic (rather than subject) prominence

1) Lahu 2) Japanese 3) Russian (free word order) 4) Hebrew 5) English

Use of particles (prepositions, postpositions) to show relation of nominal arguments (especially subjects and objects) to verbs

1) Japanese 2) Lahu 3) Hebrew (definite direct objects marked; pronominally inflected prepositions) 4) English 5) Russian (inflection shows many of these relationships)

Adjectives as	a separate clas	s from verbs	•	1
1) English	2) Russian	3) Hebrew	4) Japanese	5) Lahu

Importance of tense 1) English 2) Russian 3) Hebrew 4) Japanese 5) Lahu Importance of voice 1) Hebrew 2) Japanese 3) English 4) Russian 5) Lahu Development of mood distinctions (e.g. counterfactual conditionals) 1) English 2) Japanese (-[r]eba, -tara) 3) Russian 4) Lahu 5) Hebrew Syncretism of aspect with other verbal categories 2) Hebrew 1) English 3) Russian 4) Japanese 5) Lahu Use of particles to express aspectual categories 1) Lahu Use of auxiliary verbs to express aspectual categories 1) Japanese 2) Lahu 3) English 4) Hebrew 5) Russian Use of inflection to express aspectual categories 1) Russian 2) Hebrew 3) English 4) Japanese 5) Lahu

Development/grammaticalization of various aspectual categories

A highly grammaticalized, overarching category like aspect in Russian can lump together concepts which are kept apart by a variety of disparate devices in other languages. Thus for all its aspectual sophistication, Russian does not differentiate habitual and present progressive (Eng. *I go vs. I am going*); the Russian past imperfective does not distinguish between past habitual and perseverative (*I used to go vs. I kept on going*), etc. So the following rankings are to be taken with a grain of salt.

perfective vs. imperfective1) Russian2) Hebrew3) Japanese (past vs. non-past)4) Lahu5) English

progressive

experiential perfect.

1) English (-ing is very salient) 2) Japanese 3) Lahu 4) Hebrew

change of state/completed action/resultative 1) Lahu

1) Lahu 2) Japanese 3) English 4) Hebrew

tentative

1) Lahu/Japanese (tied for first place)

inchoative/inceptive/ingressive

1) Japanese (-sō) 2) Lahu 3) English (gonna)

iterative vs. semelfactive

1) Russian (xoditj vs. idti; jezžatj vs. jexatj)

Notes

- Before its virtual demise during World War II, Yiddish had developed a proliferation of periphrastic tenses, including some with a double past participle-e.g. a pluperfect with the perfect of the auxiliary *hobn* 'have' plus the past participle of the main verb, as in ix **hob gehat gezen** 'I had seen' (lit., "I have had seen"). Yiddish lacks a simple past, so could not form structures like German ich hatte gesehen. See Zaretski 1939.
- 2) Many languages have periphrastic forms even for the simple future tense, e.g. English (I will work; we shall overcome).
- 3) I have introduced the term 'Sinospheric' to refer to those languages under Chinese linguistic and cultural influence regardless of their genetic affiliation (including, e.g. Vietnamese, Tai, Hmong-Mien, and to some extent Korean and Japanese). See Matisoff 1990.
- 4) For a recent account of the development of a middle voice category in Dulong (Nungish branch of Tibeto-Burman), a highly unusual phenomenon in a Sino-Tibetan language, see LaPolla 1995.
- 5) Cf. Holt 1943, quoted in Comrie (ibid.), "les manières diverses de concevoir l'écoulement du procès même". The traditional German term for this category is *Aktionsart*, i.e. "kind of action".
- 6) An example of an iterative construction is Japanese V1-tari + V2-tari + suru, as in Ame ga futtari yandari shite iru 'It keeps raining and stopping; The rain keeps raining and stopping'. A typical semelfactive (= action performed once and once only) is exemplified by Yiddish gebn 'give' + verbal noun, e.g. gebn a fayf 'give a whistle', gebn a kuk 'take a look', etc.
- 7) This categorial opposition has received its most thoroughgoing and elaborate grammaticalization in the Slavic languages, though it has also loomed large in the history of Semitic (see below).
- 8) See Comrie, Ch. 2 ("Aspect and inherent meaning"). For the most sophisticated treatment of this topic, see Chafe 1970.
- 9) See Matisoff 1973:324, and below 2.223. Similarly in Mandarin, one cannot use the progressive particle zhe after adjectival verbs (*hao zhe 'being good').
- 10) This is a fairly clear distinction in principle, though I find myself disagreeing wih many of Comrie's grammaticality judgments in English. He claims, e.g. that you can't say things like *You're sounding hoarse* (p. 28), *You're seeming well* (ibid.), *You aren't hearing* (p. 35). For me these are perfectly felicitous, especially if accompanied by a time adverb like 'today', or if uttered with with a hearty or 'concerned' intonational pattern.
- 11) This distinction between goal-oriented (telic) and non-goal-oriented (atelic) verbal events

was apparently first drawn by Garey (1957) and corresponds closely to Vendler's (1967) distinction between 'accomplishments' (telic) and 'achievements' (atelic).

- 12) Except for a very few conservative speakers who occasionally use the third person singular past *fut* of the verb 'to be' in formal speech. In writing, of course, the past definite survives in full vigor in the first and (especially) the third person.
- 13) I first became aware of this usage in 1959, when working on a series of articles for the newspaper Paris-Presse (called Un Américain à Moscou) about my experiences as a guide at the American National Exposition in Moscow (the locale of the famous 'kitchen debate' between then Vice President Nixon and Nikita Khrushchev), when I was offended that the editor changed many of my verbs from the passé simple into the imparfait. See Comrie, p. 78.
- 14) This discussion is adapted from Matisoff 1973/1982 [GL], pp. 195-7.
- 15) Since Lahu lacks the active/passive distinction, there is no need to consider this causative auxiliary as the exponent of a category of 'voice'.
- 16) This sentence contains a concatenation of 5 verbs: šî? wipe', bà 'throw; V away from', ci 'send on an errand; causative', pî 'give; 3rd person benefaction', chê 'dwell; progressive'.
- 17) Note that Japanese, unlike English, has no objection to forming progressives from stative verbs like 'know'. Like English, Japanese does not use a progressive form to express *habitual* action: mainichi kaimono wo suru 'go shopping every day'.
- 18) See Matisoff 1991, section 4.2.1, pp. 436-7.
- 19) In the first printing of GL (1973:339,343-4), I had imprudently claimed that this combination *was* possible. This error was corrected in the Errata of the second printing (1982:680-1).
- 20) See above 1.1. In fact there are good grounds for maintaining that the function of tā in relative clauses is precisely to convert action verbs into quasi-adjectival stative verbs. Lahu relative clauses containing adjectival verbs may sometimes be shifted to the right of their heads with little change of meaning; this shiftability applies to relative clauses with action verbs only in case the verb is followed by tā. See GL:494-5.
- 21) An unrestricted particle is one which can occur directly after either a noun or a verb, e.g. y3 Lâhū-yâ qo 'if he's a Lahu' (post-nominal)/y3 qay qo 'if he goes' (post-verbal). See GL:45.
- 22) The Russian conditional conjunction esli may also be reinforced by a particle, by (-b after a vowel), in order to give a counterfactual interpretation. The particle may occur either in the apodosis alone, or in both clauses:
 (59a) Esli(b) ja znala ob ètom, ushla by ja 'If I knew/had known about that, I would
- have gone away' (woman speaking).
 23) Exceptions include loanwords like P-R-N-S 'support, provide for', P-R-S-M 'publish, be famous', T-L-P-N 'make a phone call', as well as reduplicated roots like B-L-B-L
- 'mix up', G-L-G-L 'roll', K-L-K-L 'sustain, nourish', G-'-G-' 'peck; yearn for'.
 24) One common subtype, the so-called 'segholates' (from the name seghol of the vowel /e/) are of the form C-e-C-e-C: e.g. sheleg 'snow', delet 'door', kesef 'money', sheqel 'unit
- of currency', melekh 'king'.
 25) There are many ways to romanize the names of the letters of the Hebrew alphabet. After changing my mind several times, I have finally chosen to follow the spellings used in Diringer 1960:180, with a few minor exceptions: I leave out the subscript dots in xeth, *teth*, and *sade*; I spell lenited *pe* as "fe" rather than "*phe*" (since I am transcribing it as """ rather than "*phe*" (since I am transcribing it as """ rather than "*phe*" (since I am transcribing it as """ rather than "*phe*" (since I am transcribing it as """ are the names of the letters of the letters are apply and I

spell sin as "hsin" (since I am transcribing it as "hs" to distinguish it from samekh).

- 26) Shin and "hsin" (pronounced /sin/) are considered to be the same letter, and are written the same, except that in fully pointed texts shin has a dot on the upper right, and "hsin" has a dot on the upper left. While it is agreed that shin represented/š/ in classical Hebrew (as it still does), it is not so clear what "hsin" stood for (it is sometimes transliterated as "ś".) Sin and samekh are now pronounced the same; to distinguish them we transcribe the former as "hs".
- 27) The phonemicization of these stop/spirant contrasts has been promoted by various mergers in the system: the post-velar stop *qoph* has merged with *kaph*; the post-velar voiceless spirant *xeth* has merged with lenited *kaph*; the 'emphatic' (tongue-retracted) or retroflexed *teth* has merged with *taw*; and *waw* has merged with lenited *beth* (*i.e. bheth*). In my transliteration I write *qoph* as "q" (to distinguish it morphophonemically from lenitable *kaph* ("k"); I write *teth* as "th" (to distinguish it from *taw*); and I write 'ayin as "t" to distinguish it from *?aleph*. I write lenited *kaph* (i.e. *khaph*) as "kh" (to distinguish it from *waw*. However, I do not write lenited *pe* as "ph" (except in names of letters; see note 25), since "f" serves nicely for the purpose; nor do I write lenited *taw* as "th" to transcribe *teth*, and *taw* is no longer lenited anyway in Sephardic pronunciation.
- 28) This is reminiscent of the French loi des trois consonnes, according to which 'mute e' gets pronounced in words like gouvernement [guvernəmö].
- 29) Rosén (1962) prefers the terms potential and remote. See below 3.21.
- 30) See the discussion of Arabic tense/aspect in Comrie, pp. 78-82. The Arabic paradigm of **K-T-B** is adapted from Comrie, p. 95.
- 31) Note the syncretism in both languages between the second person masculine and third person feminine singular.
- 32) Note also the syncretism in Hebrew (but not in Arabic) between the second and third person feminine plural. Arabic has a similar syncretism in the dual (a category which Hebrew lacks) between the second person and third person feminine. Most Hebrew speakers in any event now use the masculine forms for the 2nd and 3rd person plural imperfective; the feminine forms survive most strongly here with the verb H-Y-H 'be', i.e. tihyena (as in Lo tihyena ba'ayot 'There won't be any problems').
- 33) Hebrew makes no gender distinction in the third person plural perfective. In the second person plural also the gender distinction is breaking down, so that most speakers now use **-tem** as the suffix for both masculine and feminine.
- 34) Verbs whose first consonant is N- drop it in the imperfective of the Qal; the first t- in titen is the second person imperfective prefix.
- 35) It must be admitted that not everybody goes along with this analysis of overturning or 'conversive' waw. According e.g. to Rosén (1962:310-312), two additional aspects must be recognized for Biblical Hebrew: the 'resultative consecutive', i.e. waw plus the 'remotive' (what we are calling 'perfective'), and the 'narrative consecutive', i.e. waw plus the 'potential' (what we are calling 'imperfective'). We cannot go into this involved debate here.
- 36) Not every verb has developed all seven subconjugations.
- 37) Since this word is spelled with initial *qoph*, which historically represented a post-velar stop (above 3.1), the traditional spelling used by grammarians is with q-, even though this sound has merged with ordinary k- in Modern Hebrew. The Hebrew and Arabic paradigms of K-T-B 'write' given above (3.2) were in the Qal.

- 38) The three letters of this root are pe, 'ayin (once representing a voiced pharyngeal fricative, as still exists in Arabic, but now pronounced as glottal stop or as zero), and lamedh. In grammarians' parlance, therefore, pe ha-po'al ("the pe of the verb") means 'the first consonant of the root', 'ayin ha-po'al means 'the second consonant', and lamedh ha-po'al means 'the third consonant'.
- 39) This is the same sort of self-naming device that clever linguistics graduate students use to illustrate phonological processes, e.g. "pyalatalization", "methetasis", "apocop", "wabialization", etc.
- 40) The Pu?al and Huf?al are virtually obsolete in modern colloquial Hebrew.
- 41) Roots whose three consonants are regularly pronounced in all forms of the paradigm are called *shlomim* 'sound; perfect'. Classes of irregular verbs include those whose C¹ is *nun*, *yodh*, or *?aleph*; whose C² is *waw* or *he*; whose C³ is *?aleph* or *he*, etc.
- 42) For the development of this participle into a present tense see below 3.5.
- 43) There is an orthographic difference here: when the root ends in sade, the t of the metathesized prefix is spelled with the letter teth (historically a tongue-retracted or 'emphatic' t). If the root ends in samekh or shin, the metathesized prefix is spelled with the usual letter taw (which is the way it appears in normal unmetathesized contexts).
- 44) The gemination of the C^2 is a separate phenomenon, and is normal throughout the Hitpa'el, though we do not write it consistently until sections 3.41 and 3.42, below.
- 45) In Turkish, the causative morpheme -dir- may also cooccur with the passive morpheme -il- after the same verb root, in that order, e.g. ver-dir-il-d-im 'I was caused to give') [ver- 'give', -d- 'past', -im 'first person']; in- 'descend', in-dir- 'bring down' [causative], in-dir-il- 'be brought down' [causative passive] (Lewis 1967:153).
- 46) It will be remembered that it is these particular 3rd person perfective forms which grammarians have chosen in creating the mnemonic names for the *binyanim* themselves (above 3.3).
- 47) We put a hyphen between the t and the h to distinguish this sequence of taw plus he from the way we transliterate teth ("th"). Notice that the C² of the root is geminated in the orthography in the Pi'el and the Hitpa'el. This has morphophonemic consequences in certain cases, since it prevents, e.g. lenition of B intervocalically (cf. the Pi'el and Hitpa'el of K-B-D below).
- 48) The root-final *layin* causes an epenthetic vowel [a] to appear before it, the so-called 'furtive a' of Hebrew grammarians. See also N-G-' and SH-P-', below. The same furtive vowel appears before final *xeth*, as in the verb 'forget' (below).
- 49) The root-initial N disappears in this form, leaving compensatory gemination of the C². See also N-SH-Q (next example) and all the verbs with initial N in section 3.42.
- 50) In Modern Hebrew grammatical parlance, the present tense is referred to as zman hove (zman 'time'; hove is the Qal masc. sg. participle of H-Y-H 'be'; see above 3.21); the past tense as zman 'abhar /?avar/ 'past' (<'-B-R 'pass; cross'; see last example under 3.42) and the future tense as zman 'atid ('atid 'forthcoming').</p>
- 51) Comrie (1976:83) presents arguments in support of the idea that Proto-Indo-European was also basically an aspect-prominent language, "with aspect being marked overtly and time reference at best a secondary consequence of aspectual distinctions."
- 52) I still remember the hilarity during the first week of Hebrew School with which the seven-year-old minds of my classmates and me greeted the news that the Hebrew word for "she" was **hi**, and that the word for "he" was **hu**. Was everything backwards in this language, including writing it from right to left?
- 53) In colloquial Hebrew these distinct forms for the feminine plural are rapidly dying out,

both for pronouns and for present tense verbs, in favor of the masculine forms. This is undoubtedly because masculine plural forms have always been used for a mixed group of males and females. Cf. the generalization of the informal English plural pronoun "you guys" to the point where it can now be used to a group of women.

- 54) Most masculine plural nouns also take the -im ending, while most feminine plural nouns end in -ot (e.g. yladim 'boys', yladot 'girls'). Exceptions are readily found, however: tsipor 'bird' is feminine, but the plural is tsiporim (tsiporim qthanot 'little birds'); layla 'night' is masculine, but the plural is leylot (leylot yafim 'nice nights').
- 55) As we have just seen, Hebrew is also moving in the direction of neutralizing the gender distinction in the plural of the present.
- 56) This sentence is cited in Comrie, p. 113.
- 57) This sentence was said to the author by his great-aunt in Tel Aviv in 1960. Since she had never seen me without a beard, the counterfactual interpretation was the only possible one. If she had ever seen me beardless, the sentence could also have meant 'You used to be much better looking without the beard.'
- 58) We have seen (note 41) that the MS participle hove is used as a noun to mean 'present tense'. The participles can also mean 'exist' in the cosmic sense, especially as applied to God: vo-hu hove, vo-hu haya, vo-hu yihye bo-tif?ara 'And He exists, and He (has) existed, and He shall exist in glory' (from the hymn ?adon 'olam).
- 59) Note that the plain future/imperfective **yabho** 'he will come' appears in the second clause; there is no distinction between future and conditional in Hebrew.
- 60) In general I find Starets rather too apologetic about the poverty of the Hebrew verb system by comparison to the ineffable richness of French, though he does emphasize that in both languages the durative/punctual distinction is signalled more often by other elements in the sentence than the verb itself.

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