2 Proto-Northwest-Semitic and Biblical Hebrew

This chapter will present a reconstruction of Proto-Northwest-Semitic (PNWS), give a concise overview of the phonology and morphology of Biblical Hebrew, and discuss some general developments from the former to the latter. The reconstruction of Proto-Northwest-Semitic is largely based on the balanced discussion in Gzella (2011).

2.1 Phonology

For a recent discussion of the concept of the phoneme, particularly relevant to this section, see Dresher (2011).

2.1.1 Consonants

Proto-Northwest-Semitic is reconstructed with the same 29 consonantal phonemes as Proto-Semitic, shown in table 2.1. The IPA value of consonants is indicated where this differs from the transcription used. All consonants may be geminated (i.e. realized as long).[1]

Many of these consonantal phonemes were subject to merger or a change in phonetic realization in earlier stages of Hebrew. Table 2.2 gives each consonant's reconstructed reflex in spoken Hebrew of the early first millennium BCE (SH) and in Biblical Hebrew (BH). – indicates deletion of a consonant in certain contexts.

[1] While a distinction is sometimes made between geminates, i.e. long consonants, and two adjacent instances of the same consonant, this distinction is not reflected by phonetic measurements. Most modern works on phonology do not even mention such a distinction, while Ladefoged & Maddieson (1996: 92) conclude that "[i]t thus seems evident that geminates can be produced with a repeated articulatory movement under some circumstances, but that this is unlikely to be the most common articulatory pattern. Moreover the presence or absence of a second articulatory peak cannot be taken as diagnostic of whether a long closure represents a geminate stop or a sequence of two identical stops."

Table 2.1: Consonantal phonemes of Proto-Northwest-Semitic

	bilabial	interdental	alveolar	palatal	velar	pharyngeal	glottal
plosives							
voiceless	*p		*t		*k		*ʾ [ʔ]
voiced	*b		*d		*g		
ejective			*ṭ [t’]		*q [k’]		
affricates							
voiceless			*^{t}s [ts]				
voiced			*^{d}z [dz]				
ejective			*^{t}ṣ [ts’]				
fricatives							
voiceless		*ṯ [θ]	*s		*ḫ [x]	*ḥ [ħ]	*h
voiced		*ḏ [ð]			*ġ [ɣ]	*ʿ [ʕ]	
ejective		*ṯ̣ [tθ’]					
laterals							
voiceless			*ś [ɬ]				
voiced			*l				
ejective			*ṣ́ [tɬ’]				
nasals							
voiced	*m		*n				
approximants/trills							
voiced	*w		*r	*y [j]			

Table 2.2: Hebrew reflexes of the Proto-Northwest-Semitic consonants

PNWS	SH	BH
*p	*p	*p* and *p̄*
*b	*b	*b* and *b̲*
*t	*t and –	*t*, *t̲*, and –
*d	*d	*d* and *d̲*
*ṭ	*ṭ	*ṭ*
*k	*k	*k* and *k̲*
*g	*g	*g* and *ḡ*
*q	*q	*q*
*ʾ	*ʾ and –	ʾ and –
*ᵗs	*s	*s*
*s	*š	*š*
*t̲	*š	*š*
*ᵈz	*z	*z*
*d̲	*z	*z*
*ᵗṣ	*ṣ	*ṣ*
*t̲̣	*ṣ	*ṣ*
*ṣ́	*ṣ́ or *ṣ	*ṣ*
*h̲	*h̲	*ḥ*
*ḥ̲	*ḥ̲	*ḥ*
*ġ̣	*ġ̣	ʿ
*ʿ	*ʿ	ʿ
*h	*h and –	*h* and –
*ś	*ś	*ś*
*l	*l	*l*
*r	*r	*r*
*m	*m and –	*m* and –
*n	*n and –	*n* and –
*w	*w and –	*w* and –
*y	*y and –	*y* and –

As may be seen from table 2.2, a large number of mergers resulted in Hebrew sibilants. The original interdental series, *t̲, *d̲, and *ṯ, shifted to an alveolar realization, originally *s, *z, and *ṣ (probably still affricated, merging with original *^{t}ṣ). *s, both from original *s and original *t̲, then shifted further back to a postalveolar *š, while deaffrication of *^{t}s and *^{d}z to *s and *z gave these phonemes their Hebrew values, as well as merging original *^{d}z with original *d̲. In fact, original *s may have been realized as anything between [s] and [ʃ]; both values are attested in foreign transcriptions of early Northwest Semitic languages (Kogan 2011). The change of *^{t}s to *s then limited the realization of original *s to *š. Although it is not indicated in transcription for the sake of consistency, original *^{t}ṣ > *ṣ never lost its affrication in most pronunciation traditions of Hebrew (Steiner 1982), although it did in the Tiberian pronunciation. *ś̡ also merged into *ṣ, changing its lateral manner of articulation to that of a sibilant affricate. *ś has merged with *s in the Hebrew reading traditions, and some interchange between the two in late texts show that this merger may have already taken place in the Second Temple period, but its largely consistent spelling with <š> rather than <s> shows that it was still distinguished from *s in Spoken Hebrew when the orthography was fixed. The distinction in transcription (*ś* for *ś and *s* for *^{t}s > *s) reflects this orthographic difference.

Although not distinguished in the Hebrew orthography (presumably following Phoenician), evidence from the transcription of Hebrew names in the Septuagint shows that the velar or uvular fricatives *ḫ̲ and *ġ were still contrasted with pharyngeal *ḥ and *ʿ in Hebrew until a relatively late date (Steiner 2005). Around the beginning of the Common Era, however, the velars merged with the pharyngeals, yielding Biblical Hebrew *ḥ* and ʿ, respectively.

In the plosives, fricatives, and affricates, we find a distinction between so-called emphatic and non-emphatic sounds; the emphatic consonants are those conventionally marked by a subscript dot – excluding *ḥ – and *q. Originally ejective, these consonants came to be realized as unaspirated occlusives with velarization or uvularization in Tiberian Hebrew. The non-emphatic plosives, originally voiceless aspirates or voiced, participated in an Aramaic sound change, shifting to fricatives in postvocalic position (except when geminated). This was originally an allophonic change, but it later became phonemic once some of the conditioning vowels were deleted (as in *malakay > *malak̲ē > *malk̲e* ‘kings (construct)’). When this so-called spirantization first affected different Aramaic

dialects, including the one that introduced the change to the pronunciation of Hebrew, is hard to determine (Steiner 2007b).

The other changes from Proto-Northwest-Semitic to Biblical Hebrew all involve loss. *ʾ was lost in pronunciation in most positions, but preserved in spelling, which allowed it to be secondarily reintroduced in many cases. *h and *t were lost in word-final position at different points in time, lengthening the preceding vowel; *h also elided in certain intervocalic contexts and sometimes assimilated to preceding consonants. *n regularly assimilates to any following consonant; it may also have been lost in word-final position, as was *m at an early point in time (only occurring there in the morpheme known as mimation, see below). The development of *w and *y is discussed in chapter 5. Finally, at a late point in the development of Hebrew, geminates in word-final position were simplified, as were geminated *ʾʾ, *ʿʿ, *hh, *ḥḥ and *rr in almost all cases.

2.1.2 Vowels

Like Proto-Semitic, Proto-Northwest-Semitic had three contrastive vowel qualities and a length distinction, resulting in six vocalic phonemes: *a, *ā, *i, *ī, *u, and *ū. While *aw, *ay, *iw, *iy, *uw, and *uy are often referred to as diphthongs (as in this work), they do not seem to have had a different status as such, rather being a normal sequence of a short vowel and a glide.

The synchronic phonology of the Biblical Hebrew vowels is controversial, and which vocalic phonemes are identified depends on whether some other contrasts are judged to be phonemic. As was noted in the Introduction, the Tiberian vocalization has eleven graphemes to indicate what vowel should be read, cf. table 2.3 (ֹ and ֻ are allographs, both indicating *u*). The three *ḥåṭep̄* vowels (*ă*, *ĕ*, and *ŏ*) are sometimes seen as allophones of zero (normally indicated by *šwå*), which is a valid interpretation for *ă*; *ĕ* and *ŏ* must have phonemic status, though, as is shown by minimal pairs like *ʿĕli* ‘pestle’ besides *ʿăli* ‘go up (f.sg.)’ and *ʾŏni* ‘fleet’ besides *ʾăni* ‘I’.

A more thorny issue is whether the length distinction of Proto-Northwest-Semitic is preserved in Biblical Hebrew. The Tiberian vocalization does not consistently mark vowel length, but phonetically, there are minimal pairs like *yirʾu* (spelled <yrʾw>) [jiʀ.ˈʔuː] ‘they (m.) will see’ besides *yirʾu* (usually spelled <yyrʾw>) [jiːʀ.ˈʔuː] ‘they (m.) will fear’ and *ʾoḵlå* [ʔɔχ.ˈlɔː] ‘food’ besides *ʾåḵlå* [ʔɔːχ.ˈlɔː] ‘she ate’; the vowel length is known from medieval documents studied by Geoffrey

Table 2.3: The Tiberian vowel signs and their transcription (reproduced from chapter 1)

vowel sign	transcription	IPA value	name
◌ָ	*a*	[aː] or [a]	*páṯaḥ*
◌ֶ	ɛ	[ɛː] or [ɛ]	*sḡol*
◌ֵ	*e*	[eː]	*ṣere*
◌ִ	*i*	[iː] or [i]	*ḥíreq*
◌ֹ	*å* or	[ɔː] or	*qǻmeṣ (gåḏol)*
	ɔ	[ɔ] (rarely [ɔː])	or *qǻmeṣ ḥåṭuṗ*
◌ֺ	*o*	[oː]	*ḥólem*
◌ֻ, ◌ּ	*u*	[uː] or [u]	*qibbuṣ*, *šúreq*
◌ְ	–	– or any of the short vowels above	*šwå*
◌ֲ	*ă*	[a]	*ḥåṭeṗ páṯaḥ*
◌ֱ	ɛ̆	[ɛ]	*ḥåṭeṗ sḡol*
◌ֳ	ɔ̆	[ɔ]	*ḥåṭeṗ qǻmeṣ*

Khan (1987), among others. Accordingly, Khan posits a phonemic length contrast in his most recent discussion of the topic (2013b), identifying the long vocalic phonemes /ē ī ɔ̄ ō ū/, and, unmarked for length, /a ɛ e i ɔ o u/. By taking complementary distribution of certain sounds into account, however, the number of phonemes may be reduced somewhat.

As will be seen below, the position of the stress is phonemic in Biblical Hebrew. All seven vowel qualities marked by the Tiberian vocalization can occur in stressed position. Blau (2010: 112–113) identifies six separate phonemes in this position based on minimal pairs, one corresponding to every vowel quality excluding ɛ. He does note that this last sound "certainly has separate phonemic value in **final stressed position**" (emphasis in original), but interestingly, *a* cannot occur there. In word-internal, open syllables, ɛ is frequent, while *a* only occurs before gutturals followed by *a*, before *y*, and in the first person singular perfect object suffix, *-áni*, all positions where ɛ does not occur: stressed ɛ and *a* are thus in complementary distribution in open syllables. *a* does seem to be contrasted with ɛ in closed, stressed syllables, as in the near-minimal pair *båḇɛl* [bɔː.ˈvɛːl] 'Babylon'[2], and *ʾåḇal* [ʔɔː.ˈvaːl] 'he mourned'. It will be argued below, however, that *a* in this position

[2]While the presence of ɛ in this word is historically due to gemination of the following consonant (see chapter 6), the analogically created locative form *båḇɛ́lå* 'to Babylon' shows that this gemination was no longer phonologically present.

is phonemically short /a/. If this is the case, stressed [ɛː] and [aː] (except in closed syllables, where it reflects /a/) can be analyzed as allophones of one and the same phoneme. For the sake of symmetry, and because this is its most frequent realization, we may represent this phoneme as /ɛ̄/.

While all stressed vowels are realized as long, there is evidence for an underlying length contrast in stressed syllables, too. For prosodic reasons, phonemically stressed syllables are sometimes realized without stress. When this happens, vowels in closed syllables behave in one of two ways. Some vowels are still realized as long, and often receive the secondary stress, indicated by a diacritical mark (*mé̱tɛ̱g̱*). Some cases of *e*, *o*, and *a*, however, behave differently. They do not typically receive secondary stress, and *e* and *o* are replaced by ɛ and ɔ, respectively. A minimal pair occurs in *ben* 'between' and *ben* 'son (construct)', attested non-proclitically in Gen 49:22. Both are realized as [ˈbeːn] when stressed. When proclitic to the following word, however, *ben-* [ˌbeːn] 'between' remains unchanged, while 'son (construct)' changes to *bɛn-* [bɛn]. Not coincidentally, the cases of *e* and *o* that change to ɛ and ɔ when unstressed occur in parallel to *a* in Tiberian Hebrew and short ɛ and ο in the Hexapla, precisely in positions where historically short vowels are considered not to have been lengthened (see chapter 4), predominantly in verbs and construct states; unchanging *e* and *o* are paralleled by Tiberian *å* and Hexaplaric ɳ and ω. The so-called segolates form an exception, as their historically short stem vowels are always synchronically long in Biblical Hebrew; cf. the proclitic form *mɛlɛ̱ḵ-* [ˌmɛː.lɛχ] 'king (construct)'. In closed syllables, however, this interchange would seem to justify a contrast between long and short stressed vowels, with the proviso that phonemically short vowels are realized with length when stressed. We may safely posit /e a o/ in these words, while the existence of short /i ɛ ɔ u/ is less certain.[3]

[3]Seemingly unmotivated *i* occurs in rare forms like *wayyišb* 'and he took captive', where it is historically short, but possibly an allophone of /e/; no cases of short *u* in stressed syllables are known to me. The historically short *å* in *yåm* 'sea' and a few other forms may be an allophone of /a/ before *m*. Short ɛ has the best chance of being phonemic. The nouns it occurs in are not attested in proclitic position, with the exception of *ʾɛ̆mɛ̱t-* in Ps 117:2, where it does not tell us anything about the length of its vowel; these words may thus be analyzed as containing /ɛ̄/. The relative particle *ʾăšɛr* does frequently occur as a proclitic. Given its nature, however, one may think that it lacks phonemic stress altogether and should be analyzed as /ʾašer/; phonemically unstressed /e/ would then be realized as [ɛː] when accented; compare the realization of /kol/ 'all (construct)', normally unaccented *kɔl-* [kʰɔl] or accented *kol* [kʰoːl], but accented *kål* [kʰɔːl] in Ps 35:10 and Prov 19:7, presumably due to the lack of phonemic stress. This leaves three verbal forms with unmotivated ɛ. *wḵibbɛs* 'and he shall wash' and *wḵippɛr* 'and he shall make atonement' only occur as consecutive perfects (see below); for the first word, contrast the regular perfect *kibbes* 'he washed'. While completely ad hoc, the irregular position of the accent in other forms of

The phonemic length contrast is most conspicuous in unstressed syllables. Five long vowels are unambiguously attested in this position: [iː] as in *yirʾu* [jiːʁ.ˈʔuː] 'they (m.) will fear', [eː] as in *yešḇu* [jeːʃ.ˈvuː] 'they (m.) will sit', [ɔː] as in *yåšḇu* [jɔːʃ.ˈvuː] 'they sat', [oː] as in *yošḇim* [joːʃ.ˈviːm] 'sitting (m.pl.)', and [uː] as in *yuḵlu* [juːχ.ˈluː] 'they (m.) will be able'. These vowels also regularly occur in open syllables, e.g. in the singular forms of the words just given (*yirå*, *yešeḇ*, *yåšaḇ*, *yošeḇ*, and *yuḵal*). There are no indications of a complementary distribution shared by any of them, so the phonemic status of the five long vowels identified by Khan seems certain.

Unstressed [aː] only occurs in the irregular *laḏonåy* [laː.ðoː.ˈnɔːj] 'to the Lord' and related forms and before gutturals (i.e. pharyngeal and glottal consonants), as in *haḥérɛḇ* [haː.ˈħɛː.ʁɛv] 'the sword', *yaʿămoḏ* [jaː.ʕa.ˈmoːð] 'he will stand'. Unstressed [ɛː], too, only occurs before gutturals, as in *hɛḥǻrɛḇ* [hɛː.ˈħɔː.ʁɛv] 'the sword (pause)', *yɛʾĕsop̄* [jɛː.ʔɛ.ˈsoːf] 'he will add'. Both unstressed [aː] and [ɛː] can only occur in open syllables, another feature that sets them apart from the phonemically long vowels identified above. While we could analyze these sounds as unstressed realizations of /ē/, the underlying representations of many words become more uniform if we instead consider them to represent /a/ and /e/, which have been lengthened before gutturals.[4] This is supported by the interchange between short [a] in the interrogative proclitic *hă-* when it occurs before non-gutturals, as in *hăśámtå* [ha.ˈsaːm.tʰɔː] 'have you (m.sg.) placed?', spelled with *a* in closed syllables as in *hayḏaʿtɛm* [haj.ðaʕ.ˈtʰɛːm] 'did you (m.pl.) know?', and long [aː] when it occurs before gutturals, as in *haʾeleḵ* [haː.ʔeː.ˈleːχ] 'should I go?'; under this analysis, the morpheme can be represented as /ha-/ in all cases. The unconditioned [aː] in the words like *laḏonåy*, which are mainly used to refer to God, would then be a marginal phoneme which only occurs here; cf.

the consecutive perfect may indicate that this verbal tense was phonemically unstressed; *wḵibbɛs* would then be /wḵebbes/, *wḵippɛr* /wḵepper/. Similarly, we may also speculate that the highly frequent verb *dibbɛr* 'he spoke' was lexically unstressed, /debber/; compare the enclitic nature of the present forms of Greek εἰμί 'to be' and φημί 'to say', as well as the consistent defective spelling of *qāla* 'he said' in the Qurʾān, indicating a lack of stress (M. van Putten, personal communication). Alternatively, these words may contain a marginal phoneme /ɛ/.

[4] I hope to argue for this analysis in more depth elsewhere; briefly, it postulates a rule that realizes /a e o/ as [aː ɛː ɔː] before either a guttural and an epenthetic vowel or a lexical word boundary and a guttural. Cases like *yaʿamḏū*, where the first, lengthened vowel precedes a vowel in a phonetically closed syllable, must then be represented as /yaʿmḏ́ū/ (similar to non-guttural *yiqṭlu* /yeqṭlū́/), with the insertion of an epenthetic [a] between /ʿ/ and /m/ and lengthening of the preceding vowel: /yaʿmḏ́ū/ → yāʿamḏ́ū [jaː.ʕam.ˈðuː].

the emphatic *l* in Classical Arabic *allāhu* 'God', which does not occur anywhere else in the language.

As far as the short unstressed vowels are concerned, a three-way distinction in quality can firmly be established. *i* is contrasted with *a*, as in *yir›ɛ* [jiʁ.ˈʔɛː] 'he will see' besides *yar›ɛ* [jaʁ.ˈʔɛː] 'he will show', and with ɔ, as in *hiḡlu* [hiʁ.ˈluː] 'they took into exile' besides *hɔḡlu* [hɔʁ.ˈluː] 'they were taken into exile'; as is *a* with ɔ, as in *ḥarḇoṯ* [ħaʁ.ˈvoːθ] 'swords (construct)' besides *ḥɔrḇoṯ* [ħɔʁ.ˈvoːθ] 'ruins (construct)'. Minimal pairs between short *i* and ɛ do not occur to my knowledge,[5] nor between short ɔ and *u*; *e* and *o* are always long. The *ḥåṭep̄* vowels, which also show a three-way distinction, are in complementary distribution with these short vowels, as they only occur in open syllables, unlike short *i*, ɛ, *a*, ɔ, and *u*, and they were pronounced with the same length (Khan 1987). This suggests that we should only posit three short vowels, which could be represented as /e/, /a/, and /o/.

/e/ and /o/ seem fitting, as they occupy the middle ground between the various allophones ([i] and [ɛ] for /e/ and [u] and [ɔ] for /o/); moreover, it was argued above that they are realized as [eː] and [oː] in stressed syllables. They also align nicely with Greek transcriptions of earlier stages of Hebrew, like the Second Column of the Hexapla, where /e/ and /o/ are usually rendered by ɛ (Brønno 1943: 284) and ο (p. 367), respectively, even where the Masoretic Text has *i* and *u*. An indication that /e/ was still realized as [e] in a very recent precursor of the Tiberian pronunciation comes from the presence of long *e* in lexicalized forms like *lelohim* 'to God' and *lemor* 'saying:' for expected ***lɛ›ĕlohim* and ***lɛ›ĕmor*; these forms are more easily understood as deriving from *le›elōhīm and *le›emōr than from their synchronically expected forms. The reverse change is visible in the hypercorrect vocalization of ***toḵléhu* 'it will consume him' in Job 20:26 as *t›ɔḵléhu*, which must be understood as a change from *tōḵlḗhū to *to›oḵlḗhū. Also note that when expected ***i* and ***u* are lengthened due to degemination of a following guttural, this often results in *e* and *o*, again indicating a recent pronunciation as [e] and [o].

Broadly speaking, /e/ in closed syllables is realized as [ɛ] next to gutturals, as in *ʿɛzri* 'my help', and in syllables following the lexical stress (or in the phonemically stressed syllable, if this is realized without stress), as in *wayyéšɛḇ* 'and he sat'; as [i] elsewhere, as in *yišmor* 'he will keep'. /o/ in closed syllables is generally realized as [u] before geminates, as in *kullo* 'all of it', and as [ɔ] elsewhere, as in *qɔḏšo*

[5] Blau (2010) does note the opposition between *›ɛl-* [ʔɛl] 'to' and *›el-* [ˌʔeːl] 'God' in Josh 24:19, but the use of *méṯɛḡ* in the second word shows that it contains a long vowel.

Table 2.4: The vocalic phonemes of Tiberian Hebrew

phoneme	allophone	vowel sign
/a/	[aː]	*a*
	[a]	*a* in closed syllables, *ă* in open syllables
/e/	[eː]	*e*
	[i]	*i*
	[ɛ]	ɛ in closed syllables, ɛ̆ in open syllables
/o/	[oː]	*o*
	[u]	*u*
	[ɔ]	ɔ in closed syllables, ɔ̆ in open syllables
/ɛ̄/	[ɛː]	ɛ
	[aː]	*a*
/ē/	[eː]	*e*
/ī/	[iː]	*i*
/ɔ̄/	[ɔː]	*å*
/ō/	[oː]	*o*
/ū/	[uː]	*u*

'his holiness'. The exact conditioning of the allophones of /e/ and /o/ is hard to identify, however, and we do find near-minimal pairs like *šulḥån* [ʃulˈħɔːn] 'table' besides *šɔlḥi* [ʃɔlˈħiː] 'my sending'. Perhaps the different allophones of /e/ and /o/ in closed syllables were in free variation to a certain extent, which is supported by their interchange in some forms, e.g. *hiḡlå* [hiʁˈlɔː] and *hɛḡlå* [hɛʁˈlɔː], both 'he took into exile'. As was noted above, *ă* can always be analyzed as an allophone of zero, i.e. an epenthetic vowel; but if we interpret ɛ̆ and ɔ̆ as allophones of /e/ and /o/, respectively, it seems plausible that at least some cases of *ă* are allophones of /a/.

To recapitulate, we have identified contrasts between six long vowels and at least three short vowels; only long vowels may occur in open, stressed syllables, while short vowels may also occur in closed and/or unstressed syllables. This yields the synchronic analysis of the Tiberian vocalic phonemes given in table 2.4. Note that in open syllables, every Tiberian vowel sign can only represent one phoneme,[6] as *i*, *e*, *u*, and *o* only represent /e/ and /o/ in closed syllables.

[6]With the marginal exception of *qǻmɛṣ*, which represents phonologically long /ɔ̄/ in *bå›ɔ̆niyyå* 'in the ship' and many other cases, but phonetically lengthened /o/ in a few words like *bɔ›ɔ̆niyyå* 'in a ship'.

The development of the Proto-Northwest-Semitic vowel system to that of Biblical Hebrew is the topic of the rest of this work, but some general tendencies and unproblematic developments may already be noted. *ū regularly becomes Biblical Hebrew /ū/; *ī almost always becomes Biblical Hebrew /ī/, and /ɛ̄/ in a few monosyllabic words where it occurs in word-final position; *ā yields Biblical Hebrew /ō/ and /ɔ̄/, a change which is the subject of chapter 3. The remaining long vowel of Biblical Hebrew, /ē/, usually results from the contraction of di- and triphthongs (chapter 5), as do many cases of /ō/ and /ɛ̄/.

The behaviour of the short vowels is more complex. All three short vowels underwent deletion in certain environments, most importantly in unstressed word-final position (some possible counterexamples are discussed in chapter 8). When preserved, *u usually yields Biblical Hebrew /o/ or /ō/. *a and *i were often lengthened in historically open syllables (chapter 4), yielding /ɔ̄/ and /ē/, respectively. In historically closed syllables, the usual reflex of *a is /a/ or /ɛ̄/, while that of *i is /e/ or /ē/; in many cases, however, stressed *i yields /a/ or /ɛ̄/ (chapter 6), while unstressed *a yields /e/ (chapter 7). The fact that all accented vowels are long in Tiberian Hebrew, which is not the case in earlier Greek transcriptions, points to a relatively late sound change which lengthened all short accented vowels.

2.1.3 Phonotactics and stress

For Proto-Northwest-Semitic and its ancestors, the reconstruction of the syllable structures CV̆, CV̄, and CV̆C is uncontroversial. That is to say that every syllable started with a consonant and contained one mora, i.e. a short vowel, or two morae, i.e. a long vowel or a short vowel and a coda consonant. There is some disagreement over whether any other syllable structures were permitted. Most importantly, the question is whether word-initial syllables could begin with two consonants or were also limited to a single consonant in the onset. That at least a few words should be reconstructed with an initial consonant cluster was convincingly shown, in my opinion, by David Testen (1985).

Testen bases his argument on an unusual correspondence between *n* and *r* in the words for ‘son’ and ‘two’. Both of these words have an *n* as their second consonant in most Semitic languages; cf. Biblical Hebrew *ben* ‘son’, *šnáyim* ‘two (m.)’. In both Aramaic and Modern South Arabian, however, we find an *r*: cf. Biblical Aramaic *bar* ‘son’, *tren* ‘two (m.)’, and Mehri *ḥəbrē* ‘son’, *t̲ərō* ‘two’. Moreover, both of these

language groups show the expected *n* in the plural of 'son', cf. Biblical Aramaic *bne* 'sons (construct)', Mehri *ḥəbūn* 'sons'. As Modern South Arabian and Aramaic are not particularly closely related, this shared anomaly must reflect some unusual feature of these words in an earlier stage of Semitic.[7]

These two words also happen to behave unusually in Classical Arabic, although they do have *n* there. They belong to a small group of nouns which start with a consonant cluster, which is resolved by an auxiliary vowel (and ʾ in sentence-initial position) if no other vowel precedes it: cf. *ʾibnun* 'a son', but *wa-bnun* 'and a son', *ʾiṯnāni* 'two (m.)', but *wa-ṯnāni* 'and two (m.)'. Again, the plural 'sons', *banūna*, does not show this unusual behaviour. Testen concludes from this that these words should be reconstructed as *bn- and *ṯn-, and that Aramaic and Modern South Arabian separately underwent a sound change of *#Cn- > *#Cr-: *n was changed to *r when following a word-initial consonant. Phonetically, this can be understood as denasalization of the *n, which is not uncommon in the languages of the world (see Michaud et al. 2012, especially the examples from Gaelic and Breton). The reconstruction with an initial cluster also explains these words' unusual behaviour in Arabic, and as we will see, supporting evidence comes from the lack of pretonic lengthening seen in Hebrew forms like *bni* 'my son' and *šnáyim* 'two (m.)' (chapter 4). As these words must be reconstructed with an initial consonant cluster, CCV(C) can be seen to have been an allowed syllable structure in Proto-West-Semitic and Proto-Northwest-Semitic, at least. The main argument against such a reconstruction is that CCV(C) syllables are not allowed in most attested Semitic languages, which is not very compelling. Assuming that Proto-Semitic and its descendants were natural languages like any other, there is no reason why they could not allow such a cross-linguistically common syllable structure to occur. Hence, we may also reconstruct CCV(C) syllables in other words that show similar behaviour, if not the same shift of *n > *r (as they do not contain *n).

While it is less certain than the existence of word-initial CCV(C) syllables, it may also be the case that in word-final position, CV̄C syllables were permitted, i.e. syllables ending in a long vowel and a consonant. A small number of nouns should be reconstructed with long case vowels in the construct state and before suffixes (see below), like *pū- 'mouth'. In the absolute state, these words may well

[7] The occurrence of the same shift in exactly the same words in Modern South Arabian as in Aramaic makes it extremely unlikely that this is simply a sporadic sound change, as suggested by Elitzur Bar-Asher (2008).

have ended in a long vowel followed by *m (mimation, also discussed below), e.g. *pūm. In Hebrew, these vowels were shortened at a relatively early point in time, so their reconstruction is not very important for the following investigation.

As we have seen, Biblical Hebrew long and short vowels can both occur in open and closed syllables. As in Proto-Northwest-Semitic, every syllable must start with at least one phonological consonant, although /w-/ 'and' is realized as [u] before consonant clusters and bilabials, and word-initial /ʾ/ may not have been pronounced (Joüon & Muraoka 2009: 86). In most cases, if a syllable would otherwise have two consonants in the onset, this is resolved by the insertion of an epenthetic vowel (known as *šwå mobile*) as in *tḏabbru* [tʰa.ðab.ba.ˈʁuː] 'you (m.pl.) will speak'. Word-internal syllables may end in a consonant, while word-finally, two consonants may occur in coda; the second one is then usually a plosive, as in *wayyešt* [vaɟ.ˈɟeːʃtʰ] 'and he drank'. This syllable structure results from the deletion of a word-final short vowel.

The stress system of Proto-Northwest-Semitic is unknown; it will be argued in chapter 4 that Proto-Canaanite and probably Proto-Aramaic regularly stressed the penultimate syllable of every stress-bearing word, but Ugaritic evidences a different stress system, and neither can be shown to be more original. In Biblical Hebrew, stress is phonemic, as can be seen from minimal pairs like *qǻmå* [ˈqɔː.mɔː] 'she stood up' besides *qåmǻ* [qɔː.ˈmɔː] 'standing (f.sg.)', *bǻnu* [ˈbɔː.nuː] 'in us' besides *bånú* [bɔː.ˈnuː] 'they built', etc. The stress usually falls on the ultimate syllable, often on the penultimate, and very rarely on the antepenultimate (as in *håʾóhɛlå* 'into the tent').

Finally, many words in Biblical Hebrew have separate *context* and *pausal* forms. The pausal form occurs *in pausa*, i.e. at the end of an intonational phrase, and is often characterized by the (historical) lengthening of the stressed vowel. This may be accompanied by a stress shift. Both phenomena are discussed in chapter 4. As a word's pausal form is not predictable from its context form, nor the other way around, lexically separate pausal forms must be assumed, rather than positing a synchronic phonological process of pausal lengthening.

Table 2.5: Independent personal pronouns

person	PNWS	BH
3m.sg.	*hūʾa	*hu*
3f.sg.	*hīʾa	*hi*
2m.sg.	*ʾanta(h)	*ʾattå*
2f.sg.	*ʾanti	*ʾatt*
1sg.	*ʾana(h), *ʾanāku	*ʾănî*, *ʾånoḵi*
3m.pl.	*hum	*hem*, *hémmå*
3f.pl.	*hin	*hénnå*
2m.pl.	*ʾantum	*ʾattɛm*
2f.pl.	*ʾantin	*ʾatten*, *ʾatténå*
1pl.	*naḥnu or *naḥnā	*ʾănáḥnu*, *náḥnu*

2.2 Morphology

2.2.1 Pronouns

Personal pronouns

In both Proto-Northwest-Semitic and Biblical Hebrew, personal pronouns occur in three persons, two genders (masculine and feminine), and two or three numbers (singular, plural, and in Proto-Northwest-Semitic, dual). Personal pronouns can be either independent, i.e. used as words in their own right, or suffixed to nouns, verbs, or particles. Table 2.5 presents the reconstruction of the Proto-Northwest-Semitic independent personal pronouns that will be arrived at in chapter 8 and their Biblical Hebrew reflexes. According to the Semiticist convention, the third person is presented first. As the dual pronouns have been lost in most languages, they are hard to reconstruct and left out of the table. There is no difference in meaning between *ʾănî*, more frequent in younger texts, and *ʾånoḵi*, more frequent in older texts. The second person feminine plural pronoun is textually uncertain. *náḥnu* is a rare byform of *ʾănáḥnu*, a more innovative form which has almost completely replaced the former. In the third person singular only, separate oblique (non-nominative) forms of the independent pronouns can be reconstructed for Proto-Northwest-Semitic, which are formed with an additional suffix *-(V)tV; these are not preserved in Hebrew.

Table 2.6: Pronominal suffixes

person	PNWS	BH
3m.sg.	*-hu	*-o*, *-hu*, *-w*
3f.sg.	*-hā	*-åh*, *-hå*, *-å*
2m.sg.	*-ka	*-k̲å*
2f.sg.	*-ki	*-k̲*, *-k̲i*
1sg.	*-ī, *-ya (on nouns), *-nī (on verbs)	*-i*, *-ay*, *-ni*
3m.pl.	*-hum	*-m*, *-hɛm*, *-mo*
3f.pl.	*-hin	*-n*, *-hɛn*
2m.pl.	*-kum	*-k̲ɛm*
2f.pl.	*-kin	*-k̲ɛn*
1pl.	*-nā	*-nu*

Independent personal pronouns are mainly (though not exclusively, and not obligatorily) used to express the subject of a sentence. For other syntactic roles, pronominal suffixes are used. On nouns, these suffixes indicate possession; on verbs, they indicate the direct or indirect object; and they may also combine with prepositions and other particles. In Proto-Northwest-Semitic, the nominal and verbal suffixes are identical in all persons but the first person singular; in Biblical Hebrew, a number of different forms have developed, based on the phonological shape of their host. An overview of the pronominal suffixes is given in table 2.6; in the case of Biblical Hebrew, suffixes starting with a consonant may be preceded by a linking vowel, which is not given. The Proto-Northwest-Semitic distribution of the first person singular suffixes *-ī and *-ya is uncertain; presumably, *-ya occurred after long vowels, diphthongs, and the genitive ending *-i-, while *ī replaced the nominative and possibly accusative singular endings, as in *yadā-ya ‘my hands’ (nominative), *yaday-ya ‘idem’ (genitive/accusative), *yadi-ya ‘my hand’ (genitive), but *yad-ī ‘idem’ (nominative).

Demonstrative and relative pronouns

Some singular demonstrative pronouns of near deixis can be reconstructed for Proto-Northwest-Semitic with security and are given in table 2.7. In Biblical Hebrew, the reflex of the masculine genitive, *zɛ*, is used in all syntactic roles. *zu*

Table 2.7: Proto-Northwest-Semitic singular near demonstrative pronouns

case	masculine	feminine
nominative	*ḏū	*ḏātu
genitive	*ḏī	*ḏāti
accusative	*ḏā	*ḏāta

and *zo*, reflecting the old nominative and accusative, are also rarely preserved. All cases of the feminine have merged into *zoṯ*. The reconstruction of the plural is uncertain; probably, it should be something like *›Vll-, reflected in Biblical Hebrew as *›éllɛ*. The demonstratives behave like adjectives (see below) and are occasionally used as relative pronouns. For far deixis, the third person independent personal pronouns are used.

Besides these inherited, Proto-Northwest-Semitic features, Biblical Hebrew also has a definite article, *ha-*, which geminates following non-guttural consonants, as in *habbáyiṯ* 'the house', *hammélɛḵ* 'the king', etc. Its etymology is uncertain; some recent studies have derived it from a demonstrative pronoun (Rubin 2005) or a presentative particle (Pat-El 2009). The relativizing function of the Proto-Northwest-Semitic pronoun *ḏū has been taken over by the particle *›ăšɛr*, grammaticalized from a noun *›aṯarum 'place'. In non-standard texts, the alternate form *šɛ-* occurs, which is probably an even more reduced form of *›ăšɛr* (Huehnergard 2006).

Interrogative pronouns

The interrogative pronouns do not distinguish gender or number, but there is an animacy distinction. Biblical Hebrew has *mi* 'who' and *må* 'what'; the latter usually occurs as *ma-*, with gemination of the following consonant. *mi* has a cognate in Ugaritic <my>, but not in Aramaic; if it is Proto-Northwest-Semitic, the most likely reconstruction is *mīya. *må* is variously reconstructed as *mā and *mah; in chapter 3, it will be argued that the latter reconstruction is correct. A Proto-Northwest-Semitic interrogative adjective *›ayy- 'which' is also reconstructible, but does not survive as an independent word in Biblical Hebrew.

2.2.2 Nouns and adjectives

As in most Semitic languages, nouns in Proto-Northwest-Semitic and Biblical Hebrew consist of a *root* and a *pattern*. The root consists of a number of consonants, usually three, and contributes a large part of the word's lexical meaning. The root consonants are also referred to as *radicals*. The pattern, on the other hand, consists of vowels and, in some cases, affixes or suprasegmental features like gemination of one of the radicals. For example, Biblical Hebrew *mélɛ̱k* 'king', *malkå* 'queen', and *mamlåk̲å* 'kingdom, kingship' are all combinations of the root *mlk*, indicating 'something to do with reigning', and different nominal patterns. Various verbal forms can be formed from the same root, e.g. *målak̲* 'he reigned', *yimlok̲* 'he will reign', etc. In order to abstractly discuss patterns, we will use the dummy root *qṭl*: accordingly, *mélɛ̱k* can be said to be a *qéṭɛl* noun, *malkå* a *qaṭlå* noun, and *mamlåk̲å* a *maqṭålå* noun. Nouns are inflected for gender, number, case (only in Proto-Northwest-Semitic), and state.

Gender

Like the pronouns, nouns come in two genders, masculine and feminine. Both animate and inanimate nouns occur in each gender. The masculine is the unmarked gender: masculine nouns, like *ʾåb̲* 'father', *kélɛb̲* 'dog', or *báyit̲* 'house', are not overtly marked as masculine. Feminine nouns may be marked by the suffix *-å* < *-at- or *-t̲* < *-t-, like *ʾåmå* 'handmaid', *délɛt̲* 'door', or lack overt gender marking, like *ʾem* 'mother', *ʾérɛṣ* 'land'.

Adjectives, which are formally very similar to nouns, differ in that feminine adjectives are always marked by a feminine suffix, like *ṭob̲å* 'good (f.sg.)' besides the masculine *ṭob̲*. Since adjectives agree with their governing noun in gender, feminine nouns without overt gender marking can be identified as such by the feminine adjective they govern, as in *ʾem ṭob̲å* 'a good mother' vs. masculine *ʾåb̲ ṭob̲* 'a good father'.

Number

Proto-Northwest-Semitic nouns could occur in the singular, the dual, or the plural. The number was marked by an ending, which also indicated the word's case. In many feminine and a few masculine words, a plural suffix *-āt- occurred between the stem and the ending; if the singular contained either of the feminine suffixes,

*-at- or *-t-, these were replaced by *-āt-. The masculine endings could also occur on feminine nouns, which were still treated as feminine as far as agreement is concerned. The Proto-Northwest-Semitic forms of the nominal endings will be discussed below.

In Biblical Hebrew, only the contrast between singular and plural is maintained. The masculine plural endings are *-im* (absolute) and *-e* (construct); the feminine plural has *-o̲t* in both states (see below). A number of nouns referring to objects that usually occur in pairs have maintained the historical dual absolute ending *-áyim*, but they take plural agreement and can also refer to more than two of something, e.g. *šeš knåp̄áyim* 'six wings'.

While the plural is predominantly marked by the ending, some words also change their stem in the plural. Most importantly, the very frequent Proto-Northwest-Semitic *qaṭl-, *qiṭl- and *quṭl- nouns (the so-called segolates) insert an *a between the second and third radical in the plural stem. In Biblical Hebrew, the singulars are reflected by *qɛ́ṭɛl*, *qéṭɛl*, and *qóṭɛl*,[8] while the a-insertion in the plural results in absolute forms like *qṭålim* and construct forms like *qaṭle*, *qiṭle*, and *qɔṭle*, with spirantization of a non-emphatic plosive third radical, as in *mlåk̲im* 'kings (absolute)', *malk̲e* 'kings (construct)' (contrast the presence of *k* in the suffixed singular, like *malki* 'my king'). The same process takes place in the feminine counterparts of these nouns, of the *qaṭlat-, *qiṭlat-, and *quṭlat- patterns, Biblical Hebrew *qaṭlå*, *qiṭlå*, and *qɔṭlå*. Some other nouns also have a different stem in the plural; notable examples are *ben* 'son', plural *bånim* 'sons', and *yom* 'day', plural *yåmim* 'days'. Finally, a few words have a completely different stem in the plural, like *nåšim* 'women' (PNWS stem *nas-), associated with *ʾišša* 'woman' (PNWS stem *ʾint̲-).

Case

In Proto-Northwest-Semitic, nouns and adjectives could occur in one of three cases: the nominative, used for the subject and the nominal predicate; the genitive, used in a construct chain (see 'State' below) and after prepositions; and the accusative, used for verbal objects and adverbial phrases. Case was marked by endings following the stem and the feminine suffix, when present. In the singular, the nominative was marked by *-u-, the genitive by *-i-, and the accusative by *-a-. The dual and the plural only made a distinction between nominative and oblique

[8] In words with a guttural second or third radical, *qáṭal*, *qɛ́ṭal*, *qéṭal*, and *qóṭal*.

(genitive/accusative), the endings being *-ā- (nominative) and *-ay- (oblique) in the dual, *-ū- (nominative) and *-ī- (oblique) in the masculine plural, and *-u- and *-i- in the feminine plural. In Biblical Hebrew, the reflex of the genitive or oblique form is used in all environments and case is no longer marked. The Proto-Northwest-Semitic locative ending *-ah, attached to the nominal stem, is preserved in Biblical Hebrew as the so-called *he locale*, resulting in forms like *baytah > *báytå* 'in a house'.

State

In both Proto-Northwest-Semitic and Biblical Hebrew, nouns and adjectives can occur in two *states*, the *absolute state* and the *construct state*. The absolute state is the normal form of the word. In Proto-Northwest-Semitic, it was marked by a morpheme *-m in the singular and feminine plural and *-na (or *-ni) in the dual and masculine plural, following the case ending; these morphemes are known as *mimation* and *nunation*, respectively, from the names of the Arabic letters *m* and *n*. The construct state is used to indicate that the noun's referent is possessed by that of the following noun; the combination of such a possessed noun in the construct state and its possessor is known as a construct chain. In Proto-Northwest-Semitic, the construct state was marked by the lack of mimation or nunation.

In Hebrew, mimation has been lost in the singular and feminine plural absolute state. As nouns in the construct state formed a prosodic unit with the following word, however, the lack of stress on the word in the construct state has often resulted in a different vocalization, as in *dåb̲år* 'word (absolute)' besides *db̲ar* 'word (construct)'. In feminine words marked by *-å* < *-at-, the suffix becomes *-at̲* in the construct state, as in *malkat̲* 'queen (construct)'. In the masculine plural, mimation has replaced the original nunation of the absolute state, while the construct state is marked by what appears to be the original dual construct state ending, as in *mlåk̲im* 'kings (absolute)', *malk̲e* 'kings (construct)'.

The different nominal endings in Proto-Northwest-Semitic, as well as the *-a- insertion in the plural of *qVṭl- nouns, are illustrated by *kalbum 'dog' and *kalbatum 'bitch' in table 2.8.

Table 2.8: Proto-Northwest-Semitic nominal declension

number/case	'dog(s)' (m.)	'bitch(es)' (f.)
singular		
nominative	*kalbu(m)	*kalbatu(m)
genitive	*kalbi(m)	*kalbati(m)
accusative	*kalba(m)	*kalbata(m)
dual		
nominative	*kalbā(na)	*kalbatā(na)
genitive/accusative	*kalbay(na)	*kalbatay(na)
plural		
nominative	*kalabū(na)	*kalabātu(m)
genitive/accusative	*kalabī(na)	*kalabāti(m)

2.2.3 Numerals

In Biblical Hebrew, cardinal numerals precede the counted noun. Morphologically, they are similar to adjectives, with the difference that the numbers from 3–10 show gender marking that is opposite to that of the counted noun: numerals counting feminine words are unmarked, while numerals counting masculine words are marked with a reflex of the feminine suffix *-(a)t-. This is not the case for 1 or 2. The numeral 2 is inflected as a dual. An overview of the cardinal numerals from 1–10 in Biblical Hebrew and their reconstructions in Proto-Northwest-Semitic is given in table 2.9.

Ordinal numerals, which all end in the adjectivizing suffix -*i* < *-īyum, behave like regular adjectives.

2.2.4 Verbs

Tense, mood

The Proto-Northwest-Semitic verb distinguished several tenses and moods. In this section, they will be cited in the third person masculine singular, except for the imperative (which only occurs in the second person).

The *prefix conjugation* is a collection of three or four separate tenses that form the core of the inherited Semitic verbal system. All three use the same prefixes (and some suffixes) which mark them for person, gender and number.

Table 2.9: Cardinal numerals 1–10

meaning	masculine		feminine	
	PNWS	BH	PNWS	BH
1	*ʾaḥḥadum	*ʾɛḥåḏ*	*ʾaḥḥattum	*ʾaḥaṯ*
2	*ṯnāna	*šnáyim*	*ṯintāna	*štáyim*
3	*ṯalāṯatum	*šlošå*	*ṯalāṯum	*šåloš*
4	*ʾarbaʿatum	*ʾarbåʿå*	*ʾarbaʿum	*ʾarbaʿ*
5	*ḫamisatum	*ḥămiššå*	*ḫamisum	*ḥåmeš*
6	*siṯṯatum	*šiššå*	*siṯṯum	*šeš*
7	*sabʿatum	*šiḇʿå*	*sabʿum	*šɛ́ḇaʿ*
8	*ṯamāniyatum	*šmonå*	*ṯamāniyum	*šmonɛ*
9	*tisʿatum	*tišʿå*	*tisʿum	*téša ʿ*
10	*ʿaśaratum	*ʿăśårå*	*ʿaśrum	*ʿɛ́śɛr*

The *preterite, jussive,* or *short imperfect* consisted of a bare verbal stem with personal affixes. It was used to express past events (with perfective aspect), wishes, and third person commands. Example: *ya-qṭul 'he killed'[9] or 'may he kill', 'let him kill'. In the fientive G-stem (see below), the stem of the prefix conjugations was shaped like *-qṭul- or *-qṭil-, while the stative G-stem prefix conjugation stem was shaped like *-qṭal-.

The *(long) imperfect* consisted of the same stem with the same prefixes, as well as a suffix *-u, if no other suffixes were present. If other vocalic suffixes *were* present, an additional *-na was added that is absent in the preterite and the subjunctive. The long imperfect was used to express nonpast events or past events that occurred iteratively or habitually (i.e. with imperfective aspect), e.g. *ya-qṭul-u 'he kills', 'he is killing', 'he will kill', 'he would always kill', 'he kept killing', etc.; plural *ya-qṭul-ū-na, with the added *-na as compared to the preterite and subjunctive plural, *ya-qṭul-ū.

The *subjunctive* was similar to the preterite, but was marked by *-a if no other suffixes followed. It is used to indicate wishes or the intended result of another action, e.g. *yaqṭul-a 'may he kill', 'let him kill' or 'in order to kill', 'so that he kill'. The difference with the volitive use of the jussive is not very clear.

[9] As the root *qṭl* means 'to kill' in Aramaic, we will translate it as such to exemplify the meaning of the various verbal forms.

The *energic* has left few traces in attested languages; based on forms in Arabic and Ugaritic, it is reconstructed as a form of the prefix conjugation with an *-n- suffix of controversial vocalization. It may originally have expressed some modal nuance, or perhaps a future tense.

The *suffix conjugation* or *perfect* consisted of a different stem than the prefix conjugation and exclusively marked its subject through suffixes. When used with stative verbs (see below), it expressed a state, which was unmarked for tense, e.g. *kabid-a 'he is/was/will be heavy'. When used with fientive verbs, it indicated a past event, probably with perfect aspect, e.g. *qaṭal-a 'he has killed', 'he had killed'. In both cases, then, the perfect expressed a state, which may or may not have resulted from an earlier event.

The *imperative* was used to express commands. It took the shape of the second person jussive without the prefix, e.g. *qṭul 'kill (m.sg.)' (cf. the jussive *ta-qṭul 'you (m.sg.) killed', 'may you kill'). For this reason, the imperative will be referred to as one of the prefix conjugations, where relevant, even though no prefixes are present. Opponents of the reconstruction of word-initial consonant clusters in Proto-Northwest-Semitic prefer to reconstruct the imperative with a short vowel between the first two radicals, e.g. *quṭul, *kabad or *kibad.

Reflexes of multiple *infinitive* formations are attested. The most common ones (for the G-stem, see below) were probably *qaṭālum, *qiṭlum, and *qiṭlatum, all meaning 'to kill'.

Finally, there were *active* and *passive participles*. The active G-stem participle (see below) was formed like *qāṭilum 'killing (m.sg.)'. Attested passive G-stem participles reflect *qaṭīlum or *qaṭūlum, both 'killed (m.sg.)'; both forms were probably present in Proto-Northwest-Semitic. The participles were unmarked for tense and aspect and largely behaved like regular adjectives.

In Biblical Hebrew, the usage of some of these tenses and moods has changed, and some moods have merged. Although still distinct in some forms of the verb, the jussive and the imperfect have generally merged, both being formed like *yi-qṭol* in the singular, *yi-qṭl-u* in the plural; plural and second person feminine imperfect forms like *yi-qṭl-u-n*, which preserve the original long imperfect ending, also occur. The imperfect is used for imperfective events and to express modality, but is no longer used to express progressive action (except in the oldest poetic texts); this is now done by a combination of the subject with an active participle, as in *hu qoṭel* 'he is killing'. The subjunctive has been lost, although it may be the origin of a new volitive or cohortative mood exclusively occurring in the first person,

formed like ʾɛ-*qṭl-å* ‘I want to kill’, *ni-qṭl-å* ‘let us kill’. The preterite use of the short imperfect *ya-qṭul has been preserved in a new tense, the *consecutive imperfect*. This is formed by prefixing the jussive with *wa-*, generally seen as a byform of *w-* ‘and’, and geminating the prefix consonant, as in *way-yi-qṭol* ‘and (then) he killed’. The consecutive imperfect is the unmarked form to express perfective events in narratives. The energic is not retained as a separate mood, but it has left traces in object suffixes on the prefix conjugation containing a not otherwise occurring *n*.

The perfect, now shaped like *qåṭal* or *kåb̲eḏ*, still expresses anteriority and states, but it also sometimes used to express past events regardless of aspect. Normally, this use occurs when another element of the sentence is focalized; the perfect then expresses a backgrounded verb. Mirroring the opposition between (generally) nonpast imperfect *yi-qṭol* ‘he kills’, ‘he will kill’ and past consecutive imperfect *way-yi-qṭol* ‘and he killed’, the perfect is opposed to the *consecutive perfect*, expressing a subsequent future action or purpose, like *w-qåṭal* ‘and he will kill’, ‘so that he kill’. In most verbs, there is a difference in stress between the second person masculine and first person singular perfect, like *qåṭál-tå* ‘you (m.sg.) killed’, and consecutive perfect, like *w-qåṭal-tǻ* ‘and you (m.sg.) will kill’.

The imperative, formed like *qṭol* in the G-stem, is largely unchanged. It cannot be negated; a negative command is expressed by the negation *ʾal* and a second person jussive, as in *ʾal ti-qṭol* ‘don’t kill’. In the feminine singular and the masculine plural, an epenthetic *i* (or rarely another vowel) is inserted between the first two radicals in context, as in *qiṭl-i*, *qiṭl-u*.

The Proto-Northwest-Semitic infinitive *qaṭālum is reflected in Biblical Hebrew by *qåṭol*, the so-called *infinitive absolute*. It can function as the subject or object of a verb, but is also used to replace a finite verbal form to express an event or a command. The more frequent nominalized form of the verb is the *infinitive construct*, usually formed like *qṭol*. Reflexes of other infinitive patterns are also rarely preserved. The active participle is formed like *qoṭel*, and *qåṭul* is the regular passive participle, reflexes of *qaṭīlum being preserved as nouns or adjectives with passive semantics.

Person, gender, number

In both Proto-Northwest-Semitic and Biblical Hebrew, like the personal pronoun, the verb distinguishes three persons, two genders (masculine and feminine) and two or three numbers (singular, dual, plural). The first person, and in Biblical

Table 2.10: Paradigm of the strong verb (G-stem)

person	suffix conjugation		prefix conjugations	
	PNWS	BH	PNWS	BH
3m.sg.	*qaṭal-a	*qåṭal*	*ya-qṭul(-u/-a)	*yi-qṭol*
3f.sg.	*qaṭal-at	*qåṭl-å*	*ta-qṭul(-u/-a)	*ti-qṭol*
2m.sg.	*qaṭal-ta	*qåṭál-tå*	*ta-qṭul(-u/-a)	*ti-qṭol*
2f.sg.	*qaṭal-ti	*qåṭal-t*	*ta-qṭul-ī(-na)	*ti-q(i)ṭl-i(-n)*
1sg.	*qaṭal-tu	*qåṭál-ti*	*ʾa-qṭul(-u/-a)	ʾɛ-*qṭ(o)l-å*
3m.pl.	*qaṭal-ū	*qåṭl-u*	*ya-qṭul-ū(-na)	*yi-qṭl-u(-n)*
3f.pl.	*qaṭal-ā	*qåṭl-u*	*ta-qṭul-na	*ti-qṭól-nå*
2m.pl.	*qaṭal-tum	*qṭal-tɛm*	*ta-qṭul-ū(-na)	*ti-q(i)ṭl-u(-n)*
2f.pl.	*qaṭal-tin	*qṭal-tɛn*	*ta-qṭul-na	*ti-qṭól-nå*
1pl.	*qaṭal-nā	*qåṭál-nu*	*na-qṭul(-u/-a)	*ni-qṭ(o)l-å*

Hebrew the third person plural, does not distinguish gender. Verbs agree with their subject. If the subject consists of both masculine and feminine nouns (or persons), the verb is usually masculine.

An overview of the different forms of the G-stem strong verb is given in table 2.10. The dual forms, only attested in Ugaritic and fairly uncertain, have been left out. Note that the prefix consonants and suffixes are the same for the other verbal stems (see below); only the stem and prefix vowels vary. The third person feminine plural prefix conjugation is usually reconstructed as *ya-qṭul-na, based on the presence of a *y- prefix in Aramaic, Arabic, and Gəʿəz. All of these forms can be analogical, however: 2m.pl. *ta-qṭul-ū : 3m.pl. *ya-qṭul-ū = 2f.pl. *ta-qṭul-na : 3f.pl. *ya-qṭul-na. The Biblical Hebrew form, *tiqṭólnå*, cannot be derived from the normally reconstructed paradigm in this way. Moreover, a *t-* prefix in the third person feminine plural also occurs in Modern South Arabian, suggesting that it is at least Proto-West-Semitic. The reconstruction given in table 2.10 also explains the origin of the problematic third person masculine plural forms with *t-* in Ugaritic and Amarna Canaanite: 2f.pl. *ta-qṭul-na : 3f.pl. *ta-qṭul-na = 2m.pl. *ta-qṭul-ū : 3m.pl. *ta-qṭul-ū (Voigt 1987a). The reconstructed perfect suffixes given are those arrived at in chapter 8.

Verbal stems

As in other Semitic languages, different verbal stems can be derived from the same verbal root. Usually, this derivation is used to express differences in valency, cf. the difference between *šå̱bar* 'he broke' (transitive, *qal*), *nišbar* 'it broke' (intransitive, *niqṭal*), *šibber* 'he shattered' (*piʿel*), and **hišbir* 'he caused to (transitively) break' (*hiqṭil*). In comparative Semitics, each stem is known by a label which reflects one of its formal or semantic features; the primary stems reflected in Hebrew are the G-stem (German *Grundstamm*), the N-stem (formed with an n-prefix), the D-stem (German *Dopplungsstamm*) and the C-stem (causative). In the Hebrew grammatical tradition, the G-stem is known as the *qal* ('light'), as it is formally unmarked, while the names of the other stems are simply the third person singular masculine perfect forms of the formerly used dummy root *pʿl* in that stem, e.g. *niqṭal*, *piʿel*, *hitpaʿel*.

The G-stem (Hebrew *qal*) is the basic, underived stem. It is the most frequent and is semantically unmarked. A distinction is made between fientive roots, expressing events, and stative roots, expressing states. The forms of the fientive G-stem were discussed in the previous section. In Proto-Northwest-Semitic, the vowel of the prefix of the prefix conjugations was *-a- and the stem was *-qṭul- or *-qṭil-,[10] as in *ya-qṭul-u 'he will kill', while the stem of the suffix conjugation had two *a vowels, as in *qaṭal-a 'he has killed'. In the strong verb, only prefix conjugation stems with an *u vowel are preserved in Biblical Hebrew. In the prefix conjugation of stative roots, the vowel of the prefixes was *-i- and the stem contained an *a vowel, as in *yi-kbad-u 'he will become heavy', while the second vowel of the suffix conjugation was either *-i-, as in *kabid-a 'he is/was/will be heavy', or *-u-, as in *ʿamuq-a 'it is/was/will be deep'. Whether the G-stem stative suffix conjugation has *i or *u in the stem is lexically determined. These forms are reflected in Biblical Hebrew as *yiḵbå̱ḏ*, *kå̱bå̱ḏ*, and *ʿåmoq*. The occurrence of *-a-prefixes with fientive stems and *-i-prefixes with stative stems is known as the Barth–Ginsberg Law. An additional difference between fientive and stative roots is found in the participle: whereas fientive G-stems form both the active participle *qāṭilum > *qoṭel* 'killing (m.sg.)' and the passive participles *qaṭīlum and *qaṭūlum > *qå̱ṭul* 'killed (m.sg.)', stative roots form what we may call a stative participle on

[10] Fientive roots also had prefix conjugation stems like *-qṭal- if the second or third radical was a guttural.

the same base as the suffix conjugation, e.g. *kabidum > *kå̱be̱d̲* 'heavy (m.sg.)', *ʿamuqum > *ʿåmoq* 'deep (m.sg.)'.

The N-stem (Hebrew *nip̄ʿal*) is formally marked by a prefixed *n(a)-. Semantically, it is mediopassive, expressing a range of meanings where the subject is the patient of the verb, e.g. passive, medial, and reciprocal; additionally, it forms ingressives of stative roots. The stem of the suffix conjugation is *naqṭal- > *niqṭal*. The stem of the prefix conjugations is *-nqaṭil-; as is the case with stative G-stem verbs, the prefix vowel is *-i-, resulting in forms like *yi-nqaṭil-u 'he will be killed'. As *n regularly assimilates in Hebrew, the imperfect is reflected as *yiqqåṭel*. The participle may either be reconstructed as *munqaṭilum, as reflected in Akkadian and Arabic, or *naqṭalum, as reflected by Biblical Hebrew *niqṭål*.

The D-stem (Hebrew *piʿel*) is marked by gemination of the second radical in all forms. It expresses a range of different meanings, mainly transitive. The stem of the suffix conjugation is *qaṭṭil-, and the same stem is used for the prefix conjugations; Biblical Hebrew has two separate stems, perfect *qiṭṭel* besides imperfect *yqaṭṭel* (with a reduced prefix vowel). It is unclear whether the Proto-Northwest-Semitic prefix vowel should be reconstructed as *-u-, the form inherited from Proto-Semitic (i.e. *yu-qaṭṭil-u), or as *-a-, which is somewhat supported by evidence from Ugaritic and Hebrew (i.e. *ya-qaṭṭil-u; see Suchard forthcoming). The participle is formed with the prefix *mu- and the stem of the prefix conjugation, yielding *muqaṭṭilum > *mqaṭṭel*.

The C-stem (Hebrew *hip̄ʿil*; alternatively Š-stem or H-stem, based on the prefixes) most commonly expresses a causative meaning. The most probable reconstructions are *haqṭil- (from older *saqṭil-) for the stem of the suffix conjugation and *-saqṭil- for the stem of the prefix conjugations; the Biblical Hebrew forms are perfect *hiqṭil* and imperfect *yaqṭil*. In this stem, Biblical Hebrew still has a separate form for the jussive when not followed by suffixes, *yaqṭel*. The reconstructed prefix vowel is the same as that of the D-stem, and similarly, the participle is to be reconstructed as *musaqṭilum > *maqṭil*.

All of these stems, except for the N-stem, could give rise to further derivation. The so-called internal passive stems (sometimes called Gp, Dp, and Cp; Hebrew passive *qal*, *puʿal*, and *hɔp̄ʿal*) are not marked by affixes, but express their passivity through a different vowel pattern. The Gp prefix conjugation can be reconstructed as *yu-qṭal-u 'he will be killed'; other forms are uncertain. See table 2.11 for the Biblical Hebrew forms. Additionally, reflexive or reciprocal meanings can be expressed by the *t-stems*, formed with a *t which was either infixed after the first

radical (Gt, Ct) or prefixed before it (tD). Again, the precise reconstructions are uncertain. Only one t-stem occurs in Biblical Hebrew, the *hiṯpaʿel*: its perfect is formed like *hiṯqaṭṭel*, imperfect *yiṯqaṭṭel*.

The principal parts of the paradigms of the derived stems in Proto-Northwest-Semitic and Biblical Hebrew are given in table 2.11.

Weak verbs

The forms discussed so far are those of the *strong* verb, which has three consonantal radicals that are present in all forms. Verbs with only two radicals (sometimes only one) in part or all of the paradigm are called *weak*.[11] How these verbs should be reconstructed is highly controversial; some possible conclusions on the matter will be given in chapter 9. Categories of weak verbs will be referred to by their weak radical, with I referring to the first radical, II to the second, and III to the third. There are seven categories of weak verbs in Biblical Hebrew: I-ʾ, I-y (historically I-w for the largest part; Proto-Central-Semitic *w has changed to Proto-Northwest-Semitic *y in word-initial position), I-n, II-wy or *hollow* verbs (with no synchronic second radical, but sometimes reconstructed with *w or *y), II=III or *geminate* verbs (where the second radical is identical to the third), III-wy, and III-ʾ.

2.2.5 Particles

In Semitic grammar, the term *particles* is used to cover all parts of speech that are not declined or conjugated.

Prepositions can occur with suffixes or before nouns, which were then in the genitive in Proto-Northwest-Semitic. Some prepositions, which are usually reconstructed as ending in *-a, change this ending to *-ay before pronominal suffixes, resulting in interchanges like Biblical Hebrew *ʿal* (< *ʿala) ‘on’ besides *ʿălêḵå* (< *ʿalayka) ‘on you (m.sg.)’. Three very frequent prepositions are proclitically attached to the following noun: they are *bV- > *b*- ‘in, with’, *lV- > *l*- ‘to’, and *kV- > *k*- ‘like’, showing reflexes of both *i and *a in various West Semitic languages; the Biblical Hebrew forms have all generalized *a. In most attested Northwest Semitic languages, including Hebrew, their reflexes are written as one word with

[11] Thus, contrary to the usage in Germanic linguistics, strong verbs are the norm, while weak verbs form a number of differently inflected subclasses.

Table 2.11: Verbal stems

PNWS	G fientive	G stative	D	C
perfect	*qaṭala	*kabida	*qaṭṭila	*haqṭila
imperfect	*yaqṭulu	*yikbadu	*yVqaṭṭilu	*yVsaqṭilu
participle	*qāṭilum	*kabidum	*muqaṭṭilum	*musaqṭilum
BH	fientive *qal*	stative *qal*	*piʿel*	*hip̄ʿil*
perfect	*qåṭal*	*kåb̲eḏ*	*qiṭṭel*	*hiqṭil*
imperfect	*yiqṭol*	*yik̲baḏ*	*yqaṭṭel*	*yaqṭil*
participle	*qoṭel*	*kåb̲eḏ*	*mqaṭṭel*	*maqṭil*
PNWS	Gp	N	Dp	Cp
perfect	*quṭVla	*naqṭala	*quṭṭVla	*huqṭVla
imperfect	*yuqṭalu	*yinqaṭilu	*yuqVṭṭalu	*yusVqṭalu
participle	*qaṭīlum, *qaṭūlum	*naqṭalum or *munqaṭilum?	*muqVṭṭalum	*musVqṭalum
BH	passive *qal*	*nip̄ʿal*	*puʿal*	*hɔp̄ʿal*
perfect	*quṭṭal*	*niqṭal*	*quṭṭal*	*hɔqṭal*
imperfect	*yɔqṭal*	*yiqqåṭel*	*yquṭṭal*	*yɔqṭal*
participle	*qåṭul*	*niqṭål*	*mquṭṭål*	*mɔqṭål*
PNWS	Gt		tD	Ct
perfect	*qtaṭVla?		*taqaṭṭVla	*staqṭVla?
imperfect	*yiqtaṭVlu		*yVtqaṭṭVlu	*yVstaqṭVlu
participle	*muqtaṭVlum		*mutqaṭṭVlum	*mustaqṭVlum
BH			*hiṯpaʿel*	
perfect			*hiṯqaṭṭel*	
imperfect			*yiṯqaṭṭel*	
participle			*miṯqaṭṭel*	

the noun they govern. Another important preposition in Biblical Hebrew is *ʾeṯ*, the so-called *nota objecti*, which marks definite direct objects. Its reconstruction is uncertain.

Some adverbs can be reconstructed for Proto-Northwest-Semitic, the most important ones being the negative adverbs *lā (used with all verbal tenses but the jussive) and *ʾal (used with the jussive) 'not'. Presumably, nouns in the accusative could also be used adverbially, e.g. *yawmam 'by day'. An adverbial ending *-åm* occurs on a few words in Biblical Hebrew, e.g. *yomåm* 'by day', although it is questionable whether it is related to the old accusative ending.

Two existential particles are used in non-verbal sentences. The reconstruction of the affirmative one, Biblical Hebrew *yeš*, is not completely certain, possibly *yiṯ(ay) or similar. It indicates the presence or existence of one or more things, like French *il y a* or German *es gibt*. The negative existential particle, Biblical Hebrew *ʾen*, can securely be reconstructed as *ʾayna. It is also used to negate non-verbal sentences.

Finally, there are a number of conjunctions, the most important coordinating conjunctions being *wa-[12] > *w-* 'and', *pa- 'and, so' (not reflected in Biblical Hebrew), and *ʾaw > *ʾo* 'or', and the most important subordinating conjunctions being *ʾim(ma) > *ʾim* 'if' and *kī > *ki* 'that, when, if'.

[12] One of the few exceptions to the sound change of initial *w- > *y-, possibly for prosodic reasons.