CHAPTER 3

PROTO-SEMITIC

John Huehnergard

1 INTRODUCTION

This chapter presents, in cursory form, a reconstruction of Proto-Semitic (PS) phonology, morphology and syntax. As is well known, linguistic reconstruction is often necessarily speculative, and also something of an art form; and so, while the research of many scholars is taken into account in what follows, this summary must in the end be subjective and represent my own opinions, although I hope it portrays a consistent and coherent view of the ancestor of the Semitic languages. A guiding principle has been that a reconstructed PS form must normally be based on evidence from both East and West Semitic.

Proto-Semitic undoubtedly comprised dialects, like all languages, but such distinctions and their distribution are usually not recoverable, and so our reconstruction here is more monolithic than the language actually was. For the internal subgrouping of the Semitic language family and a survey of the individual Semitic languages, see Chapter 1, §2. As noted in §1 of Chapter 1, since there is evidence for the split between East and West Semitic already in the first half of the third millennium, Proto-Semitic dates to no later than the late fourth millennium.

Note: Throughout this chapter, a final hyphen on a form, as in *bajt- ‘house’, denotes a noun base without a case ending (for which see §3.3.2.4).

1.1 Writing

As a reconstructed linguistic entity, of course, PS is unwritten. A brief overview of Semitic writing systems appears in Chapter 1, §3.

2 PHONOLOGY

2.1 Consonants

Proto-Semitic is traditionally reconstructed with 29 consonants, all of which are preserved in the inscriptive Ancient South Arabian languages such as Sabaic (see Chapter 13). There is good evidence, however, for a 30th consonant, a glottalic velar (or uvular) fricative, *x’ (or *χ’), which merged with *x in East Semitic and with *h in West Semitic (Huehnergard 2003). As can be seen in Table 3.1, many of the consonants occur in triads of a voiceless, a voiced and a third member. The reflexes of the third members of the triads are pharyngealized or uvularized in Arabic (and the reflex of *k’ is the uvular q), but they are glottalic/ejective in the Ethiopian Semitic languages (see Chapters 6–10) and in Modern South Arabian languages such as Mehri (Chapter 11); there is also evidence that their reflexes were glottalic in some of the ancient languages, such as Akkadian and
Hebrew (Cantineau 1951–52, Faber 1980, Steiner 1982, Kogan 2011a), and so it is likely that they were glottalic in the proto-language as well, and underwent pharyngealization in the history of Arabic (Zemánek 1996).

The PS triad of fricative laterals – *ɬ, *l and *(t)ɬ’ – is now well established (Steiner 1977; see also Voigt 1992). The PS consonants reconstructed as affricates are simple fricatives in most of the descendant languages, but, again, their affricated nature in the proto-language is suggested by features of Akkadian and Hebrew phonology (Steiner 1982; Faber 1985). The voiceless non-glottalic plosives were probably aspirated when syllable-initial. The fricative *s may have had a palatalized allophone in some environments, since its reflex is a palatal [ʃ] in several of the languages (Babylonian Akkadian, Hebrew, Aramaic, Jibbāli), rather than [s] as in Assyrian Akkadian, Arabic and Ethiopian Semitic.³

The reflexes of the PS consonants in a representative sample of Semitic languages appear in Table 3.2.

All of the consonants could be geminated. This is also the case in some of the descendant languages, although in some, such as early Aramaic and Hebrew, the laryngeals and pharyngeals may not be geminated.

There is marked tendency for the consonants of Semitic verbal roots (§3.2) to remain phonologically consistent. Thus, conditioned sound changes that would affect only some forms of a root are often blocked by paradigmatic pressure, so that the root continues to exhibit the same consonant phonemes in all forms. Less frequent, but also well attested, is the opposite development, where a conditioned sound change spreads analogically to other forms of a root in which the conditioning factor is not operative (Huehnergard 2013). The following phonological processes involving the consonants may be observed in Proto-Semitic:

*w assimilated to a following dental-alveolar stop: e.g., *ja-t-wabal (3-RECP-carry. p̱cs) > *jawtabal (metathesis; see §3.5.5) > *jattabal ‘he carried along’. Reanalysis of the product of this change occasionally resulted in byform roots in some languages, e.g., both wabaːlum and tabaːlum ‘to carry’ in Akkadian (Huehnergard 2006a, 2014a). For other changes involving *w and the palatal glide *j, see under Vowels (§2.2).

Regressive assimilatory voicing and devoicing of consonants occasionally resulted in byform roots and seemingly irregular correspondences among cognates. For example, the p̱cs forms (§3.5.2) of the PS roots *b-k’-r ‘to pierce, split’ and *p-k’-r ‘to want, need, claim’, viz., *jabk’ur and *japk’ur, could apparently be pronounced the

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TABLE 3.1 THE PROTO-SEMITIC CONSONANTS; THE TRADITIONAL SEMITISTIC REPRESENTATIONS APPEAR IN PARENTHESES AFTER THE IPA

<table>
<thead>
<tr>
<th>Bilabial</th>
<th>(Inter-)Dental</th>
<th>Dental-Aveolar</th>
<th>Palatal</th>
<th>Velar/Uvular</th>
<th>Pharyngeal</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plosive</td>
<td>p (p) b (b)</td>
<td>t (t) d (d) t’ (t̥)</td>
<td>k (k) g (g) k’ (k̥/q)</td>
<td>? (’,’)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nasal</td>
<td>m (n)</td>
<td>n (n)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trill</td>
<td>r (r)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fricative</td>
<td>θ (θ) s (s) x/χ (x̣)</td>
<td>θ’ (θ̣/ẓ) s (s)</td>
<td>x̣/θ̣ (x̣)</td>
<td>h (h)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affricates</td>
<td>ṯs (s) ḏz (z) ṯs’ (ṣ)</td>
<td></td>
<td></td>
<td>h (h)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lateral</td>
<td>w (w)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>j (y)</td>
</tr>
</tbody>
</table>

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³ The reflexes of the PS consonants in a representative sample of Semitic languages appear in Table 3.2.
same, [jap’kur]; reanalysis and the tendency for root integrity, noted above, yielded byforms, one with initial *b and one with initial *p, of both original roots, reflexes of which appear throughout the descendant languages (Huehnergard 2014b).4

After East Semitic broke away from the parent language, most of the remaining family underwent a change of prevocalic *s > *h in forms such as the 3rd-person pronouns, as in independent *siʔa > *hiʔa ‘she’ and suffixal *-su > *-hu ‘his’ (see §3.1.1); the adverbial ending *-isa, as in *bajit-isa > *bajit-ihu (house-dir) ‘to the house’ (§3.3.2.4, end); and the causative marker *s, as in *tu-sa-slij > *tu-ha-slij (2-caus-ascend.pcs) ‘you sent up’ (§3.5.5). This may be viewed as an incipient change affecting high-frequency, low-stress function words (and the close grammatical relatives of such words), which are known to undergo sound changes before other word classes do (Phillips 1983);5 but further spread of the change was

### TABLE 3.2 REFLEXES OF THE PROTO-SEMITIC CONSONANTS IN SOME OF THE MAIN DESCENDANT LANGUAGES; THE SEMITIC REPRESENTATIONS ARE GIVEN IN PARENTHESES

<table>
<thead>
<tr>
<th>Proto-Semitic</th>
<th>Akkadian (Babylonian)</th>
<th>Goʾez (Classical Ethiopic)</th>
<th>Mehari</th>
<th>Sabaric (Arabic)</th>
<th>Ugaritic</th>
<th>Hebrew (Biblical)</th>
<th>Aramaic (Syriac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>?</td>
<td>؟ (ʔ)</td>
<td>Ø (Ø)</td>
<td>? (ʔ)</td>
<td>? (ʔ)</td>
<td>Ø (Ø)</td>
<td>? (ʔ)</td>
<td>? (ʔ)</td>
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<tr>
<td>ʕ</td>
<td>ʕ (ʕ)</td>
<td>ʕ (ʕ)</td>
<td>? (ʔ)</td>
<td>? (ʔ)</td>
<td>? (ʔ)</td>
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<tr>
<td>b</td>
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<td>ŋ</td>
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<tr>
<td>r</td>
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<tr>
<td>s</td>
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<td>w</td>
<td>w (w)</td>
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</tr>
<tr>
<td>x’/χ</td>
<td>x (x)</td>
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</tr>
<tr>
<td>x’/χ’</td>
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<tr>
<td>x’/χ’</td>
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</tr>
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</table>

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blocked in most verbal and nominal roots, again because of the pressure, noted earlier, for roots to remain consistent across paradigms.\(^6\) Assimilation of \(n\) to a following consonant is a regular feature of several of the languages, such as Akkadian, Ugaritic and Hebrew, and is also attested in later Sabaic and in the earliest GoSele inscriptions (but not in later Ethiopian Semitic); it may therefore have been an ancient dialectal feature or an areal phenomenon (Sanmartín 1995, Steiner 2012: 380–1).


2.2 Vowels

For PS a reconstruction of three short vowels, \(*a, *i, *u\), and three corresponding long vowels, \(*aː, *iː, *uː\), is uncontroversial. This system is preserved unchanged in Classical Arabic. In most of the other languages, various developments have obscured the original system to a greater or lesser extent. In GoSele, for example, the two short high vowels merged to a central \(ǝ\) (IPA \([ɨ]\)), as in bǝrk ‘knee’ < *birk-, ʔǝzn ‘ear’ < *ʔudn-. In many dialects of Akkadian, a fourth vowel quality, short \(e\) and long \(eː\), achieved phonemic status, as in Old Babylonian egrum ‘twisted’ < *ħagrum vs. igrum ‘hire’ < *ʔigrum vs. agrum ‘hired’ < *ʔagirum. In Hebrew, the short vowels were sometimes preserved, sometimes reduced, sometimes lowered or backed, depending on syllable structure and word stress. In most of the languages, the long vowels remained largely unchanged, although a diagnostic feature of Canaanite languages is the change of \(*aː\) to \(*oː\).

There are no diphthongs in the usual sense of a sequence of two vowels (see the next section on syllable structure), but the sequences \(*aj\) and \(*aw\) are often referred to as diphthongs in Semitic studies, and often undergo simplification to long vowels (e.g., \([ɛ:]\) and \([o:]\), respectively) in the descendant languages. The sequences \(*ij\) and \(*uw\) are generally equivalent phonetically to \(*i:\) and \(*u:\), respectively, in the descendant languages and presumably so also in PS (thus, e.g., the Hebrew form rūm ‘height’ < *ruːm- ~ *ruwm- has the same historical pattern, \(CvC.CC\), as ʔōmeq ‘depth’ < *ʔumk-). The sequences \(*iw\) and \(*uj\) were unstable, also tending to become \(*i:\) and \(*u:\), respectively (e.g., \(*t’uːb- ‘good-\)ness’ < *t’ujb-), unless preserved by paradigmatic pressure.

The sequences \(VwV\) and \(VjV\) were sometimes unstable, tending to reduce to a single vowel. The following developments, for example, may be posited already for PS: ‘awa, ‘aja > a/\(CV\), but a’wa > u and a’ja > i/\(CC\), as in \(*t’ajab-u:\) > \(*t’a:b-u:\) (good-3mpl) ‘they (m) are good’ but \(*t’aːjab-ta > *t’iːb-ta (good-2MSG) ‘you (MSG) are good’ (Huehnergard 2005: 176–8). It is likely that \(CwV_i\) and \(CjV_j > CV_j\) in PS (unless preserved by paradigmatic pressure), as in *ja-kwun-u:\ > *ja-kuːn-u:\ (3-stable.pcs-mpl) ‘they (m) became stable’, *ja-liːm-u:\ > *ja-liːm-u:\ (3-set.pcs-mpl) ‘they (m) set’.

2.3 Syllable structure and stress

PS has only three syllable types: short \(CV\), and long \(CV\) and \(CVC\). Thus, syllable-initial and syllable-final consonant clusters are not permitted, nor are sequences of vowels. Long vowels do not occur in closed syllables; when a long vowel would arise in a closed syllable through some phonological process, it is shortened; for example, the 3MSG form corresponding to 3mpl \(*faliːmu:\) (see end of preceding paragraph) is \(*ja-lim\ (3-set.pcs)
'he set', with short i. The restrictions on syllable types are overridden in various ways in most of the descendant languages, although Classical Arabic, for example, preserves the original syllable structure to a large extent (exceptions being long vowels before geminated consonants, as in the participial form maːd.dun ‘extending.MSG.NOM’ < *maː.di.dun).

Classical Arabic and Akkadian exhibit essentially the same assignment of word stress, which may therefore also be posited for PS, and is non-phonemic: stress falls on the right-most long syllable other than the final syllable: *ˈwaː.θi.bum ‘sitting.MSG.NOM’, *waː.θib.tum ‘sitting.FSG.NOM’, *waː.θi.ˈbaː.tum ‘sitting.PFL.NOM’. Words with no long syllables are stressed on the first syllable: *ˈwa.pa.rum ‘dust.NOM’. Bound form nominals (“construct forms”; §3.3.2.3) were morphosyntactically proclitic to their dependents and thus unstressed; a PS rule of vowel syncope probably affected such unstressed forms, e.g., nonbound *wa.ri.xum vs. bound *war.xu ‘month.NOM’, though the effects of this rule are frequently diminished by analogical leveling (Steiner 2012). There is probably also a narrower PS rule of vowel syncope, a > ∅/aC1 _ C1V, as in *k'alalum > *k'allum ‘small.NOM’.

3 MORPHOLOGY

3.1 Pronouns

3.1.1 Personal pronouns

In the Proto-Semitic personal pronouns, as in most of the early descendant languages, the 2nd and 3rd persons have singular, dual and plural forms (Table 3.3); the singular and plural have distinct masculine and feminine forms, while the dual forms are common gender. 1st person forms are common gender (glossed as 1c); a 1st person dual occurs in a few of the descendant languages (Ugaritic, Modern South Arabian) but cannot be reconstructed to PS.

For 1csg, most of the descendant languages have only one of the forms shown in Table 3.3 (*ʔana in Gəʕəz, Arabic, Aramaic and others; *ʔanaːku in Akkadian, Phoenician, and others), but Ugaritic and ancient Hebrew attest both. The apparent base *ʔan- in 1csg and the 2nd person forms is of uncertain origin and meaning. The endings of most of these forms (2msg *-ta, 1pl *-nu, etc.) also appear on the base of verbal adjectives in a predicative construction, for which see §3.5.4.

The dual forms are obviously derived from the mpl forms, with the addition of endings that are also found on dual nominals (nom *-aː; gen/acc *-aːj) and dual verbs (marked with *-aː).

| TABLE 3.3 PROTO-SEMITIC INDEPENDENT PERSONAL PRONOUNS* |
|---------------|---------------|---------------|
| SINGULAR       | DUAL          | PLURAL        |
| 1c             | ʔana, ʔanaːku |               |
| 2m             | ʔanta         |               |
| 2f             | ʔanti         | ʔantumaː /    |
| 3m             | suʔa          | sumaː /       |
| 3f             | siʔa          | sumaj         |

*Bound form nominals (“construct forms”; §3.3.2.3) were morphosyntactically proclitic to their dependents and thus unstressed; a PS rule of vowel syncope probably affected such unstressed forms, e.g., nonbound *wa.ri.xum vs. bound *war.xu ‘month.NOM’, though the effects of this rule are frequently diminished by analogical leveling (Steiner 2012). There is probably also a narrower PS rule of vowel syncope, a > ∅/aC1 _ C1V, as in *k'alalum > *k'allum ‘small.NOM’.
In the 2/3pl forms, the optional endings *-uː/-aː: derive from predicative 3rd person endings (see §3.5.4). In Central Semitic languages, the 2/3fpl forms alternatively have *-na instead of *-aː: (i.e., *ʔantin(na) and *sin(na)), where *-na is borrowed from the 2/3fpl ending of the PS prefix conjugation verbs (§3.5.3).

The forms in Table 3.3 are nominative; they function as the subjects of verbless clauses, and to topicalize or contrast the subjects of verbal clauses. For the 3rd person, there is also a set of gen/acc (or obl) forms, characterized by an enclitic *-tiː (Table 3.4). The 3rd person forms probably originated as demonstratives (see §3.1.2). Closely related to the independent personal pronouns is a set of enclitic pronouns that functioned as genitive when suffixed to nouns and prepositions and as accusative when suffixed to verbs (Table 3.5). Distinct genitive and accusative forms existed for the 1st person but not for the 2nd and 3rd.

### 3.1.2 Demonstratives

A base *ʔvl- forms a remote demonstrative in Akkadian, but the plural of a proximal demonstrative throughout West Semitic; the former probably reflects the PS situation. The proximal demonstrative in Akkadian has a base *hanni-, which is derived from a presentative particle *han (see §3.10); this was replaced in West Semitic by a demonstrative derived from the relative marker *θvː (see the following section). Throughout Semitic (apart from Arabic), the 3rd person pronouns, both nom and gen/acc, also serve as anaphoric-distal demonstratives, which was probably their original function:

\[
\begin{align*}
\text{*ʔin } & \text{ bajt-im } \text{ suʔaːtiː} \\
\text{in house-GEN } & \text{ DEM,GEN/ACC} \\
\text{in that house}. \\
\end{align*}
\]

Thus, PS probably exhibits a three-way contrast in deixis (Huehnergard and Pat-El 2018).
### 3.1.3 Relative marker

The PS relative marker (Table 3.6) is a bound form (§3.3.2.3) that can serve as the head of a noun phrase, a verb phrase or a prepositional phrase (Pat-El and Treiger 2006). It is declined for gender and number, agreeing with its antecedent in all features but state. (The initial consonant of the relative marker is voiceless *θ* in Akkadian, but voiced *ð* in West Semitic; the PS form probably had voiceless *θ* [Huehnergard and Pat-El 2018].)

\[
\begin{align*}
\text{NOMINATIVE} & : \theta u : & \theta a : t u \\
\text{GENITIVE} & : \theta i : & \theta a : t i \\
\text{ACCUSATIVE} & : \theta a : & \theta a : t a \\
\text{NOMINATIVE} & : \theta a w a : & \theta (aw)a : t u \\
\text{GEN/ACC} & \theta a w a j & \theta (aw)a : t a j \\
\text{NOMINATIVE} & : \theta a w u : & \theta a w a t u \\
\text{GEN/ACC} & \theta a w i : & \theta a w a t i \\
\end{align*}
\]

Source: Huehnergard (2006b).

### 3.1.4 Interrogative and indefinite pronouns

For ‘what?’, East Semitic and Ethiopian Semitic indicate a base *min-* (Akkadian *mi(f)n*-um ‘what?-nom’; Amharic *min*); the Central Semitic languages, however, have instead *mah-*. For ‘who?’, most of the languages have a reflex of *mann-* (Akkadian *mann*-um ‘who?-nom’; Amharic *mann*-in who?-acc = ‘whom?’), although Ugaritic and Canaanite exhibit *mijj-*. These forms were probably declined like singular nominals, as they were in Akkadian and Eblaite. Another PS base, *ʔajj-*, is adjectival, ‘which?’.

A common Semitic interrogative adverb is *mataj* ‘when?’.

Indefinite pronouns may have been formed by adding an enclitic *=ma* (see §3.10) to the interrogatives (as in East Semitic, Amharic, Ugaritic); e.g., *min-um=ma* (what?-nom=encl) ‘whatever, anything’.
3.2 Nominal and verbal roots

Most nouns and verbs in PS exhibit nonconcatenative morphology; that is, they consist of roots comprising invariable sequences of consonants (called the radicals of a root), over which are laid patterns – templates – that furnish the morphology of words. The patterns may be simple vowel melodies, such as a . . . i, but they may also exhibit gemination of the second or third radical or a prefixal or suffixal element or a combination of these. Forms of the root *s-l-m ‘(to be) whole’ illustrate some of these possibilities:

*salim-at-um ‘whole-f-nom’ (adjective)
*salaːm-um ‘wholeness-nom’ (substantive; an infinitive pattern)
*ti-slam-iː (2-whole,pcs-fsg) ‘you became whole’
*nu-sallim (1pl.-whole, fact,pcs) ‘we made whole’

The vast majority of verbs in PS are based on roots of three consonants, like *s-l-m. Internal reconstruction on the basis of PS forms, however, indicates that roots of two consonants occurred at an earlier stage. For example, some forms of certain roots with first radical w, such as *w-r-d ‘to descend’, lack the initial w, as in *ja-rid (3-descend, pcs) ‘he descended’ and the verbal noun *rid-at- (descend, inf-f) ‘descent’.10 Further, some roots exist as byforms, with the third radical either a glide or a reduplication of the second radical, as in *r-b-j ~ *r-b-b ‘(to be) great’. Finally, some of the languages exhibit roots with two radicals reduplicated, as in Arabic z-l-z-l ‘to shake’. (Biradical roots are more common in other Afro-Asiatic languages.)

A few roots with four discrete radicals occur in most of the descendant languages, such as Akkadian b-l-k-t ‘to jump’, Gǝʕəz d-n-g-s ‘to be dismayed’; as in these examples, the second radical is frequently a sonorant. Most such roots are restricted to a single language or subgroup, and so it is difficult to reconstruct any of them to the proto-language.

There are certain phonological constraints on the constituents of a root: while roots with identical second and third radicals are common, such as *m-d-d ‘to measure’, roots with identical first and second radicals cannot be reconstructed to the proto-language (rare examples are found in some languages, but they are the result of later developments; e.g., Gǝʕəz s-s-l ‘to recede’ < *s-l-s-l), and roots with identical first and third radicals are rare.11 Further, homorganic consonants are generally not found as adjacent radicals (Greenberg 1950).

3.3 Nominals

Across Semitic, most adjectives, like *salim-at-um, are associated with verbal roots. Many substantives, too, like *salaːm-um, may be said to derive from verbal roots. The patterns of such adjectives and substantives are sometimes salient. C’aC2VC3, for example, as in *salim-, is a common verbal adjective that tends to be resultative: *nəθ’ir-‘guarded’ from *n-θ’-r ‘to guard’; *waθib- ‘seated’ from *w-θ-b ‘to sit’. The pattern C’aC3a:C2, as in *salaːm-, is a common verbal substantive, used as an infinitive in several of the descendant languages. A listing of some of the reconstructible patterns is presented in §3.3.1. In the descendant languages, the semantic ranges of many patterns shifted, and some patterns were replaced by others, or merged; it is therefore often not possible to reconstruct whole deverbal noun forms to the proto-language with certainty, but rather only roots and patterns (Fox 2003: 68).
There are also, however, many substantives that are primary, not associated with a verbal root (although a root may be extracted from such substantives, to create a denominal verb), and not necessarily triradical. Unlike many deverbal nouns, primary nouns can be reconstructed to the proto-language in toto. Examples are parts of the body, such as *`raʔs-‘head’, *ʕajn-‘eye’, *`anp-‘nose’, *jad-‘hand’; kinship terms, such as *`abw-‘father’, *`imm-‘mother’, *bin-‘son’, *`aww-‘brother’; features of the physical world, such as *`arɬ-‘earth’, *`abn-‘stone’, *nahar-‘river’, *tihaːm-‘sea’, *ʕiɬ-‘tree’, *daθʔ-‘grass’, *jawm-‘day’, *warix-‘month’, *san-at-‘year’; some color terms, such as *laban-‘white’, *waruk-‘yellow-green’. Extensive lists are provided in Fox (1998) and Kogan (2011b).

3.3.1 Deverbal noun patterns

The following list is not intended to be comprehensive. As noted in the preceding section, the semantic ranges of some patterns changed in the descendant languages, and so those posited for the proto-language are in some cases speculative.

\(C_1VC_2C_3\) forms tend to be substantives. \(C_1aC_2C_3\) forms are extremely common, and not generally classifiable semantically (and many \(C_1aC_2C_3\) forms are primary substantives), e.g., *`ab-‘burial, grave’ from *`b-r ‘to bury’. \(C_1C_2C_3\) and \(C_μC_2C_3\) forms are often substantives of action or result: *`iḥb-‘sacrifice’ from *`b-h ‘to sacrifice’; *`urk-‘length’ from *`r-k ‘(to be) long’.

\(C_1aC_2V:C_3\), with a short second vowel, is a productive verbal adjective, as noted above; besides *salim-‘whole’, other examples are *jasar-‘straight’ from *s-r ‘(to be) straight’; *maliʔ-‘full’ from *m-l-ʔ ‘to fill’; *k’arub-‘near’ from *k’-r-b ‘to approach; (to be) near’ (see also §3.5.4). Other \(C_1aC_2VC_3\) forms are substantives, such as Gəʕəz nägär < *nagar-‘speech’.

\(C_1aC_2V:C_3\). The pattern \(C_1aC_2a:C_3\), as also noted previously, is a common verbal noun or infinitive in languages that are separated widely enough within the family that it can be reconstructed to PS. \(C_1aC_2C_3\) and \(C_μC_2C_3\) forms are relatively rare in Akkadian; in West Semitic languages, however, they are common as verbal adjectives, forming the paradigmatic passive participle of the basic verb stem, for example, in Aramaic (\(C_1aC_2:C_3\)), in Hebrew (\(C_1aC_2u:C_3\)) and in Gəʕəz (\(C_1C_2C_3< *C_1uC_2u:C_3\)).

\(C_1uC_2a(ː)C_3\) and \(C_μC_2a(ː)C_3\) are uncommon patterns for substantives, such as Gəʕəz ʕǝbäy < *ʕibay-‘greatness’ and Hebrew nēḫār < *nikar-‘foreignness’; *riḥaːb-‘wide area’ from *r-ḥ-b ‘(to be) wide’ is Proto-West Semitic, and *ʔunaːs-‘person’ is Proto-Central Semitic (and may be a primary noun).

Patterns with two high vowels are not reconstructible, with the exception of two u vowels, i.e., \(C_μC_2(C_1u(C_2u)C_3)\). \(C_μC_2u(C_3)\) forms are substantival, e.g., *lubuːs-‘clothing’ from *l-b-s ‘to wear’; \(C_μC_2u(C_3)\) is also a common pattern for plurals in Arabic (§3.2.2.2).

\(C_1a:C_2C_3\), the active participle of the basic verb stem in PS (§3.5.4), is the only pattern reconstructible with a long vowel in the first syllable.

Patterns with gemination of the second radical are common. In Akkadian, e.g., \(C_1aC_2C_3\) adjectives are marked for plurality or high salience, such as kabbār-‘thick’ (cf. kabar-‘thick’; Kouwenberg 1997: 49–58). But \(C_μC_2C_3a(ː)C_3\) also forms
agent nouns throughout Semitic, such as *dajja(ː)n- ‘judge’ from *d-j-n ‘to judge’ and *t’abba(ː)x- ‘butcher’ from *t’-b-x ‘to slaughter’. C.jarC.eC.gC.f forms are often adjectival, as in Akkadian gubbuḫ- ‘bald’ and Hebrew šikkōr < *sukkur- ‘drunk’.

Patterns with a geminated third radical may also be reconstructed, viz., C.jarC.eC.gC.f (V = short a, i, or u), C.jarC.eC.g and perhaps C.jarC.eC.g. In Hebrew, C.jarC.eC.g is common for color adjectives, such as ḥādōm < *ḥammad ‘red’, while in Akkadian it is used for numinous qualities, as in rašubb- ‘awe-inspiring’; these are associated with a derived stem of the verb that also geminates the third radical (R stem; see §3.5.5).

C.jarC.eC.gC.f forms are often adjectival, as in Akkadian gubbuḫ- ‘bald’ and Hebrew šikkōr < *sukkur- ‘drunk’.

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C.jarC.eC.gC.f is more often substantival, especially for abstracts: Akkadian ḥubull- ‘debt’, Hebrew ḥănukkå̄ < *ḥunukk-at- ‘dedication-FSG’, Arabic ḥubull ‘company’.

There are also patterns with prefixes, the most common of which is *ma-. *maC.jarC.eC.gC.f forms are generally substantives, with a wide range of meanings; examples are *majasar- ‘equity’ from *j-s-r ‘(to be) straight’; *maʕrab- ‘entry’ from *ʕ-r-b ‘to enter’. The prefix *mu- marks the participles of most of the derived verb stems (see §3.5.5). Other pattern prefixes are *ta-, as in *tarbij-t- ‘increase-FSG’ from *r-b-j ‘to be(come) large’; and *ʔa-, which is common in plural forms (see §3.3.2.2) and also, in Central Semitic, as a comparative or augmentative, as in Arabic ṭakbar- ‘greater, very great’ from *k-b-r ‘(to be) great’.

3.3.2 Noun inflection

3.3.2.1 Gender

Nouns in all Semitic languages have two genders, masculine and feminine. In the singular, the masculine noun is generally unmarked, while most feminine nouns are specifically marked as such. The most common marker of the feminine is an ending *-at added to the noun base: *t’aːb- ‘good’, *t’aːb-at- ‘good-f'; *baʕl- ‘lord’, *baʕl-at- ‘lady’. In most of the descendant languages there is also an allomorph *-t, as in *bin-t- ‘son-f’ ‘daughter’, the result of a PS vowel syncope rule that operated on unstressed forms (§2.3); in some languages, such as Biblical Hebrew and Ugaritic, the resulting distribution of *-at vs. *-t became lexical in part (e.g., Hebrew meʔå̄ < *miʔ-at- vs. Ugaritic /miʔ-t- ‘hundred’; Hebrew sēt < *(t)ɬ'iʔ-t- vs. Ugaritic /(t)s'iʔ-at-/ ‘exit’; see Steiner 2012: 373–5). Other, less common, markers of the feminine, such as *-aj and *aːʔ, are attested in several of the languages. In Arabic and in some Ethiopian Semitic languages, some feminines are formed by pattern replacement, a feature that is more widely associated with the formation of plurals (see §3.3.2.2): e.g., Arabic ṭaʔraçu ‘deaf.m’, t’arçaːʔu ‘deaf.f'; Tigrinya ṭs’abbib ‘narrow.m’, ṭs’abbab ‘narrow.f’. Finally, some feminine substantives in all of the languages are unmarked. These include animate females, such as *ʔimm- ‘mother’ and *ʔataːn- ‘female donkey’; most paired parts of the body,14 such as *ʔuðn- ‘ear’ and *jad- ‘hand’; but also other substantives, such as *ʔarɬ’- ‘earth’. Some nouns are of variable gender in some of the languages, e.g., *ʔurx- ‘road’ (either m or f in Akkadian and Hebrew). A recent survey of gender in Semitic is Hasselbach (2014).

3.3.2.2 Number

Semitic languages exhibit three numbers, singular, dual and plural.

In some languages, such as Old Akkadian, Ugaritic and various forms of Arabic, the dual is productive and used for ‘two’ of anything, with little or no restriction; in other
languages, such as Hebrew, it is restricted to naturally occurring pairs (i.e., ‘hands’ is hand-DU rather than hand-PL) and certain time words (such as ‘two days’); and in still other languages, such as Aramaic and Ethiopian languages, the dual is vestigial. Dual forms are marked with specific endings added to the singular base of the noun; see §3.3.2.4.

The plural can be formed either by external endings added to the singular base, or by pattern replacement, or by a combination of the two. The external endings originally appeared on adjectives, and incorporated plural markers of predication; e.g., *maliʔ-u: (full-3MPL) ‘they (M) are full’ and *maliʔ-u:na ‘full-MPL-NOM’; *maliʔ-a: (full-3FPL) ‘they (F) are full’ and *maliʔ-a:-t-um ‘full-FPL-F-NOM’. Plurals formed by pattern replacement (referred to as “broken plurals” or “internal plurals”) are especially common in (North) Ethiopian Semitic, Modern South Arabian, Ancient South Arabian and Arabic; it is generally not possible to reconstruct pairs of singular and plural patterns to PS: e.g., while Ar ‘house’ is common Semitic *bajt-, PL ‘houses’ is buju:t in Qur’anic Arabic, ṭabbat (< *ṭabja:t-) in Gǝzzarella, and bet in Jibbāli; for other examples, see the individual language chapters. In Akkadian, only relics of such plurals remain, e.g., šuḫarû ‘lads’ < *šu’uγaraːʔu, an old plural of the adjective *šaɣir- ‘small, young’; otherwise, the external plurals have been leveled through all nouns. A shared innovation of the Northwest Semitic languages is the generalization of doubly marked plurals for singulars of the pattern CVCC; such plurals have the form {CVCA + external PL}, as in *kalb-um ‘dog. SG-NOM’, plural *kalab-uːna (dog.PL-NOM); *ʔigl-at-um ‘heifer’ (calf.SG-F-NOM), plural *ʔigal-a:-t-um (calf.PL-F-NOM). On pattern replacement, see especially Ratcliffe (1998); on external plurals, see Hasselbach (2007).

### 3.3.2.3 State and definiteness

In Semitic studies, the term “state” refers to whether a noun is bound, i.e., morphosyntactically proclitic (“in construct”), to a following dependent element, which may be (a) another noun, (b) a pronominal suffix or (c) a clause. In PS (and in several of the descendant languages), a noun not thus bound was specifically marked as such with an ending that followed the case vowel, whereas bound nouns lacked that ending. The marker of nonbound forms originally had two allomorphs, *-m after short vowels and *-na otherwise, as in both Akkadian and Sabaic, languages that are widely separated within the family. Throughout this chapter, bound forms (“construct forms”) are labeled BND.

<table>
<thead>
<tr>
<th><strong>PS</strong></th>
<th><strong>Ar</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>ʕajn-u</em></td>
<td><em>ʕajn-a:</em></td>
</tr>
<tr>
<td><em>ʔanθat-i-m</em></td>
<td><em>ʔanθat-i-m</em></td>
</tr>
<tr>
<td>eye-NOM.BND</td>
<td>eye-DU.NOM.BND</td>
</tr>
<tr>
<td>woman-GEN-NBND</td>
<td>woman-GEN-NBND</td>
</tr>
<tr>
<td>‘the woman’s eye’</td>
<td>‘the woman’s eyes’</td>
</tr>
<tr>
<td><em>ʕajn-u</em></td>
<td><em>ʕajn-a:</em></td>
</tr>
<tr>
<td><em>ʔanθat-i-m</em></td>
<td><em>ʔanθat-i-m</em></td>
</tr>
<tr>
<td>eye-NOM.BND</td>
<td>eye-DU.NOM.BND</td>
</tr>
<tr>
<td>3FSG</td>
<td>3FSG</td>
</tr>
<tr>
<td>‘her eye’</td>
<td>‘her eyes’</td>
</tr>
<tr>
<td><em>ʕajn-u</em></td>
<td><em>ʕajn-a:</em></td>
</tr>
<tr>
<td><em>ʔanθat-i-m</em></td>
<td><em>ʔanθat-i-m</em></td>
</tr>
<tr>
<td>eye-NOM.BND</td>
<td>eye-DU.NOM.BND</td>
</tr>
<tr>
<td>3sg-see.PCS-SBRD</td>
<td>3sg-see.PCS-DU-SBRD</td>
</tr>
<tr>
<td>‘the eye that saw’</td>
<td>‘the eyes that saw’</td>
</tr>
</tbody>
</table>

Neither definite nor indefinite articles can be reconstructed for PS. But 3rd person pronouns, which were anaphoric demonstratives originally (§3.1.2), could function to
indicate definiteness: *bajt-u-su ‘his/that/the house’ (house-NOM.BND-3MSG/DEM; Huehnergard and Pat-El 2012). Several of the descendant languages exhibit no article otherwise (e.g., Akkadian, Gaššu, Ugaritic). In the Central Semitic languages, however, a definite article arose through the grammaticalization of one of two presentative particles, *han and *hal (both are reconstructible, and both were pressed into service as articles; Pat-El 2009, 2017: 449–52). While the eventual form of this new article differs across the languages, its syntax is the same: only the last member of a genitive chain may bear the article; attributive adjectives must bear the article if the head noun is definite (whereas an articulated noun and an unarticled adjective constitute a predication); the article does not appear on words with personal pronominal suffixes; and the article is used to substantivize adjectives (Huehnergard 2005: 184–6; Pat-El 2009: 25). In the Modern South Arabian languages, too, a definite article emerged; there, however, personal pronominal suffixes must be attached to nouns with the article (see Chapter 11). In South Ethio-Semitic languages such as Amharic, the 3sg pronominal suffixes became the normal definite article.

3.3.2.4 Case and declension

The case systems of several of the ancient languages are sufficiently similar that a reconstruction of PS as a three-case language is straightforward: nominative, for subjects and (optionally) for the predicates of verbless clauses; genitive, after bound forms, including all prepositions; and accusative, for objects but also for a wide range of other uses (including predicate marking). Hasselbach (2013), in a thorough review of case in Semitic, both refutes the occasional suggestion that Semitic was at one-time ergative, and argues persuasively “that Semitic was marked-nom before it developed its well-known tripartite declension” (p. 327). The PS case system is illustrated in Table 3.7 with the adjective *t’aːb‑ ‘good’.

As Table 3.7 shows, genitive and accusative constitute a single case in the dual and external plural endings (the resulting case sometimes referred to as OBL).

<table>
<thead>
<tr>
<th>TABLE 3.7 THE PROTO-SEMITIC CASE SYSTEM, ON *T’AːB‑ ‘GOOD’</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SINGULAR</strong></td>
</tr>
<tr>
<td>NOM</td>
</tr>
<tr>
<td>GEN</td>
</tr>
<tr>
<td>ACC</td>
</tr>
<tr>
<td><strong>DUAL</strong></td>
</tr>
<tr>
<td>NOM</td>
</tr>
<tr>
<td>GEN/ACC</td>
</tr>
<tr>
<td><strong>PLURAL</strong></td>
</tr>
<tr>
<td>NOM</td>
</tr>
<tr>
<td>GEN/ACC</td>
</tr>
</tbody>
</table>

Note: Final -m and -na mark nonbound forms; they are absent in bound (“construct”) forms.
Two other endings can be reconstructed to PS, a locative *-u(m) and a directional *-isa (the latter > *-ah(a) in West Semitic), as in *bajt-u(m) ‘in the house’ and *bajt-isa ‘to the house’. These endings are sometimes also considered case markers, but they do not really function as such and are better seen as adverbal endings (Hasselbach 2013: 20–2).

3.4 Numerals

3.4.1 Cardinals

The reconstruction of the PS cardinal numbers is fairly clear-cut, although analogical changes in the descendant languages have made the precise forms of some of them less certain.

<table>
<thead>
<tr>
<th>Numeral</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>*ʕast-</td>
</tr>
<tr>
<td>2</td>
<td>*θin(aː)-</td>
</tr>
<tr>
<td>3</td>
<td>*θalaːθ-</td>
</tr>
<tr>
<td>4</td>
<td>*ʔarbaʕ-</td>
</tr>
<tr>
<td>5</td>
<td>*xamis-</td>
</tr>
<tr>
<td>6</td>
<td>*sidθ-</td>
</tr>
<tr>
<td>7</td>
<td>*sabʕ-</td>
</tr>
<tr>
<td>8</td>
<td>*θamaːnij-</td>
</tr>
<tr>
<td>9</td>
<td>*tisʕ-</td>
</tr>
<tr>
<td>10</td>
<td>*ʕaɬar-</td>
</tr>
</tbody>
</table>

For *ʕast- as the PS form of ‘one’, see Wilson-Wright (2014), who shows that the usual West Semitic form for ‘one’, *waḥad-/ʔaḥad-, originally meant ‘lone’ (as in Akkadian). The f of ‘one’ is *ʕast-aj; the f form of the other cardinals adds *-at to the forms listed previously. A feature of Proto-Semitic numeral syntax is gender polarity (also termed “chiastic concord”): the cardinals from ‘3’ to ‘10’ exhibit the gender opposite that of their heads:

- *ʔarbaʕ-um ʔanθ-aː-t-um *sabʕ-at-um ʔaxx-uːna
  - four(MSG)-NOM woman-FPL-F-NOM seven-FSG-NOM brother.PL-MPL-NOM
  - ‘four women’ ‘seven brothers’

‘Twenty’ is the dual of ‘10’; ‘30’ through ‘90’ are either duals of the corresponding units (Akkadian, Gəʕəz) or external plurals of the units (Central Semitic).

3.4.2 Ordinals

While each Semitic language exhibits a consistent pattern for the ordinals, the patterns vary from language to language, and so a PS pattern cannot be reconstructed (e.g., CaCiC in Assyrian Akkadian but CaCuC in Babylonian Akkadian; *Ca:CiC in Arabic and Gəʕəz; *CaCi:Ci: in Hebrew).

3.5 Verbs

3.5.1 Root

See §3.2 on nominal and verbal roots. In §§3.5.2–3.5.4, forms of the basic stem of the verb are illustrated by what Semitists call “sound triradical roots,” i.e., roots with three consonants that are not (generally) subject to phonological change, such as *ð-k-r ‘to invoke’. Then §3.5.5 reviews the other (derived) verb stems, and §3.5.6 surveys “weak” roots.
3.5.2 Tense–aspect–mood system

Three finite verb forms can be posited for PS. The simplest is the imperative, with base $C_1^VC_2^VC_3^*$. The other two are both inflected with prefixes, and thus traditionally referred to as prefix conjugations; the semantic distinction between the two is essentially one of markedness (see especially Korchin 2008):15

**pcs** (short prefix conjugation) has the base $C_1^C_2^VC_3^*$; it is unmarked for TAM categories.

**pcl** (long prefix conjugation) has a base with a geminated middle radical, $C_1^aC_2C_2V_2C_3^*$; it is marked for imperfectivity or non-anteriority; this form is lost in Central Semitic, replaced by a new form, originally the pcs with a set of endings indicating subordination (see §4.8).

The vowel before $C_1^*$ in these forms, called the theme vowel, is lexical. For any given verb the same vowel appears in the imperative and the pcs; for some verbs the same vowel also appears in the pcl, but for most verbs, the theme vowel of the pcl differs from that of the imperative and pcs. Five pairs of theme vowels, or vowel classes, may be reconstructed for PS (Aro 1964). These five vowel classes are listed immediately below, with the vowel of the pcl base listed first, as is traditional;16 examples are 3msg, with prefix *ji- or *ja- (for which see §3.5.3):

- $a \sim u$: a large class of mostly transitive verbs; e.g., *jiðakkar ~ *jaðkur ‘to invoke’;
- $a \sim i$: a smaller class, also often transitive; e.g., *jisarrak‘ ~ *jasrik’ ‘to steal’;
- $a \sim a$: a small class of transitive verbs; e.g., *jilammad ~ *jilmad ‘to learn’; in some of the languages, many verbs with “guttural” consonants (glottals, pharyngeals, and fricative velars/uvulars) as second or third radicals also join this class, e.g., *jipattaħ ~ *jiptaħ ‘to open’;
- $i \sim a$: a large class, frequently intransitive and/or stative; e.g., *jisallim ~ *jislam ‘to be(come) whole’;
- $u \sim u$: a smaller class, also frequently intransitive and/or stative; e.g., *jisaxxun ~ *jasxun ‘to be(come) warm’.

Both the short and the long prefix conjugations signify a variety of tenses and both indicative and injunctive moods. The pcl form may denote any tense, and nuances such as habitual, durative, conditional, potential, and more. The pcs form may denote, *inter alia*, indicative past (e.g., ‘he invoked’) or jussive (‘let him invoke’); the latter sense can be marked explicitly with the proclitic asseverative particle *la= (i.e., *la=yaðkur; see §3.10).

3.5.3 Inflection

Table 3.8 presents the probable PS forms of the short prefix conjugation (pcs) of the $a \sim u$ verb *ð-k-r ‘to invoke’.

Verbs with theme vowel $i$ in the pcs have the same prefixes, as in *ʔasrik’, *tasrik’, *jasrik’, etc., from *s-r-k ‘to steal’. Verbs with theme vowel $a$ in the pcs, however, have $i$ in the personal prefix, as in *ʔislam, *tislam, *jislam, etc., from *s-l-m ‘to be(come) whole’.17 The long prefix conjugation has the same markers of person, but the vowel
of the prefixes, whether a or i or both, is uncertain: 3MSG *jiðakkar or *jaðakkar, 2FSG *tiðakkari: or *taðakkari:, etc.; for simplicity, these forms elsewhere in this chapter are written with *ji-, *ti-, etc.

The imperative occurs only in 2nd person forms; the forms of *ð-k-r appear in Table 3.9. As noted previously, it has the same theme vowel as the short prefix conjugation. A recent study reconstructs the msg forms *ðukur, *sirik', limad, corresponding to the pcs 3msg forms *yaðkur, *yasrik' and yilmad noted in §3.5.2 (Bjøru forthc.).20 The imperative may not be negated; negative commands are expressed by the prefix conjugations (see §3.9).

The West Semitic suffix conjugation (sc), as in *ðakar-a (invoke.sc-3msg) ‘he (has) invoked’, is an innovation based on the PS verbal adjective in a predicative construction, for which see the following section.

### 3.5.4 Non-finite forms

A verbal adjective occurs for all verbs and denotes primarily the result of the verbal action. In the basic stem it has the pattern *CaCVC (see §3.3.1). The uninflected base of the verbal adjective can take enclitic forms of the 1st and 2nd person nominative pronouns (§3.1.1), creating a verbless predication: *θabir-nu (broken-1cpl) ‘we are/were broken’; *k'arub-ti (near-2fsg) ‘you are/were near’. 3rd person forms bear an unrelated set of endings, 3MSG *-a, 21 3FSG *-at, 3MPL *-u:, 3FPL *-a:, as in *maliʔ-at (full-3FSG) ‘it (f) is/was full’, *jasar-a: (straight-3fpl) ‘they (f) are/were straight’. In Proto-West Semitic this construction evolved into an active, perfective verb for nonstative roots, often with a in the second syllable, as in *θabar-nu ‘we broke (TR)’, *θabar-a ‘he broke (TR)”; to a greater or lesser extent, this new West Semitic form eventually marginalized the earlier short prefix conjugation (pcs) form *ja-θbir as a past tense, although the latter remained in use as the normal jussive form.22
As also noted in §3.3.1, an active participle with the pattern *CaːCiC for the basic verb stem occurs in many of the descendant languages, and may therefore be reconstructed to PS as a productive form for fientic verbs. It is an adjective, unmarked for aspect, and is often substantivized; e.g., from *r-k-b ‘to ride’: *raːkib- ‘riding, having ridden, (one) who rides/rode, rider (msg).

Active participles of the derived stems (see the following section) may also be reconstructed; they have a prefix *mu- before the base of the short prefix conjugation form of the verb. Passive participles of the derived stems seem to be a Central Semitic innovation; they also have prefix *mu-, but the pattern of the base varies across the languages (as do the finite forms of the passive derived stems).

A verbal substantive with the pattern *CaCaːC (in the basic stem) functions as an infinitive in Akkadian, Ugaritic and Hebrew, and may therefore be reconstructed as such for PS. In West Semitic, other patterns, such as *CICC, are also used as verbal nouns or infinitives, with greater or lesser regularity. Across Semitic, these nouns frequently occur after certain common prepositions, especially the loc/ins preposition for circumstantials and the dat/dir preposition for purpose and result; e.g., *ʔin nafθ’aːr-im (in protect.inf-gen) ‘while protecting’, West Semitic *la=nafθ’aːr-im (to=protect.inf-gen) ‘for protecting, (in order) to protect’.

3.5.5 Derived stems and voice

The basic stem of the verb, exemplified by most of the forms cited in the preceding paragraphs, is often referred to in Semitic studies as the G stem, from German Grundstamm. (The scholarly traditions of the individual languages refer to this basic stem by other names.) Other stems, with broadly predictable semantic ranges, could be formed by the addition of prefixes or the doubling or reduplication of the second or third root consonant. The following derived stems can be reconstructed to PS:

1 C, for “causative,” characterized in PS by a prefix *s(a). In the prefix conjugation forms, the pronominal prefixes have *u rather than *a or *i as they do in the basic stem; the short prefix conjugation form (pcs) may be reconstructed as *ju-sa-C1C2C3, the long (pcl) as *ju-sa-C1aC2C3,24 as in *ju-sa-smiʕ (3-caus-hear.pcs) and *ju-sa-sammaʕ (3-caus-hear.pcl) ‘he caused/causes (someone) to hear (something)’. While C forms of transitive verbs may be doubly transitive, as in these examples, one of the objects is usually omitted, thus, e.g., ‘he caused (someone) to obey’ or ‘he caused (something) to be heard, he proclaimed (something)’. The C stem is especially common with verbs of motion, e.g., from *ʕ-r-b ‘to enter’, *tu-sa-ʕrib (2-caus-enter.pcs) ‘you caused to enter, took in, sent in, brought in’. In most West Semitic languages an areal change of prevocalic *s > *h resulted in the C stem being characterized instead by *h, as in *tu-ha-ʕrib. (In a further development, causative *h > ʔ in Arabic, in Ethiopic, and in Aramaic after the Old Aramaic period.) A causative stem in *s is also found in most other branches of Afro-Asiatic.

2 D, characterized by doubling of the second radical. The D stem increases the transitivity of the verbal root (Kouwenberg 1997, Beckman 2015). It is especially common as a factitive of stative roots: G *ji-slam (3-whole.pcs) ‘he became whole’, D *ju-sallim (3-whole.fact.pcs) ‘he made whole, completed, restored’. For transitive roots, the D may be pluralic or indicate increased effect on the object: *ju-θabbir ‘he broke (something) up, apart; he broke (many)’. As the examples show, the pronominal prefix has u in the D stem, as in the C stem.
3 L, characterized by a long aː after the first radical. The function of this stem in PS is difficult to determine. In Classical Arabic this stem (“Form III”) denotes intent, as in qaːtala ‘he fought’, i.e., ‘he tried to kill’, vs. G qatala ‘he killed’. In Ethiopian Semitic languages, however, it has become lexical, as in GaSğz barākā < *baːraka ‘he blessed’. In the Modern South Arabian languages, the L stem has merged with the D stem, via regular phonological processes and the resulting stem is also frequently lexical. The L stem is vestigial in the Northwest Semitic languages, and lacking in East Semitic. But since a similar form is attested elsewhere in Afro-Asiatic (viz., in Cushitic), it may be reconstructed to PS.

4 N, characterized by a prefix *n. This *n was originally prefixed to the basic (G) verbal adjective, *CaCVC (see §3.5.4), resulting in an ingressive verb. Since for transitive verbs that adjective was normally passive or resultative, N verbs are usually passive or middle: *θabir- ‘broken’, *jV-n-θabir (3-n-broken) ‘it got broken, it broke (INTR)’. Cognates of the N stem are attested in other Afro-Asiatic languages (Lieberman 1986).

5 R, characterized by reduplication of the third radical, as in the pcs form *jV-C1aC2C3iC3. This stem is common in Arabic (“Form IX”) for roots denoting colors and physical characteristics, as in jasˤfarir ‘it turned yellow, became jaundiced’. It occurs in several other Semitic languages, and may therefore be reconstructed as a PS stem. Finite forms are rare and vestigial, and so its original semantic function is not entirely certain, although it seems generally to have been intensifying (Hartmann 1875, Whiting 1981): e.g., Akkadian (Old Babylonian) ta-šḫarrar ‘you (MSG) become still (PCL)’ (root š-ḫ-r), Biblical Hebrew suffix conjugation šaʔănan ‘it (M) is at peace’ (root š-ʔ-n). R stem verbal adjectives are more commonly attested, e.g., with pattern *C1aC2uC3C3, as in Akkadian šaḫurr- ‘still’, Hebrew *ʔadumm- ‘red’ (see §3.3.1).

6 t-forms. Associated with each of the G, C, D and L stems is a stem with a prefixed or infixed t. The Ct stem is marked by s-t, with t immediately after the causative s, as in *jV-s-t-aC1C2C3jC3 (since in this stem the *s was not prevocalic, it remained even in the languages in which the C stem *s became *h). In the tG and tD stems, the t was probably prefixed to the base, thus tG *jV-t-C1aC2C3VC3, and tD *jV-t-C1aC2C2aC3C3. In several of the languages, however, the t came to be infixed, after the first root consonant; this was especially true of the tG (*jV-C1-t-aC2C3VC3), which may already have undergone the metathesis, perhaps optionally, in the proto-language. The t stems are medio-passive, reflexive, and reciprocal in meaning. Other Afro-Asiatic languages also attest medio-passive verbs marked with *t (Voigt 1987).

7 Internal passives. In the Central Semitic languages and the Modern South Arabian languages, the G, C, D and L stems exhibit passive verbs that are characterized by a change of vowel melodies vis-à-vis the active form (termed “internal passives” or “ablaut passives”). The short prefix conjugation (pcs) form of the G passive may be reconstructed as *ju-C1aC2C3jC3 (with *u in the prefix), as in *ju-ðkar ‘he was invoked’, vs. *ja-ðkar ‘he invoked’; but the other stems show varying melodies, e.g., Hebrew D passive *ju-C1ucC2C3aC3 vs. Arabic *ju-C1aC2C2C3C3, which may already have undergone the metathesis, perhaps optionally, in the proto-language. The t stems are medio-passive, reflexive, and reciprocal in meaning. Other Afro-Asiatic languages also attest medio-passive verbs marked with *t (Voigt 1987).
3.5.6 “Weak” roots

Verbal roots with the glides w or j as their first or second radical underwent developments already in PS. As noted in §3.2, in some roots with w as first radical, the w is lacking in the short prefix conjugation base and related forms, such as the imperative; e.g., from the root *w-θ-b, *ja-θib (3-sit,PCS) ‘he sat’, *θib ‘sit.IMP!’. Other verbs I–w were regular, however; e.g., from the root *w-ʦ-p, *ja-wʦup (3-add,PCS) ‘he added’ (see Huehnergard 2006a). Verbs I–j, such as *j-b-s ‘(to be) dry’, were also regular, as in *ji-jbas (3-dry,PCS) ‘it became dry’.

In roots with w or j as the second radical, a number of forms underwent phonological changes in PS. Expected PCS forms such as *ja-kwun-u: (3-stable,PCS-MPL) ‘they (m) became stable’ and *ja-liim-u: (3-set,PCS-MPL) ‘they (m) set’ are not usually attested; instead, as noted in §2.2, the glide and the following vowel yielded a long vowel: *ja-ku:n-u, *ja-li:m-u; in closed syllables, the new long vowel was shortened: *ja-kun ‘it became stable’, *ja-lim ‘he set’. See §2.2 as well for developments in the verbal adjectives of these roots. The pcl forms of these roots were regular: *ji-kawwan, *ji-lajjam.

Verbs with w and j as the third radical are essentially regular in Gəʕəz and in the earliest Akkadian dialects, and thus were probably inflected normally in PS as well, e.g., *ji-xdaw-u: (3-rejoice,PCS-MPL) ‘they (m) rejoiced’, *ta-bnij-u: (2-build,PCS-MPL) ‘you (mpl) built’.

In stative roots with identical second and third radicals (traditionally called “geminate roots”), the verbal adjective has the form *C 1aC2C2, e.g., *ħamm-um ‘hot-nom’; since adjectives with the pattern *C1aC2C3 cannot be reconstructed in PS, it is likely that the former are the result of a PS syncope rule (viz., *ħamam-um < *ħamm-um; see §2.3, end).

In Central Semitic, PCS forms of these roots show metathesis of the theme-vowel and the second radical: *ja-mudd-u: < *ja-mdud-u: (3-measure,PCS-MPL) ‘they (m) measured’; it is uncertain whether this is a Central Semitic innovation or, less likely, a PS feature that was independently leveled out of the various non-Central Semitic languages.

3.6 Prepositions

A number of words that function as prepositions can be reconstructed to PS. Some of these are originally substantives, used adverbially as bound forms, as in *wist’-a bajt-im interior-ACC.BND house-GEN ‘within the house’. A substantival origin of other prepositions, however, is not evident; some of these are simple CV forms, which were probably proclitic, such as *ka= ‘like’, while others are CVC forms, such as *ʔin ‘in’ (Voigt 1999). These invariably govern the GEN as well: *ka=kalb-im (like=dog-GEN) ‘like a dog’, *ʔin libb-i-ja (in heart-GEN,BND-1CSG) ‘in my heart’. Several forms have an optional ending *-aj, e.g., *wist’aj ‘in, with’. The prepositions *ʕal(aj) ‘on, against’ and *ʕad(aj) ‘up to, until’ are associated with verbal roots, respectively *ʕ-l-j ‘to go up’ and (West Semitic) *ʕ-d-w ‘to cross, traverse’; but whether the prepositions or the verbal roots are primary is uncertain.

Since prepositions are bound forms, and since bound forms can govern clauses (see §3.3.2.3), some prepositions are also common as subordinating conjunctions (with or without a relative marker): *ʕad(aj) ʔi-smal-u (until 1CSG-hear,PCS-SBRD) ‘until I heard’.
A list of probable PS prepositions follows; forms ending with =, such as *bi=, are usually proclitic.

- *ʔin ‘in’ in East Semitic, but in West Semitic of restricted occurrence, e.g., Gəʕəz ʔǝn-bälä ‘without’ (= Akkadian in(a) balu), and in a form extended with (r) *ʔ-t, *ʔin-ʔV (also *ʔin-t-aʃ, meaning ‘at, via’ (Gəʕəz ʔontā) and ‘with’ (Babylonian Akkadian itti, Hebrew ʔet); note also Gəʕəz ʔon-zā (in-rel) ‘while’
- *ʕal(aj) ‘up to, until’; cf. the West Semitic verbal root *ʕ-d-w ‘to cross, traverse’
- *ʕad(aj) ‘on, against’; cf. the PS verbal root *ʕ-l-j ‘to go up’
- *bajn(-aj) between’ (lost in Akkadian, but present in Eblaite)
- *bal ‘without, non-’ (Pat-El 2013)
- *bi= West Semitic, ‘in, with’ (LOC/INS)
- *ha= ‘to, for’; in West Semitic, found only in Modern South Arabian languages (e.g., Jibbāli he=f ‘to him’) and in the Ancient South Arabian language Ḥaḍramitic; in East Semitic, it is extended with enclitic *=na, as *ha=na > Akkadian ana, Eblaite ʔa-s-na /hana/ (Tonietti 2013: 51)
- *ka= also *kiː (and *kaj ?) ‘like, as’
- *la= West Semitic ‘to, for’ (DAT/DIR); apparently lost in East Semitic, unless the preposition is the same as the asseverative particle *la=, for which see §3.10
- *min(ʔ) ‘from’; in Ethiopian, Tigre has min, but in Gəʕəz the form has become ʔom and ʔomnā via an obscure set of developments; lost in Akkadian, but Eblaite has two distinct prepositions, min ‘in’ and minu ‘from’ (Tonietti 2013: 82–8)
- *sin or *ʦin ‘toward, at’? Only in Eblaite (and one early Akkadian text), where the spelling si-in indicates initial *s or *ʔl (Tonietti 2013: 90–3), and in Ancient South Arabian, where the usual writing s’n indicates initial *ts (in Minaic, Qatabanic, and early Sabaic; but later Sabaic texts have s’n, with *s)
- *wist’(aʃ) or *wast’(aʃ) ‘in, at’; as noted above, derived from a substantive *wi/ast’- ‘interior’

As in many other languages, prepositional phrases, comprising a preposition and a bound-form substantive, are common; examples found across Semitic (albeit with varying lexemes) are {to face.bnd} = ‘toward’, {in hand.bnd} = ‘through the agency of’, {in middle.bnd} = ‘within’, {like mouth.bnd} ‘according to’.

3.7 Conjunctions

PS coordinating conjunctions are *wa ‘and’, *pa/ʔap ‘and then, and so’ (these two are proclitic in some languages) and *ʔaw ‘or’. For subordinating conjunctions, see §4.8.

3.8 Adverbs

Only a few true adverbs may be reconstructed, e.g., interrogative *mataj ‘when?’. Most words used as adverbs are demonstratives, substantives, and adjectives, often in the accusative case, e.g., *jawm-am(=ma) (day-acc(=top) ‘today’ or ‘daily’). For the adverbial endings *-u(m) and *-isa, see §3.3.2.4, end.
3.9 Negation markers

Pat-El (2012) and Sjörs (2018) plausibly reconstruct two PS negators, both of which are attested in East and West Semitic: *laː is the standard negator, while *ʔal is a marked form (both [+NEG] and [+VOL]) restricted originally to negating the short prefix conjugation *jV-C,VC,VC, when used with injunctive modal force, as in *ʔal ja-ðkur (NEG 3-invoke.pcs) ‘may he not invoke’. This original system is preserved intact only in the Northwest Semitic languages.

3.10 Other particles

Two presentative particles, *han and *hal ‘here is . . . ’, may be reconstructed to PS (Hasselbach 2007, Pat-El 2009).

An existential particle in Central Semitic is *jiθ- ‘there is/are’; the cognate in East Semitic, however, is a finite verb, *j-θ-w, which in Akkadian came to signify ‘to have’ (Bar-Asher Siegal 2011). A negative counterpart, *ʔajn- ‘there is/are not’, appears in Northwest Semitic, perhaps related to a negative ʔin in Arabic and Ethiopic.26

Proclitic *la= marks asseveration or affirmation, and could be prefixed to virtually any form, with the exception of imperatives (Huehnergard 1983); e.g., Ugaritic:

<lbʕl. npl>, i.e., /la=baʕl-u napa-l-a/
la=Baal NOM fall.SC 3MSG
‘Baal has indeed fallen.’

Asseverative *la= marks the short prefix conjugation verb specifically as injunctive: *la=jaðkur (la=3.invoke.pcs) ‘may he invoke’.

The particle *law introduces hypotheticals: *law jaðkur ‘would that he had invoked’.

Enclitic *=ma is a topicalizing particle:

*ja-mut dajja(ː)n-um=ma
3-die.pcs judge=NOM=TOP
‘It was the judge who died.’

In Akkadian, =ma also topicalized whole clauses, and became the most common clause connector:

Old Babylonian ileqqū=ma izuzzū
receive.pcl.3mpl=TOP divide.pcl.3mpl
‘They will receive and then divide.’

4 SYNTAX

4.1 Word order

The ancient West Semitic languages such as Biblical Hebrew, Old Aramaic, Classical Arabic and Gəʕəz are predominantly VSO. Akkadian prose, conversely, is SOV. But there are exceptions in Akkadian; for example, Old Assyrian has a few examples of SVO and even VSO (Kouwenberg 2017: 698–703); further, Akkadian names with verbal elements
are often VS (e.g., i-šme – il-um 3-hear.PCS – god-NOM ‘the god has heard’), and Akkadian poetry shows relatively free word order. Moreover, in Eblaite, which is also East Semitic, there are numerous instances of VSO clauses (along with other orders). Thus it is likely that Proto-Semitic was VSO; as is usually suggested, the change to SOV in Akkadian is undoubtedly due to prolonged contact with Sumerian, which is also SOV.

In most Semitic languages (including Akkadian), heads precede modifiers (adjectives, genitives, relative clauses).27

4.2 Verbless clauses

Verbless clauses are a common feature of most Semitic languages. Predicate nouns were probably marked with *-a in Proto-Semitic (see n. 21); whether such clauses were S–P or P–S or both is uncertain:28

*ʔab-uː-ki   baʕl-a
father-NOM.BND-2FSG   lord-ACC/PRED
‘Your (FSG) father is lord.’

*ʦ’aɣir-a  ħak’l-u-ka
small-ACC/PRED field-NOM.BND-2MSG
‘Your (MSG) field is small.’

Also reconstructible to PS is the use of anaphoric (=3rd person) pronouns as copulas; the noun subject is then essentially extrapoosed:

*ʔab-uː-ki suʔa baʕl-a
father-NOM.BND-2FSG DEM.MSG,NOM lord-ACC/PRED
‘Your (FSG) father (he) is lord.’

Predicates may also be adverbial adjuncts:

*ʔimm-u-sa ʔin bajt-i-ka
mother-NOM.BND-3FSG in house-GEN.BND-2MSG
‘Her mother is in your (MSG) house.’

See §3.10 for an existential particle *jiθ-.

4.3 Noun modification

Two types of genitive phrases may be reconstructed, in both of which the genitive follows its head noun. In the type called a “construct chain,” the head and its genitive are simply juxtaposed, but the head noun lacks the ending that marks nouns as non-bound, as in

*ʔanθ-at-u bajt-i-m
woman-F-NOM.BND house-GEN-NBND
‘woman of the house’.
The other construction employs the relative marker, itself a bound form in apposition to the (nonbound) head noun (see §3.1.3):

\[
\begin{array}{ccc}
\text{*ʔanθ-at-u-m} & \text{θaː.t-u} & \text{bajt-i-m} \\
\text{woman-f-nom-nbnd} & \text{rel.f-nom.bnd} & \text{house-gen-nbnd}
\end{array}
\]

‘woman of the house’.

This second type became rare in some West Semitic languages, such as ancient Hebrew and Arabic (Pat-El 2010).

In both types of construction, a clause could stand in the position of the genitive noun. For example, either of the following was possible. The first type became less common in West Semitic.

\[
\begin{array}{ccc}
\text{*ʔanθ-at-u} & \text{ta-ðkur-u} \\
\text{woman-f-nom.bnd} & \text{2-invoke.pcs-sbrd}
\end{array}
\]

‘the woman you (MSG) invoked’.

or

\[
\begin{array}{ccc}
\text{*ʔanθ-at-u-m} & \text{θaː.t-u} & \text{ta-ðkur-u} \\
\text{woman-f-nom-nbnd} & \text{rel.f-nom.bnd} & \text{2-invoke.pcs-sbrd}
\end{array}
\]

‘the woman whom you (MSG) invoked’.

Only the first type of construction was used for pronominal possession in PS:

\[
\begin{array}{ccc}
\text{*ʔanθ-at-u-su} \\
\text{woman-f-nom.bnd-3msg}
\end{array}
\]

‘his wife’.

### 4.4 Definite article

See §3.3.2.3.

### 4.5 Agreement

Rules of agreement in PS are difficult to reconstruct with confidence. In most Semitic languages, attributive adjectives agree with their head nouns in gender and number (and case, if applicable), though not necessarily in boundness. In some Ethiopian Semitic languages such as Gəʕəz, however, the concord is less strict for inanimates (see Chapter 6). In Arabic, broken plurals (§3.3.2.2) of inanimates are construed with FSG adjectives and verbs. In Akkadian, agreement in the plural depends on the morphology of the head noun; e.g., Old Babylonian \( \text{bīt-um labir-um} \) (house-nom old.msg-nom) ‘old house’, but plural \( \text{bīt-āt-um labir-āt-um} \) ‘old houses’ (house-fpl-nom old-fpl-nom). This contrasts with a West Semitic agreement pattern such as that of Biblical Hebrew, where the gender of the noun in the singular determines the gender of the adjective in the plural: \( \text{ḥārāy-ōt šōʔăḡ-īm} \) ‘roaring lions’ (lion.m-fpl roaring-mpl) (see Huehnergard 2006c: 17).
Verbs agree strictly with their subjects in Akkadian. In Classical Arabic, verbs are singular when they precede plural subjects; sporadic instances of this are also found in Biblical Hebrew. In Ge’ez, again, agreement of the verb with a feminine or plural inanimate subject is optional.

4.6 Negation

See §3.9.

4.7 Interrogative sentences

Interrogative sentences are marked variously in the descendant languages — e.g., intonation or stress in Akkadian, proclitic particles in Arabic and Hebrew, enclitic particles in Ethiopic — and so it is difficult to reconstruct the PS situation.

4.8 Subordination

A common Semitic subordinating conjunction is *kiː, with a wide semantic range, introducing temporal, causal, comparative and object clauses (‘when, because, as, that’). As noted in §3.6, certain prepositions also function as subordinating conjunctions, as do bound form nouns, such as *jawm-a (day-ACC.BND) ‘when’. Relative clauses occupy the slot of attributives, and are introduced either by the relative marker or by a bound form; see §4.3 for examples. The syntactic role of the head noun in the relative sentence may be filled by a resumptive pronoun:

*ʔanθ-at-um  θaːt-u  ta-ʔmur-u  bajt-a-sa
woman-F-NOM  REL.F-NOM.BND  2-see.PCS-SBRD  house-ACC.BND-3FSG
‘the woman REL you saw her house’, i.e., ‘the woman whose house you saw’.

In East Semitic, finite verbs in subordinate clauses, both relative and other types, are obligatorily marked with a final *-u if the verb has no other ending, as in the following Old Assyrian examples:

kutān-um ša ekall-um i-lqe-u
textile-NOM REL palace-NOM 3-take.PCS-SBRD
‘the textile that the palace took’.

kīma aḥ-um ana aḥ-em i-ddun-u
as brother-NOM to brother-GEN 3-give.PCL-SBRD
‘as brother gives to brother’.

Other subordination markers, -na and -ni, are also attested in Akkadian, both probably deriving from *-na (with dissimilation to -ni after aː). It is likely that this feature, in which finite verbs are marked as nominalized, was inherited from PS (Hasselbach 2012), with allomorphs *-u after consonants and *-na after vowels. The feature is lost in Ethiopian Semitic and in Modern South Arabian. But in a diagnostic development that characterizes Central Semitic, the PS short prefix conjugation form with the subordination marker
*-u/-na, e.g., 3msg *jaðkur-u, 3mpl. *jaðkuruː-na, was reanalyzed as a new marked imperfective form, a form that completely replaced the inherited PS form *jiðakkar (see Chapter 1, §2.2.3). For ‘if’, we may posit PS *sin(=ma) (> Akkadian summa, Aramaic hin, GoSsz Űmmâ, Arabic ðin). The apodosis of a conditional sentence could be introduced by the coordinat- ing conjunction *wa ‘and’. Both protases and apodoses of conditional sentences exhibit a rather perplexing range of verb forms across the Semitic languages.

5 LEXICON

An extensive set of pronouns, primary nouns, numerals, verbal roots and particles can be reconstructed to PS. A complete dictionary of common Semitic vocabulary is not yet available. The Dictionnaire des racines sémitiques (Cohen et al. 1970–) runs to nearly 1,300 pages as of the most recent fascicle (2012), but is still only 40% complete; it is in the order of the Hebrew alphabet. The Semitic Etymological Dictionary, by Militarev and Kogan, is arranged by semantic field; two volumes have appeared, “Anatomy of Man and Animals” (2000) and “Animal Names” (2005). Fronzaroli (1964–71) and Kogan (2011b) are monograph-length overviews of the PS lexicon; in a much larger work, Kogan 2015 uses a comprehensive survey of Semitic vocabulary to examine issues of subgrouping. A Leipzig-Jakarta list of Proto-Semitic words is presented by Wilson-Wright (forthc.). Lists of common Semitic vocabulary and roots may also be found in Bennett (1998) and Huehnergard (2011).

Beyond Semitic itself, a few PS words and roots have cognates in other Afro-Asiatic languages; examples are (PS) *sim- ‘name’, *lis(aːn)- ‘tongue’, and the roots *m-w-t ‘to die’ and *p-r-r ‘to flee, fly’. But it has been notoriously difficult to compile extensive Afro-Asiatic cognate sets.

Common Semitic words that are, or may be, loans include *hajkal- ‘temple, palace’, from Sumerian é-gal ‘house-big’, and probably *θawr- ‘bull’ and *k’arn- ‘horn’ from Indo-European *tauro- and *kr-n-, and the deity name *ʕaθtar- ‘morning/evening star’ from I-E *h₂steːr- ‘star’. Other words are of uncertain origin, e.g., *marr- ‘spade, shovel’, also in Sumerian mar, Egyptian mr and perhaps elsewhere in Afro-Asiatic, as well as, e.g., Latin (Salonen 1952: 9).

NOTES

1 The velar/uvular fricatives will be represented simply as velars (x, ɣ, x’) elsewhere in this chapter.
2 Throughout this chapter, affricates are transcribed as ligatures (ʦ, ʣ) rather than with a tie-bar (t͜s, d͜z).
3 Further, a conditioned change *s > *h occurred in early West Semitic, for which see the third of the set of phonological processes presented following Table 3.2; cross-linguistically, [s] > [h] is much more common than [ʃ] > [h].
4 In some instances the two byforms of a single original root have reflexes in an individual language; e.g., Arabic has both b-q-r ‘to split, slit’ and f-q-r ‘to pierce, slit’ (with some semantic disambiguation) from the PS root *b-k’-r, in addition to f-q-r ‘to be needy, poor’ from the PS root *p-k’-r.
5 The change *s > *h was not a Proto-West Semitic phenomenon, but occurred after the appearance of subbranches of West Semitic and then spread to most albeit not
all of the languages; the change is not found in several of the Ancient South Arabian languages, at the geographical periphery.

6 Thus, e.g., for the root *s-l-m ‘(to be) whole’, while *salim-at ‘she is whole’ (whole-3FSG) would have become **halim-at, the form *ti-slam ‘she became whole’ (3f-whole.PCS) would have remained unaffected by the rule, and so all forms of the root retained the original *s.

7 In some of the descendant languages, sound changes and movement of stress resulted in occasional minimal pairs distinguished by stress: e.g., Goʿaz *sāḥ. tāt ‘error’ vs. sāḥ. tāt (err.SC.3FSG) ‘she erred’; Biblical Hebrew ḏāʾ. nū (in.1CPL) ‘among us’ vs. ḏāʾ. nū (build.SC.3MPL) ‘they (m) built’.

8 The final vowels of many of these forms, and also of the pronominal suffixes presented in Table 3.5 are often reconstructed with variable length, e.g., 1CSGS *ʔana or *ʔanaː (in Semitic scholarship, called “anceps vowels,” and written, e.g., Ā). See Hasselbach (2004a) for arguments that these vowels are originally short.

9 The element *ʔajj- is also a component in a wide variety of forms in the descendant languages, and so a recent study analyzes it as “an abstract general constituent-question marker” (Cohen forthc.).

10 Egyptian exhibits similar alternations in forms of roots with first radical w, as in wsḥ ‘(to be) broad’ and sḥw ‘breadth’.

11 There are exceptions, such as common Semitic *n-t-n ‘to give’, Akkadian ḫ-s-h ‘to need’; roots of the form C₁-w-C₁ and C₁-j-C₁ are also found, e.g., *ð-w-ð ‘to stand’.

12 For the proto-forms of ‘father’ and ‘brother’, see Wilson-Wright (2016b).

13 Hebrew in fact exhibits byforms of some words, one showing the reflex of *-t and the other the reflex of *-at; e.g., 1CPL *ʔa- and 2SG/2PL/3SG *ʔa-, 3MSG/3PL *ji-, 1CPL *ni-. Bar-Asher (2008) offers counter-arguments; see also Testen (1992). Kossmann and Suchard (2018) posit a Proto-Berbero-Semitic distinction between perfective *ja-C₁C₂uC₃ and stative *ji-C₁C₂aC₃.

14 Paired parts of the body are presumably f because the marker of the NOM DUAL, *-a:, was also a marker of FPL; see §3.3.2.2.

15 Essentially the same system of forms and functions has recently been reconstructed for an ancestral Proto-Berbero-Semitic (Kossmann and Suchard 2018).

16 The vowel of the PCL eventually also appears in the West Semitic suffix conjugation, for which see §3.5.4.

17 Hasselbach (2004b) proposes instead that the distribution *jaḏkur, *jantin vs. *jišlan is a Central Semitic innovation, and that in PS, for all verb classes, the vowels of the person prefixes were partly homorganic with the consonants (as, for the most part, in Akkadian), viz.: 1SG *ʔa-, 2SG/2PL/3SG *ʔa-, 3MSG/3PL *ji-, 1CPL *ni-. Bar-Asher (2008) offers counter-arguments; see also Testen (1992). Kossmann and Suchard (2018) posit a Proto-Berbero-Semitic distinction between perfective *ja-C₁C₂uC₃ and stative *ji-C₁C₂aC₃.

18 The Modern South Arabian languages and (rarely) Akkadian exhibit a first-person dual form, *ʔadkura:, i.e., the 1CSG with the dual ending *-a:. It is more likely that these are independent innovations on the ready analogy of the more widely attested 2nd- and 3rd-person duals than that they reflect inheritance from PS. For Akkadian, see Kouwenberg (2005: 100–1, 2017: 485); for Modern South Arabian, see Rubin (2014: 141, 2018: 165).

19 The 3FPL may instead have had t-, like the 3FSG.

20 See also Bar-Asher (2008), who reconstructs *ḏakur, *sarik’ and *limad.
21 It is likely that 3msg \(-a\) is originally the same as the acc case, which inter alia marked nominal predicates; see Hasselbach (2012).

22 Another West Semitic development is the frequent lengthening of the second vowel in \(\text{CaCV}C\) adjectives, especially as \(\text{CaC}i:C\) and \(\text{CaCu}:C\), which then serve as paradigmatic passive participles of the basic verb stem (see again §3.3.1; Huehnergard 2006c: 10).

23 On the relationships of the stems to valency and transitivitiy, and the interrelationships among the stems, see Bjørn (2014).

24 This form is found in Akkadian, though only marginally, for example, in verbs in which the first radical was originally a laryngeal, pharyngeal, or glide, such as Old Babylonian \(\text{ušaḫḫaz} < *\text{ju-sa-ʔa}xa\text{ð} (3\text{-caus-seize pcl}) \) ‘he incites’, and in the stem called the ŠD, which is restricted to poetry, as in Old Babylonian \(\text{ušnarat} < *\text{ju-sa-narrat} (3\text{-caus-tremble pcl}) \) ‘she makes (people) tremble’. Otherwise in Akkadian, \(\text{ju-sa-C}_1\text{aC}_2\text{C}_2\text{aC}_3\) has been replaced by \(\text{ju-sa-C}_1\text{C}_2\text{aC}_3\), via an analogy with the D stem (Tropper 1997: 189–93). In Gəʕəz, PS \(\text{ju-sa-C}_1\text{aC}_2\text{C}_2\text{aC}_3 > \text{ju-ha-C}_1\text{aC}_2\text{C}_2\text{aC}_3 > \text{ju-ʔa-C}_1\text{aC}_2\text{C}_2\text{aC}_3 \rightarrow \text{ja}\text{C}_1\text{aC}_2\text{C}_2\text{aC}_3\text{C}_3\) (e.g., jawärrǝd ‘he brings down’, from \(\text{w-r-d} \) ‘to descend’), with the theme vowel leveled to \(\dot{a}\) as in other Gəʕəz pcl forms.

25 The N stem and \(t\) stems also have internal passives in Classical Arabic; such forms also occur rarely in Hebrew.

26 Middle Babylonian Akkadian \(\text{yānu} \) ‘there is/are not’ derives from the interrogative adverb \(\text{ayyānu} \) ‘where?’.

27 In most modern Ethiopian Semitic languages, which are SOV as a result of Cushitic influence, heads follow modifiers; see Leslau (1945), Gensler (1997).

28 But the construction that predicates a verbal adjective with an enclitic subject pronoun is fixed as P – S, e.g., \(\text{k’arub-ti} \) (near-2fsg) ‘you (fsg) are/were near’; see §3.5.4.

29 For the subordination marker \(-u\) in Eblaite, see Catagnoti (2012: 136–7).

30 For a plausible analysis of the process, see Hamori (1973).

31 On the last, see Wilson-Wright (2016a: 23–5).

BIBLIOGRAPHY

General bibliography on the Semitic language family

Further reading: overviews, comparative grammars, and textbooks


**Dictionaries**


**Additional references**


